TEXAS
Health and Human Services

Summary of Activities

Calendar Year 2017

Quality, Timeliness, and Access

to Health Care for Texas

Medicaid and CHIP Recipients

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EQRO
Texas External Quality Review Organization

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Acronyms

AAB	Avoidance of Antibiotic Therapy for Adults with Acute Bronchitis
AAP	Adults' Access to Preventive/ Ambulatory Health Services
ABA	Adult Body Mass Index Assessment
ACSC	Ambulatory Care Sensitive Condition
ADA	American Dental Association
ADD	Follow-Up Care for Children Prescribed ADHD Medication
ADHD	Attention Deficit Hyperactivity Disorder
ADV	Annual Dental Visits
AHRQ	Agency for Healthcare Research and Quality
AI	Administrative Interview
AMB	Ambulatory Care
AMM	Anti-Depressant Medication Management
AMR	Asthma Medication Ratio
APC	Use of Multiple Concurrent Anti-Psychotics in Children and Adolescents
APM	Metabolic Monitoring for Children and Adolescents on Anti-Psychotics
APP	Use of First-Line Psychosocial Care for Children and Adolescents on Anti-Psychotics
APR-DRG	All Patient Refined Diagnosis-Related Groups
AWC	Adolescent Well-Care Visits
BCS	Breast Cancer Screening
BHO	Behavioral Health Organization
CAHPS®	Consumer Assessment of Healthcare Providers and Systems®
CAP	Children and Adolescents' Access to Primary Care Practitioners
CATI	Computer-Assisted Telephone Interviewing
CBP	Controlling High Blood Pressure
CCS	Cervical Cancer Screening
CDC	Comprehensive Diabetes Care
CFR	Code of Federal Regulations
CHC	Community Health Choice
CHIP	Children's Health Insurance Program
CHL	Chlamydia Screening in Women
CIS	Childhood Immunization Status
CMS	Centers for Medicare and Medicaid Services
COPD	Chronic Obstructive Pulmonary Disorder
CRG	Clinical Risk Group
CWP	Appropriate Testing for Children with Pharyngitis
CY	Calendar Year
DHHS	U.S. Department of Health and Human Services
DM	Disease Management
DMO	Dental Maintenance Organization
DQA	Dental Quality Alliance
DSRIP	Delivery System Reform Incentive Payment program
DVS	Developmental Screening in the First 3 Years of Life
EAPG	Enhanced Ambulatory Patient Groups
ED	Emergency Department
EDVDRR	Encounter Data Validation - Dental Record Review
EQR	External Quality Review
EQRO	External Quality Review Organization
ERS	Emergency Response Services
FFS	Fee-for-Service
FQHC	Federally Qualified Health Centers
FPC	Frequency of Prenatal Care
FSR	Financial Summary Reports
FUA	Follow-Up after ED Visits for Alcohol and Other Drug Dependence
FUH	Follow-Up after Hospitalization for Mental Illness
FUM	Follow-Up after ED Visits for Mental Illness
FY	Fiscal Year
HAC	Hospital-Acquired Condition
HCBS	Home and Community-Based Services
HCPCS	Healthcare Common Procedure Coding System
HCUP	Healthcare Cost and Utilization Project
HEDIS ®	Healthcare Effectiveness Data and Information Set®
HHS	Health and Human Services
HPV	Human Papilloma Virus
HSRI	Human Services Research Institute
IAD	Identification of Alcohol and Other Drug Services
IDD	Intellectual and Development Disability
IET	Identification of Alcohol and Other Drug Services
IET	Initiation and Engagement of Alcohol and Other Drug Dependence Treatment
IMA	Immunizations for Adolescents
IPU	Inpatient Utilization-General Hospital/Acute Care
ISP	Individual Service Plan
LTSS	Long-Term Services and Support
MCO	Managed Care Organization
MDCP	Medically Dependent Children Program
MH/SA	Mental Health and Substance Abuse
MMA	Medication Management for People with Asthma

MPM	Monitoring for Patients on Persistent Medications Measure
MPT	Mental Health Utilization
NASUAD	National Association of States United for Aging and Disabilities
NCI-AD	National Core Indicators – Aging and Disabilities
NCQA	National Committee for Quality Assurance
NORC	National Opinion Research Center
NPI	National Provider Identifier
NS-CHSCN	National Survey of Children with Special Health Care Needs
ODESA	Online Data Entry System Application
OHSU	Oregon Health Science University
P4Q	Pay for Quality
PACE	Program of All-Inclusive Care for the Elderly
PCE	Pharmacotherapy Management of COPD Exacerbation
PDI	Pediatric Quality Indicators
PIP	Performance Improvement Project
POA	Present on Admission
PPA	Potentially Preventable Admissions
PCP	Primary Care Provider
PPC	Potentially Preventable Complications
PPC pre/post	Prenatal and Postpartum Care
PPE	Potentially Preventable Event
PPR	Potentially Preventable Readmissions
PPV	Potentially Preventable Emergency Department Visits
PQI	Prevention Quality Indicators
QA	Quality Assurance
QAPI	Quality Assessment and Performance Improvement
QI	Quality Improvement
QOC	Quality of Care
PSI	Patient Safety Indicators

RCA	Root Cause Analysis
RHC	Rural Health Clinic
RSA	Rural Service Area
SA	Service Area
SAA	Adherence to Anti-Psychotic Medications for Individuals with Schizophrenia
SMC	Cardiovascular Monitoring for People with Cardiovascular Disease and Schizophrenia
SMD	Diabetes Monitoring for People with Diabetes and Schizophrenia
SMI	Severe Mental Illness
SPC	Statin Therapy for Patients with Cardiovascular Disease
SPD	Statin Therapy for Patients with Diabetes
SPR	Use of Spirometry Test in Assessment and Diagnosis of COPD
SSD	Diabetes Screening for People with Schizophrenia or Bipolar Disorder, Using Anti-Psychotic Medications
STAR	State of Texas Access Reform
STI	Sexually-Transmitted Infection
SUID	Sudden Unexpected Infant Death
TAC	Texas Administrative Code
TCHP	Texas Children's Health Plan
THSteps	Texas Health Steps
TMHP	Texas Medicaid and Health Partnership
UFSRC	University of Florida Survey Research Center
UMCC	Uniform Managed Care Contract
UMCM	Uniform Managed Care Manual
URI	Upper Respiratory Infection
W15	Well-Child Visits in the First 15 Months of Life
W34	Well-Child Visits in the Third, Fourth, Fifth, and Sixth Years of Life
WCC	Weight Assessment and Counseling for Nutrition and Physical Activity for Children and Adolescents

SECTION 1: Overview

Data Driven Decision Making

The State of Texas is well positioned to use information detailed in this report for their Strategic Plan for 2017-2020. Findings, analyses, and recommendations of the EQRO may be used for decision making at the plan and state levels. Overall, MCOs and DMOs in Texas are functioning well, and oversight by HHS is markedly strong. This report offers insights for consideration alongside specific suggestions for continual quality improvement.

Introduction: Texas Medicaid and CHIP Program Overview

More than 80 million Americans receive health care coverage through Medicaid and the Children's Health Insurance Program (CHIP), which are funded jointly by states and the U.S. Department of Health and Human Services (DHHS). Texas has the third-largest Medicaid program in the country, serving nearly 5 million people, most of whom receive care through a managed care delivery model. Participation in federal funding for managed care programs requires compliance with guidelines and protocols established by the Centers for Medicare and Medicaid Services (CMS), including the provision for an external quality review (EQR) by an organization independent from the state. Since 2002, the Institute for Child Health Policy (ICHP) at the University of Florida has served as the external quality review organization (EQRO) for Texas Medicaid and CHIP. This report presents findings by the Texas EQRO on activities conducted in fiscal year (FY) 2017, which address quality of care in Texas Medicaid and CHIP following these guidelines and protocols.

As shown in Table 1, Texas provides Medicaid medical services through four Medicaid managed care programs serving specific populations, and traditional Medicaid fee-for-service (FFS), which provides mostly transitional coverage for members moving into or between managed care programs. Medical services in CHIP are provided entirely through managed care. Complete information about these programs is located on the Texas Health and Human Services (HHS) website.

Table 1. Texas Medicaid and CHIP Medical Managed Care Programs

Program	Description
STAR	Manages care for the majority of Texas Medicaid beneficiaries. This program covers low-income families including adults and children, pregnant women, and newborns.
STAR+PLUS	Integrates acute health services with long-term services and supports (LTSS) for adults who have a disability and people who are 65 or older, including many dually eligible for Medicare.
STAR Kids	Manages care, including Medically Dependent Children Program (MDCP) services, for children and adults ages 20 and younger who have disabilities. This program began November 1, 2016.
STAR Health	Manages care for children and adolescents in state conservatorship and young adults (up to age 20) previously in foster care. All benefits are provided by Superior HealthPlan. As adults, members are eligible for enrollment in STAR through age 26.
CHIP	Manages care for children in families whose income is too high to qualify for Medicaid but too low to afford private insurance for their children. The CHIP Perinate program extends this coverage to pregnant women.

In addition to these programs, the NorthSTAR program delivered carved-out behavioral health services to members of STAR and STAR+PLUS in the Dallas service area (SA) until December 2016. Eighteen managed care organizations (MCOs) and two dental maintenance organizations (DMOs) provide services to Texas Medicaid and CHIP enrollees. Services in STAR, STAR+PLUS, STAR Kids, and CHIP are administered in 13 SAs across the state. Appendix A: Texas Managed Care Service Areas Map shows the 2017 map of Texas Medicaid and CHIP SAs from the Texas HHS website.

The STAR program covers a majority of Texans receiving Medicaid with more than 3 million members (Table 2), while about 400,000 children receive benefits through CHIP. Because it began during the reporting period, the STAR Kids program was not included in many reporting activities; however, in December 2016 this program covered 216,253 children.

Table 2. Enrollment by MCO across Programs, December 2016

Managed Care Organization	STAR	STAR+PLUS	STAR Health	CHIP
Aetna Better Health of Texas	73,169	-	-	9,733
Amerigroup	583,689	59,018	-	62,828
BlueCross BlueShield of Texas	25,541	-	-	5,633
Children's Medical Center Health Plan	-	-	-	-
CHRISTUS Health Plan	5,639	-	-	461
Cigna-HealthSpring	-	19,731	-	-
Community First Health Plans	108,058	-	-	18,196
Community Health Choice	249,284	-	-	27,654
Cook Children's Health Plan	103,911	-	-	20,799
Dell Children's Health Plan	18,608	-	-	7,437
Driscoll Health Plan	151,145	-	-	6,988
El Paso Health	67,581	-	-	10,160
FirstCare Health Plans	94,734	-	-	4,896
Molina Healthcare of Texas	99,989	34,841	-	29,483
Parkland Community Health Plan	170,395	-	-	24,163
RightCare from Scott & White Health Plan	45,399	-	-	-
Sendero Health Plans	13,570	-	-	1,735
Superior HealthPlan	720,230	65,481	33,010	87,785
Texas Children's Health Plan	350,749	-	-	58,329
UnitedHealthcare Community Plan	128,189	51,181	-	9,799
Totals	**3,009,880**	**230,252**	**33,010**	**386,079**

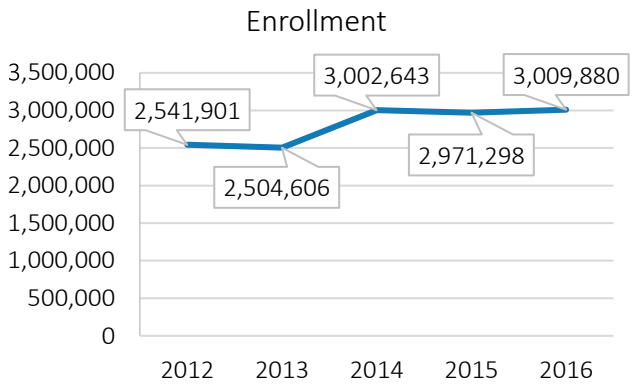
The Medicaid Children's Dental program and CHIP Dental program provide dental services to children (Table 3). Members in STAR, STAR+PLUS, STAR Kids, and CHIP receive dental services through the two DMOs. Superior HealthPlan provides dental services for STAR Health members.

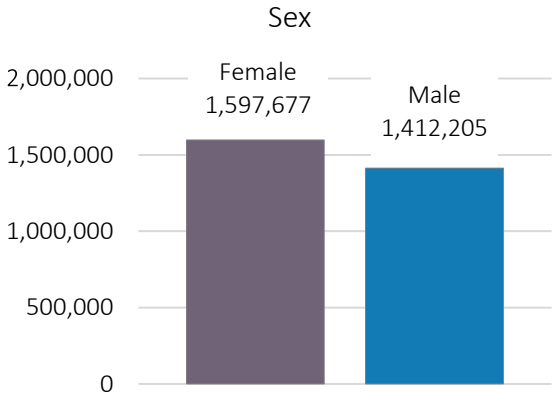
Table 3. Enrollment in Dental Programs by DMO

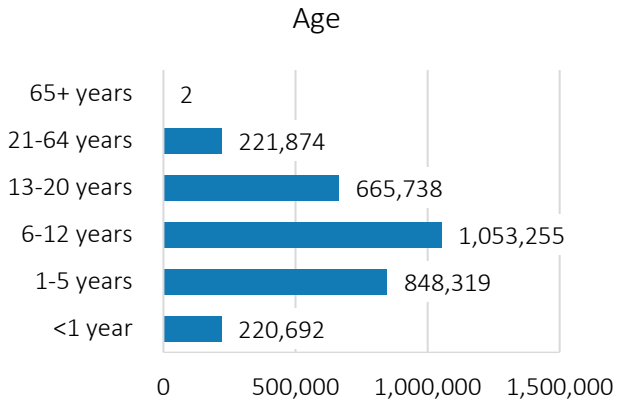
Dental Maintenance Organization	Medicaid Children's Dental	CHIP Dental
DentaQuest	1,681,774	239,336
MCNA Dental (MCNA)	1,299,165	146,836
Total	**2,980,919**	**386,172**

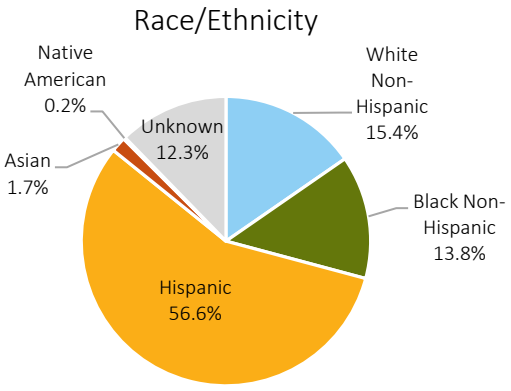
STAR Program Membership as of December 2016

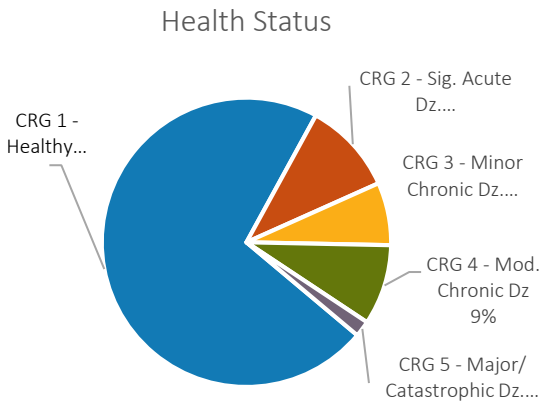
Enrollment in STAR increased substantially in 2014 due to program expansion and has consistently maintained about 3 million members since that time. More members are female than male. Most members are children, with only seven percent of members age 21 or older. More young children than adolescents are covered.







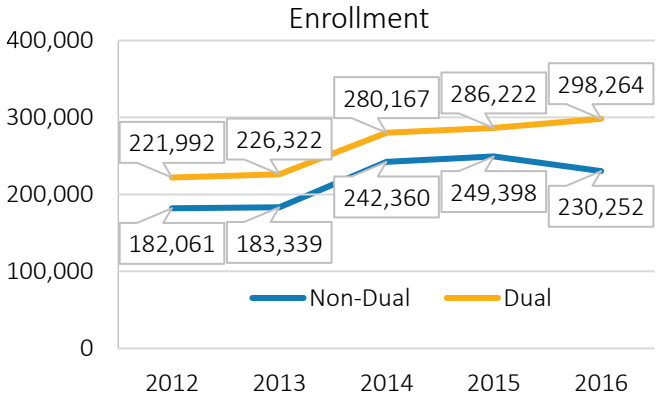


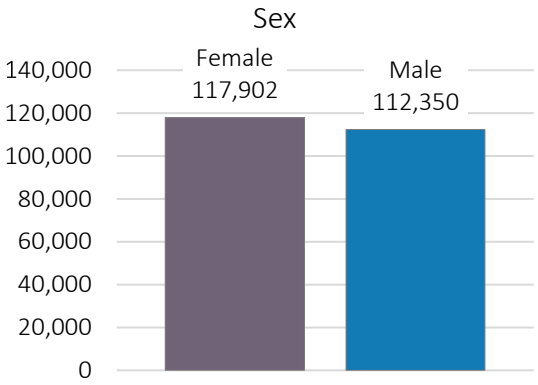


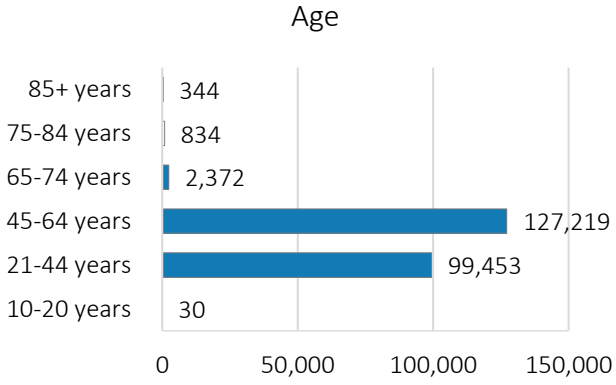
Hispanic members make up more than 56 percent of STAR enrollment. Most STAR members are healthy, although more than 20 percent have moderate to severe health conditions.

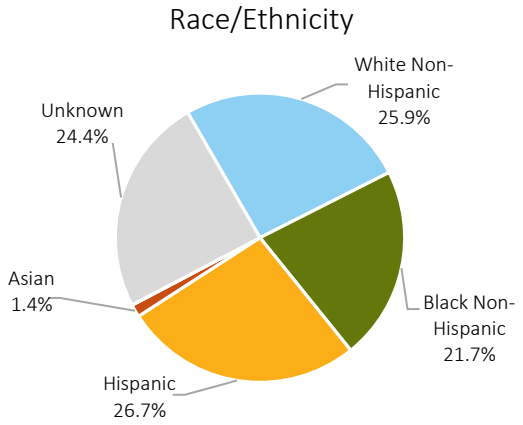
STAR+PLUS Program Membership as of December 2016

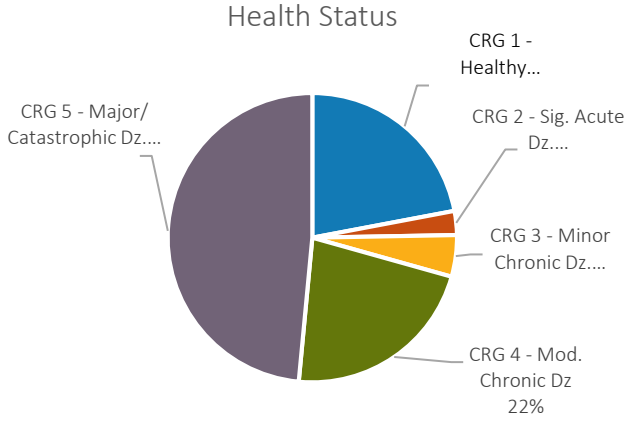
A majority of STAR+PLUS members are dual-eligible for Medicaid and Medicare. Overall, membership in STAR+PLUS increased in 2014 due to a program expansion into rural SAs. Non-dual enrollment dropped slightly in 2016, which reflects the move of children to the STAR Kids program. Slightly more members are female than male. As of December 2016, almost all non-dual members were adults under age 65.







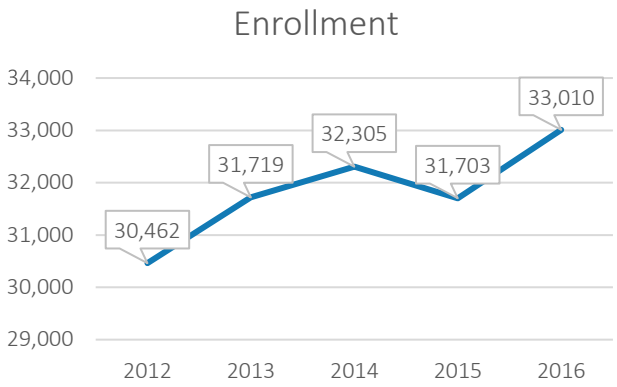


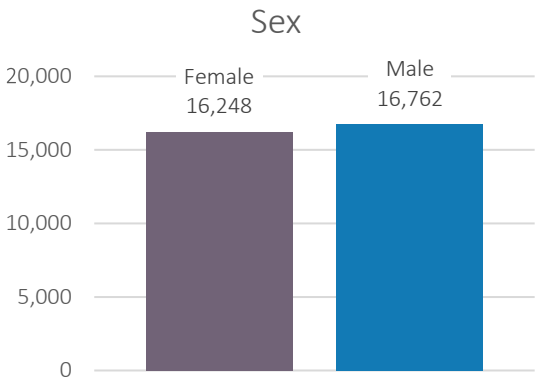


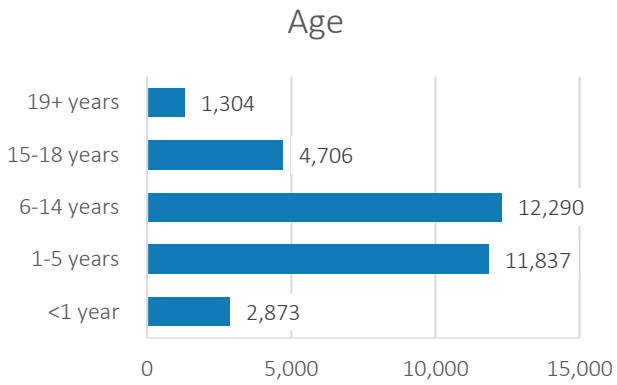
Unlike STAR and CHIP, Hispanics make up only about a quarter of STAR+PLUS members and similar proportions are non-Hispanic whites and blacks. A larger percentage of members do not have known race/ethnicity compared to STAR. It is not clear why STAR+PLUS members would be less likely to supply race/ethnicity information on enrollment. As expected, about half of STAR+PLUS members have major health issues, although about 20 percent are generally healthy.

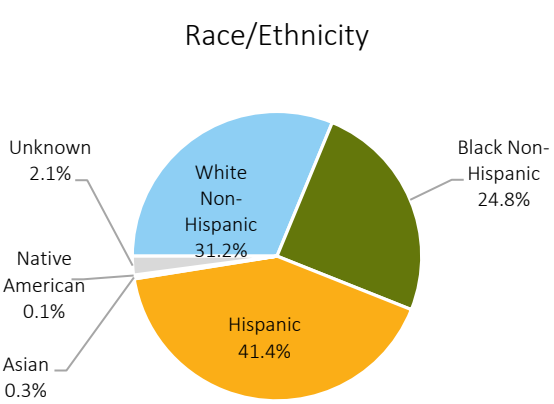
STAR Health Membership as of December 2016

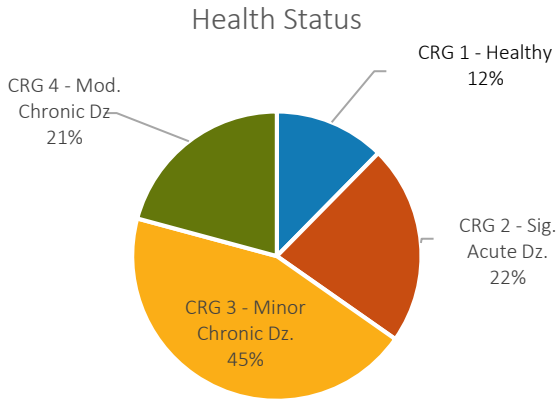
Enrollment in STAR Health has grown overall since 2012. The ratio of male to female members is about one to one. Membership is greater for younger children than for older adolescents. Although not reflected in STAR Health membership, members are automatically eligible for STAR from age 19 to 26.







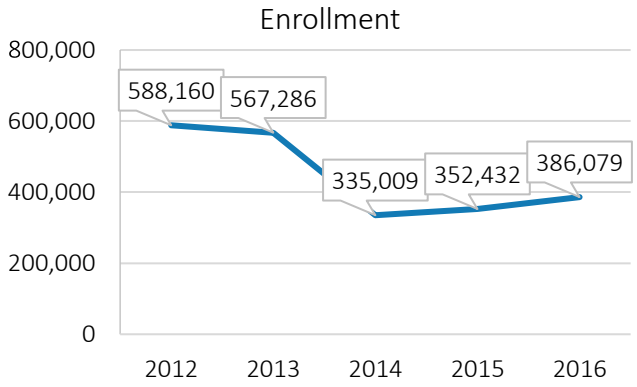


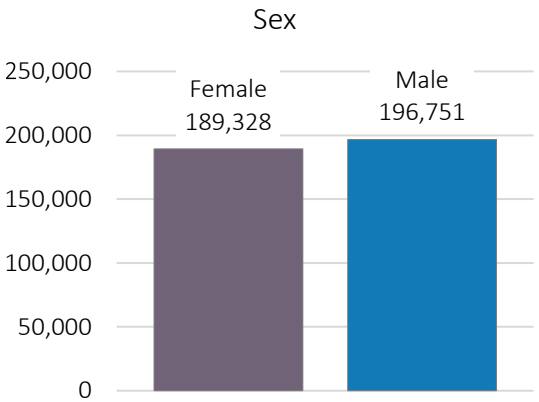


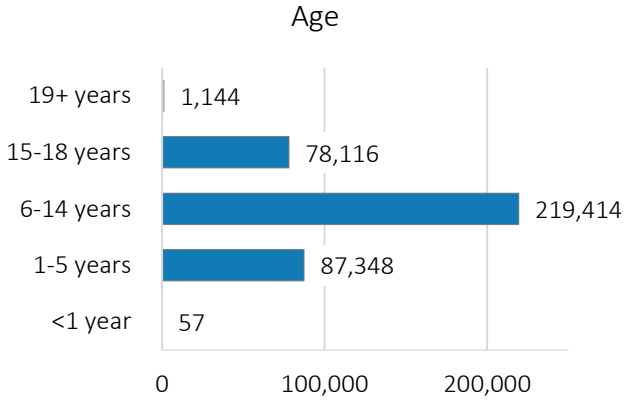
About 40 percent of STAR Health members are Hispanic. Greater proportions of members are instead white and black non-Hispanic than in STAR, which is over 50 percent Hispanic. Health status is divided fairly equally between members that are healthy, have moderate or minor health issues, or have significant or major health issues.

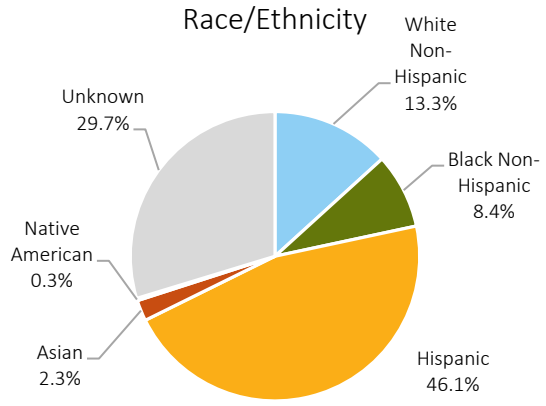
CHIP Membership as of December 2016

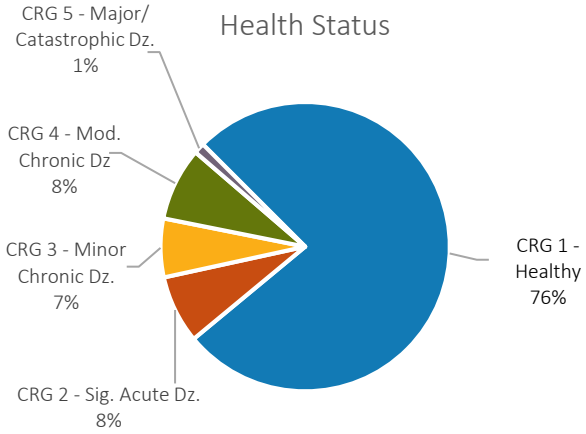
Enrollment in CHIP has been increasing very slightly since a significant drop between 2013 and 2014, resulting from Medicaid expansion. Slightly more members are male than female. Most members are between six and 14 years of age. Texas children meeting CHIP eligibility requirements can receive full Medicaid benefits for their first year, and eligibility covers the entire month of a member's eighteenth birthday.











Hispanic members make up at least 46 percent of CHIP enrollment. The large portion of members of unknown race/ethnicity is due to differences in the initial enrollment processes for Medicaid and CHIP. Although this has been improving, increasing the reporting of basic demographic information would aid in analyses of program services. Most CHIP members are healthy, although nearly 20 percent have moderate to severe health conditions.

Executive Summary: EQRO Activities for Fiscal Year 2017

Following the guidance of the CMS EQR toolkit, the EQRO has summarized activities for fiscal year 2017 based on the protocols provided (1). This report includes evaluations of MCO activities and quality improvement (QI) initiatives for 2016, quality-of-care evaluations for Medicaid and CHIP services, and member satisfaction surveys.

Mandatory:

- Protocol 1: Compliance with federal and state Medicaid managed care regulations including standards for access, structure and operations, and quality measurement and improvement
- Protocol 2: Validation of performance measures reported by managed care organizations (MCOs)
- Protocol 3: Validation of performance improvement projects (PIPs) conducted by the MCOs

Optional:

- Protocol 4: Validation of encounter data reported by the MCOs
- Protocol 5: Consumer and provider survey administration or review
- Protocol 6: Calculation of performance measures
- Protocol 8: Focus studies of clinical or non-clinical services

Protocol 1: Assessment of Compliance with Medicaid Managed Care Regulations

Review of Administrative Interviews

The average total score on Administrative Interviews was 96.2 percent.

During 2017, the EQRO evaluated responses on Administrative Interviews (AIs) to assess MCO and DMO compliance with relevant state and federal regulations. The purpose of these assessments is to ensure that MCOs and DMOs are organizationally strong and have appropriate processes in place to ensure positive member outcomes. The evaluations include review of MCO and DMO responses on the web-based AI tool developed and provided by the EQRO, and follow-up site visits. Beginning in 2017, evaluation of MCOs and DMOs will occur in rotation, with each MCO AND DMO being evaluated at least once every three years. The EQRO evaluated AI responses for nine MCOs and one DMO during this reporting period. The EQRO completed the follow-up site visits between August and December 2017.

The MCOs and DMO averaged scores of 94 percent or higher in all five AI categories:

1. General provisions;
2. State responsibilities;
3. Member rights and protections;
4. Quality assessment and performance improvement (QAPI); and
5. Grievance system.

All but one MCO improved their score over the prior year. During follow-up site visits, the EQRO addressed areas where MCOs were found to be non-compliant. The most common of these involved member rights and protections and the grievance system. In all cases, the MCOs provided additional documentation supporting compliance or policy change provisions to address the deficiency.

MCOs should identify reasons for low participation in disease management programs and work to improve engagement of high-risk members.

Disease management (DM) programs are required in MCOs for STAR, STAR+PLUS, STAR Kids, and CHIP for asthma and diabetes, and other chronic diseases based on prevalence among MCO members. Additionally, STAR+PLUS MCOs must have DM programs for chronic obstructive pulmonary disease (COPD), congestive heart failure, and coronary artery disease. Active participation rates varied by DM program and line of business (STAR, CHIP, STAR+PLUS, etc.) with the lowest participation rate being 0.4 percent for DM programs targeting obesity in children and the highest participation in oncology DM programs (100 percent). DM active participations rates were generally higher for general DM (63.1 percent) and chronic physical health conditions (for example, human immunodeficiency virus [HIV], coronary artery disease, and general disease management). Participation was below 30 percent for Attention Deficit Hyperactivity Disorder (ADHD), behavioral and mental health, high-risk obstetrics, obesity in adults, and obesity in children across MCOs in STAR, STAR+PLUS, and CHIP. Engaging high-risk members in DM programs is required in order to identify gaps in care, coordinate care, address social needs, and educate members about their health conditions.

Review of Quality Assessment and Performance Improvement Programs

Texas Medicaid and CHIP MCOs are required to engage in Quality Assessment and Performance Improvement Programs (QAPIs). The EQRO evaluates the structure and processes of the QI programs through the QAPI evaluations, which include an assessment of the presence and strength of the CMS-defined five essential elements of a QAPI program and assessment of compliance with state and federal standards (2). The evaluations include 15 weighted component activities, resulting in an overall composite score (0-100). The average score across MCOs for 2017 was 97.5, with scores ranging from 87.6 to 100. Five MCOs scored 100. Performance was very good for most activities, with the exception of adherence to previous year's recommendations (average score 77.3). The average scores for other activities ranged from 94 to 100.

Protocol 2: Validation of Performance Measures Reported by the MCOs

Performance measures reported by the MCOs are validated through CMS EQR Protocol 2. However, to reduce potential variability across the state's large number of organizations and programs, Texas has included most quality performance measures in the EQRO scope (i.e., optional Protocol 6). An exception is the selection of Healthcare Effectiveness Data and Information Set (HEDIS®) measures identified by Texas for hybrid method reporting. The results reported by the MCOs are integrated into the overall HEDIS reporting done by the EQRO under Protocol 6. The EQRO requires National Committee for Quality Assurance (NCQA) certification of all MCO-reported measure results, and any supplemental data submitted for inclusion in measures calculated by the EQRO.

The EQRO receives all medical, dental, and pharmacy encounter extracts, enrollment extracts, and provider data monthly to maintain a complete data warehouse in support of all the EQRO functions, and in particular, quality assessment. Additionally, the EQRO works closely with Texas HHS to continually monitor data quality and identify issues that might affect MCO reporting. The EQRO reviewed details about the MCO processing systems and capacity for internal quality assessment throughout the AI process.

Protocol 3: Validation of Performance Improvement Projects

The EQRO evaluates the mandatory performance improvement projects carried out by the MCOs and DMOs for quality of design, methodological approach, implementation, and validity of results (3). Texas requires Performance Improvement Projects (PIPs) to be carried out over two-years in order to provide sufficient time for the implementation of the projects and increase the likelihood of achieving meaningful outcomes when compared to the one-year PIPs previously carried out. The transition to a staggered two-year cycle for the PIPs was implemented in 2014, which resulted in half of the 2014 PIPs being implemented for two years and the remaining PIPs to be implemented for three years. This report discusses the results of the 2014 three-year PIPs, which were implemented through 2016 and were reviewed during the FY 2017 reporting cycle. The overall PIP score includes both the plan score, reflecting the strength of design, and the final score, reflecting the analysis, results, and interpretation by the MCO. Progress reports are used to evaluate the implementation of the PIPs every July.

Very few MCOs achieved sustained improvement on PIP measures.

The medical managed care PIP topics for the 2014 three-year PIPs included asthma (13 STAR MCOs, seven CHIP MCOs), well child/adolescent care (eight CHIP MCOs, two STAR MCOs), diabetes care (four STAR+PLUS MCOs), behavioral health follow-up care (two STAR MCOs), pneumonia (one STAR MCO), adherence to antipsychotic medication (one STAR+PLUS MCO), and anti-depressant medication management (STAR Health). Across all PIP evaluations, only two STAR asthma PIPs, one CHIP asthma PIP, and one STAR+PLUS diabetes PIP achieved sustained improvement on at least one study measure. Another common challenge for MCOs was using root cause analysis to develop interventions, and providing details about interventions that demonstrated the strategies had adequate reach and were appropriate for the target populations.

Both dental PIPs resulted in a statistically significant improvement and sustained improvement in at least one study measure.

Each DMO conducted dental PIPs for Medicaid and CHIP. One DMO focused on timeliness of oral evaluation and the other on annual dental visits. Both DMOs achieved a statistically significant improvement and sustained improvement in at least one study measure. Three progress report scores were provided during the PIP process. Scores generally improved by the third report. The most common reason for reduction in scores was failure to implement interventions by the scheduled start date. Additionally, tracking and monitoring efforts were areas for improvement for some MCOs.

Protocol 4: Validation of Encounter Data Reported by MCOs

Medical and Dental Record Review

The EQRO rotates annually between medical and dental encounter validation. During FY 2017, the EQRO reviewed dental records for services provided during 2016. The overall match rate between service dates in administrative encounter records received by the EQRO and dental medical records was more than 98 percent. Procedure match rates were 93 percent for Medicaid and 91 percent for CHIP.

Data Certification

Following guidance in the CMS Encounter Data Toolkit (4) and EQR Protocols (5), as well as Texas Government Code §533.0131 (6), the EQRO developed procedures for annually certifying the quality of

Texas Medicaid and CHIP encounters. Data certification is conducted for each MCO and DMO, and is completed six months after the end of the fiscal year to allow for claims submission and adjudication. The data certification completed during FY 2017 was for the FY 2016 service period.

The percentage of encounters for institutional services (mostly hospital services) compared to professional services (provided by a doctor or practitioner, usually in an office) was consistent across MCO-SAs for STAR and CHIP; typically, about 20 percent of encounters were institutional services. However, for STAR+PLUS only 10 percent of encounters were institutional in El Paso and Hidalgo, while more than 50 percent were institutional in Lubbock and MRSA Central. The cause of this variation is unknown. For institutional encounters, the volume of denied and voided encounters is generally less than 10 percent, which the EQRO considers a normal level based on national reports (7; 8; 9). For professional encounters, however, the average rate of denied and voided claims across MCO-SAs was 22 percent, and the highest rate was 48 percent. Denied and voided claims create additional administrative burden, and could indicate underlying issues with the adjudication process. The fact that some MCOs are able to remain consistently below the 10 percent threshold indicates that high accuracy is achievable. Investigation into this issue could improve efficiency and quality in the Medicaid and CHIP programs.

The EQRO reviews the completeness and validity of information in administrative records for actuarial soundness and sufficiency for accurate calculation of quality-of-care measures. Information on provider specialty is required for many quality measures, but continues to be an area for improvement. Based on reviews by the EQRO, new requirements for provider specialty fields will go into effect in March 2018. The present on admission (POA) indicator for diagnoses on hospital stays is critical for evaluation of potentially preventable complications (PPC). This information was often missing when the EQRO first began evaluating the field over five years ago, but now the field is usually filled. However, the EQRO also evaluates the reliability of the information, based on expected ratios of "present on admission" to "not present on admission" depending on admission characteristics, following the recommendation of 3M for PPC calculations. The quality of POA information from many providers does not meet the recommended standards and more than 40 percent of hospital data are thus excluded from PPC calculations. According to 3M, other state data showed similar deficiencies during PPC measure development. This is an area for targeted improvement, particularly as PPC is included in the STAR+PLUS Pay for Quality (P4Q) program as a bonus pool measure.

Data quality for the hospital complications measure can be improved.

Protocol 5: Validation and Implementation of Surveys

Consumer Quality of Care Surveys

The EQRO conducts surveys to measure experiences and satisfaction of adult members and caregivers of child and adolescent members in Texas Medicaid and CHIP. The surveys conducted rotate annually by program, with specific member groups surveyed every other year. During 2017, the EQRO conducted STAR Child and CHIP caregiver surveys using the Consumer Assessment of Healthcare Providers and Systems (CAHPS®) survey, child dental surveys adapted from the adult CAHPS Dental Plan Survey, and behavioral health surveys using the Experience of Care and Health Outcomes (ECHO) survey. Additional questions were adapted from the Behavioral Risk Factor Surveillance System, the National Health Interview Survey, and the National Survey of America's Families.

Member satisfaction was above national averages on most survey items for both STAR and CHIP.

Rates for most CAHPS survey composites and ratings were equal to or higher than national averages for Medicaid and CHIP published by the Agency for Healthcare Research and Quality (AHRQ). In particular, the percentage of caregivers who "always" had positive experiences with *Health Plan Information and Customer Service* was 15 percentage points higher in STAR and 9 percentage points higher in CHIP than the respective national averages. Likewise, the percentage of caregivers who rated their child's health plan a "9" or "10" was 13 percentage points higher than the national average in STAR, and 6 percentage points higher than the national average in CHIP. Satisfaction with dental services was higher among caregivers of children in Medicaid than CHIP. In particular, CHIP members were much less likely to report that their dental plan "always" covered all of the services they thought were covered (63 percent versus 86 percent in Medicaid), indicating that better coverage information could benefit members.

The behavioral health (BH) surveys conducted in 2017 assessed experiences and satisfaction with BH care for caregivers of children in STAR, STAR Adult members, and adult STAR+PLUS members. MCOs may administer BH services "in-house," or contract BH services to a behavioral health organization (BHO). The EQRO designed the BH survey studies to allow comparisons between members who received BH services through their MCO and those who received services through a BHO. Across all programs, member ratings were significantly higher in the MCO group than the BHO group with regard to *Getting Treatment Quickly* and *How Well Clinicians Communicate*. There were no differences in global ratings for health plans or for counseling and treatment according to BH delivery model. When findings were compared with results from the EQRO's 2015 BH surveys, global ratings remained constant or improved in STAR. Yet, in STAR+PLUS, they dropped by more than half a percent for the health plan global rating and more than one percent for the overall treatment rating. This could signify a change in member satisfaction with BH services among STAR+PLUS members.

Protocol 6: Calculation of Performance Measures

As noted in reference to Protocol 2, Texas has contracted with the EQRO to conduct quality evaluations across all programs, including FFS and Medicaid and CHIP managed care. Texas uses more than 50 quality measures to facilitate CMS reporting, quality incentive programs, initiative planning, and other program administration objectives.

The EQRO uses quality measures from nationally recognized quality assessment programs including:

- HEDIS, maintained by NCQA for more than 20 years;
- AHRQ Prevention Quality Indicators (PQI) and Pediatric Quality Indicators (PDI);
- Dental Quality Alliance (DQA) performance measures for oral health care; and
- Potentially preventable events measures developed by 3M Health Information Systems

Texas HHS also specifies additional measures to address specific state requirements and initiatives. Appendix B: Summary of Quality Measures Calculated and Reported by the EQRO for the 2016 Measurement Year by Program lists the complete summary of quality measures for the activity period.

HEDIS Measures

The EQRO reports HEDIS results annually by program, MCO, and SA. Additionally, overall results for all Medicaid programs and results categorized by race, sex, and health status are included. In addition to the

electronic reports provided to Texas HHS, the annual HEDIS results are publicly available on the Texas Healthcare Learning Collaborative (THLC) web portal.

Prevention and screening measures: obesity prevention, immunizations, and screening tests for cancer

Obesity is a growing national health crisis with annual U.S. cost estimates for childhood obesity of more than $14 billion (10). Counseling for nutrition and physical activity are recommended preventive health measures for children, and Texas has included these measures in the CHIP P4Q program. Although a few CHIP MCOs performed well relative to national averages, most were below average and some were below the 10th national percentile.

Texas should work with successful MCOs to develop statewide strategies to improve rates of nutrition and physical activity counseling in primary care.

Influenza and rotavirus immunizations are recommended childhood vaccines that have been added to those monitored for Medicaid and CHIP through the HEDIS Childhood Immunization Status [CIS] measure (Combination 10). Overall compliance on recommended childhood vaccinations has generally been high relative to national benchmarks prior to inclusion of influenza. However, due to low compliance on influenza, this vaccination has lowered the overall compliance rate. Several CHIP MCOs perform below the 10th national percentile, leading to an initiative to include the immunization measure in the CHIP P4Q program. Both MCOs and the State should identify factors that influence non-compliance with the influenza vaccine and develop an approach to increase compliance.

STAR+PLUS MCOs should consider targeted interventions for cancer screening among women with disabilities.

Cervical cancer screening is included in the STAR+PLUS P4Q program; however, all MCOs performed below the 10th national percentile for this measure in 2016. Studies have shown that women with physical disabilities are less likely to have this important preventive health test (11). STAR+PLUS MCOs should consider targeting interventions that address the specific needs of women with disabilities.

Condition-specific measures: asthma management, blood pressure control, and diabetes care

Asthma is a treatable condition affecting millions of Americans and costing billions of dollars in total medical costs. Using appropriate medication for controlling asthma is more effective and efficient than reliance on rescue medication and acute care (12). In general, Texas performed well on the measure that considers the ratio of controller-to-rescue medications dispensed, suggesting that providers prescribing asthma medications appropriately. However, when assessing whether controller medication is dispensed to cover at least 75 percent of the time patients need it, performance in CHIP and STAR remained below the 10th national percentile, and most CHIP MCOs failed to meet the Texas minimum standard set by HHS. Although rates on the second measure have improved slightly year-over-year, this finding suggests that providers are still not prescribing controller medications for asthma sufficiently in these populations.

Asthma controller medications may be under-prescribed for CHIP members.

Cardiovascular disease (CVD) is the leading cause of death in the United States. Hypertension, a key risk factor for CVD, is controllable with diet, lifestyle, and medication management (13; 14). In Texas, performance on the measure of blood pressure control is an area for improvement in both STAR and STAR+PLUS, with an overall performance below the 25th

national percentile. This measure is included in the STAR+PLUS P4Q program, but only one MCO met the Texas minimum standard set by HHS in 2016.

Diabetes affects more than 25 million Americans and the cost of diabetes complications is estimated to be greater than $245 billion annually (15). Many of these complications can be prevented with effective diabetes management and monitoring. Performance on all adult diabetes care measures was below the national average in STAR, and below the national average in STAR+PLUS on all measures except nephropathy monitoring. The HbA1c control measure, a blood test indicator for long-term blood sugar levels, is included in the STAR+PLUS performance incentive program. In 2016, all STAR+PLUS MCOs performed below the national average on this measure, although some were able to meet the Texas minimum standard set by HHS.

Behavioral health measures: medication management, follow-up care, and recommended metabolic screening for behavioral health patients

Close adherence to treatment plans is critical for effective management of depressive disorders (16). Performance in Texas Medicaid varied across programs and MCOs, but overall fell below the national averages for measures of anti-depressant medication management. Nationally, about 10 percent of school-aged children cope with the challenges of ADHD. Medication can play an important role in controlling ADHD symptoms, but treatment should be closely monitored (17). STAR Health and some STAR MCOs met Texas minimum standards for ADHD medication follow-up care. Program performance in 2016 has worsened relative to national standards, highlighting this as an important area for improvement.

Follow-up care after hospitalization or emergency department (ED) visit for mental illness or substance abuse is recommended to increase the likelihood that the benefits of care are sustained, and to monitor for any problems with medication or treatment plans (16). Performance in 2016 was generally low relative to national benchmarks; however, rates for some MCOs and SAs were above the 75th national percentile, indicating that higher rates are attainable. Identifying the root cause for differences can help increase the effectiveness of improvement strategies.

Determining the root cause for performance differences in behavioral health follow-up care, across MCOs and SAs, will help increase the effectiveness of improvement strategies.

Metabolic monitoring for schizophrenic or bipolar adults is recommended because they are at increased risk for diabetes (18). The measure of diabetes screening for schizophrenic or bipolar adults is included in the STAR+PLUS performance incentive program. While performance was consistent across STAR+PLUS MCOs, variation was greater by SA, with several performing well relative to national benchmarks, and others falling below the 10th national percentile. Understanding the root cause of these geographic differences in performance would serve efforts to improve performance on this measure.

Overuse and appropriateness measures: inappropriate use of antibiotics in children and adults

Texas has focused interest on the inappropriate use of antibiotics. The Centers for Disease Control and Prevention estimate 30 percent of antibiotics are dispensed inappropriately, resulting in 47 million unnecessary prescriptions in the United States each year (19). With few exceptions, performance on these measures in STAR was low compared to national standards for adults. For children, performance was lowest in the Medicaid Rural Service Areas (MRSAs). In CHIP, the rural SA (RSA) and Nueces were the

lowest-performing areas. Performance for adults in STAR+PLUS was slightly better than in STAR. The child measure is included in the P4Q program for STAR and CHIP.

Access and availability measures: access to primary care, treatment for alcohol and drug dependence, and maternal care

Access to primary care for children met Texas minimum standards across all programs, and performance was generally good relative to national standards. Rates were best for children between 12 and 24 months. A decrease in rates over recent years, and a drop in relative performance against national benchmarks indicate the need for continued effort in promoting primary care.

Children's access to primary care is good relative to national benchmarks across all programs.

Treatment for substance abuse is a large burden on the health care system, but initiating a treatment plan early when alcohol and drug disorders are diagnosed improves the chances of avoiding costly treatment for serious medical problems that result from substance abuse (20). Nationally, the rate for initiation of treatment is less than 50 percent, and the rate for engagement (continuation following initiation) is less than 20 percent. Relative to these benchmarks, performance in STAR was good for engagement, with many MCOs performing above the 75th percentile. However, performance in STAR+PLUS was uniformly low.

Prenatal and postpartum care benefit both mother and infant and can improve outcomes during the perinatal period. Medicaid pays for more than half of the births in Texas, and HHS has made maternal care a priority by including it in the STAR P4Q program. Performance in STAR was generally good for timeliness of prenatal care, with rates for postpartum care somewhat lower.

Access to prenatal care in STAR is good. Improvement in postpartum care should improve outcomes for mother and child.

Utilization measures: well care for children and adolescents

Regular care throughout the important transitions of childhood helps to monitor development, ensures routine preventive care, and provides education and guidance to parents and caregivers. The American Academy of Pediatrics recommends six or more well-care visits during the first 15 months of life, at least one visit annually during the next four years, and annual visits during adolescence. Overall, performance in Texas was good to excellent for older children and adolescents, and has been improving year after year. Recommended visits for children in the first 15 months fell below the national average, indicating an area for improvement.

Well care for children and adolescents is excellent relative to national benchmarks. Well-care for children in the first 15 months of life can be improved.

AHRQ Area Measures

The population-based PQI and PDI identify hospital use for ambulatory care-sensitive conditions. They can be used to flag potential health care quality problem areas that need further investigation. The EQRO reports results specific to the Texas Medicaid populations (rather than using population standards). These have served as a useful monitoring tool for Texas. A composite of the PQI measures is used to assess the overall utilization for ambulatory care-sensitive conditions for a population. This composite is included in

the STAR+PLUS P4Q program. Performance on the composite varies by about 30 percentage points across STAR+PLUS MCOs. The MCOs have an opportunity to work with providers in their networks to improve access to ambulatory services and preventive health care and reduce the impact of these types of admissions.

Dental Quality Measures

Dental care is required in federally funded CHIP and Medicaid programs for children. Texas HHS promotes overall oral health, not only through services provided by the DMOs, but also through state-level initiatives in policy development, education, and population-based preventive services.
Both DMOs also performed well on the HEDIS Annual Dental Visit measure, exceeding the HHS performance standard and the 90th national percentile. The DQA measures for sealants, oral evaluation, and topical fluoride are included in the dental P4Q program. Both DMOs failed to meet the HHS performance standard for sealants in both programs, but performed well above the standard set for oral evaluation in CHIP.

Potentially Preventable Events (PPEs)

In 2011, the Texas Legislature passed Senate Bill (S.B.) 7 (21), which required a quality-based outcomes payment program for Texas Medicaid. The program incentivizes providers to reduce potentially preventable events (PPEs), using quality measures that have the greatest effect on improving quality of care and the efficient use of services.

Using the 3M core grouping software, the EQRO calculates four types of PPE rates across all Texas Medicaid programs and CHIP.

- Potentially preventable ED visits (PPVs) are ED visits that may have been caused by a lack of adequate access to care or ambulatory care coordination.
- Potentially preventable admissions (PPAs) reflect the occurrence of serious health events that may have been avoided through improved care coordination, effective primary care, and improved population health.
- Potentially preventable re-admissions (PPRs) are return hospitalizations that may have been caused by deficiencies in the care during the initial hospital stay or poor coordination of services at the time of discharge or during follow-up.
- Potentially preventable complications (PPCs) are harmful events that occur after a patient is admitted, including Medicare hospital-acquired conditions, Medicaid health care-acquired conditions, and other patient safety indicators.

The EQRO evaluated reported rates within each program after accounting for the health status of the population (PPVs and PPAs) or the case mix of the admissions (PPRs and PPCs). Comparison of MCO performance is made by calculation of actual-to-expected ratios (A/E), where an A/E greater than one signify more PPEs than expected, thus poorer performance.

The EQRO provides PPE results by CY, in monthly reports for each program/MCO. These reports include the summary of data and rates, as well as a registry of events identified as potentially preventable. This provides a valuable resource to the MCOs that they can use to identify network providers or member cohorts for targeted intervention. PPE results are additionally available on the THLC portal. Statewide results are available publicly, and detailed MCO-specific results are available to authorized MCO users.

The portal provides information on the demographic and health status of members at risk for and experiencing PPEs, as well as the providers and the reasons associated with these PPEs. Technical notes on all PPE calculations are also available in the resources section of the portal.

Seventy percent of ED visits in Texas Medicaid and CHIP were potentially preventable. Total expenditures for these visits was $450 million.

Seventy percent of the more than 2 million ED visits identified in Texas Medicaid and CHIP in 2016 were PPVs, with total expenditures near $450 million. Overall, most ED visits (67 percent) were for children; however, the average resource utilization weight (relative use cost) of adult ED visits was greater. The PPV rate in the STAR+PLUS program is more than two and a half times the overall rate in Texas Medicaid and CHIP. Although better primary and preventive care or care coordination would likely lead to improvement, this population has complex health care needs with significantly higher overall utilization, and the higher PPV rate is not unexpected. Upper respiratory infection is by far the most common reason for PPVs overall. However, in the STAR+PLUS program, chest pain, abdominal pain, and other musculoskeletal diagnoses were more common. Chest pain and abdominal pain also have higher relative weight and cost. The performance incentive programs for CHIP, STAR, and STAR+PLUS include the PPV measure.

Improved asthma management could reduce one of the leading causes of PPAs.

More than 250,000 admissions were considered at risk for being PPAs in Texas Medicaid and CHIP in 2016. Not unexpectedly, the admission rate for the STAR+PLUS program was highest, with more than four times the admissions per member-months as seen in Medicaid and CHIP overall. STAR Health also had two times the overall admission rate. The lowest rate was seen in CHIP. Total expenditures for PPAs in Texas Medicaid and CHIP were nearly $220 million for 2016. 'Other pneumonia' (not bronchiolitis or RSV pneumonia) and asthma were the most common causes (APR-DRG) for PPAs in CHIP and STAR, highlighting the need for improved asthma management.

Hospital readmissions may reflect poor clinical care or poor coordination of services during hospitalization or during the post-discharge period. The proportion of candidate admissions followed by one or more PPRs provides a raw rate measure for PPRs. As with PPVs and PPAs, the reported rates are weighted based on the relative resource cost of the PPE. Almost half a million admissions were considered at risk. Overall, about five percent of the total admissions considered were identified as PPRs, but this percentage was considerably higher in STAR+PLUS and STAR Health. The overall PPR rate was 61.65 PPR weights per 1,000 admissions, but varied between 269.23 in STAR+PLUS and only 18.13 in STAR. Mental health issues (bipolar disorder, schizophrenia, depression, and psychoses) comprised the top three reasons for admissions that were followed by PPRs and accounted for more than one-quarter of all PPR chains (admission followed by one or more PPR) and more than 20 percent of total PPR expenditures.

Mental health issues are the leading cause for PPRs.

Hospital complications can result from poor clinical care or poor coordination of services. They result in significant health costs to patients, and significant monetary cost is associated with hospital complications, running to billions of dollars annually in the United States. For 2016, almost 300,000 total admissions in Texas Medicaid and CHIP were considered at risk for PPCs, and overall, about 10,000

admissions resulted in at least one PPC. Children in STAR Health and CHIP experienced PPCs in less than half a percent of admissions, while in STAR+PLUS complications occurred almost five percent of the time. The overall PPC rate was 26.39 PPC weights per 1,000 admissions in 2016. The most common PPC complications were obstetrical, accounting for nearly half of all PPCs. However, these accounted for only six percent of total PPC weights. Renal failure, severe infections, respiratory or heart failure, and shock accounted for about a third of all PPCs, and over half of total PPC weight.

Protocol 8: Focus Studies

MCO Report Cards

The EQRO began producing annual MCO report cards in 2013 to support the state's ongoing efforts to improve consumer choice in Texas Medicaid and CHIP. MCO Report cards for each service area are included in enrollment packets for new members in CHIP, STAR Adult, STAR Child, and STAR+PLUS. In 2017, the EQRO produced 50 unique report cards (differentiated by service area/plan) and instruction sheets in English and Spanish for print and online publication.

The MCO report cards show comparative health plan performance on selected CAHPS measures of member experience and satisfaction and administrative/hybrid HEDIS measures. The report cards present measures in a tiered format that shows individual measure ratings grouped by health care domain, and an overall rating using a five-star, cluster-based rating system. The 2017 MCO report cards grouped measures into three domains: Experience with Doctors and the Health Plan, Staying Healthy, and Controlling Chronic Disease.

Appointment Availability Studies

In 2017, the EQRO conducted studies on prenatal, vision, and primary care appointment availability, which assessed MCO compliance with contractual guidelines for appointment wait times. The EQRO will conduct the behavioral health component of the appointment availability study in 2018 and include results in the FY2018 Summary of Activities report.

The appointment availability studies use a simulated patient or "secret shopper" method to estimate the wait time that an average member encounters when making an appointment with a provider. Secret shopper approaches are a common method for evaluating quality of care (22). The EQRO sampled providers from member-facing MCO provider directories and collected data using an online entry system to ensure reliable calculation of average wait times.

The quality of MCO provider directories needs to be improved. Members face difficulty when scheduling appointments because of incorrect provider information.

Overall, less than one-fifth of provider offices called had an available appointment time. Among these, compliance with wait time standards varied by provider type and program. For prenatal care appointments in STAR, the average compliance rate was highest for members seeking low-risk prenatal care (71 percent), but lower for members seeking high-risk prenatal care (44 percent) or prenatal care in the third trimester (38 percent). Across programs, there was near-universal compliance with wait time standards for preventive care and urgent care (greater than 97 percent), and high compliance with standards for routine care (greater than 87 percent) and vision care (greater than 92 percent). In addition, approximately one-third of providers that the EQRO called for primary care and

vision care appointments offered weekend appointment options. The percentage of prenatal care providers offering weekend appointment options was very low (five percent or less).

Primary Care Provider Specialty Referral Study

The primary care provider (PCP) specialty referral study is an ongoing, statewide pilot study developed to examine PCP experiences when making referrals for specialty care for adults and children in Texas Medicaid managed care and children in CHIP. The EQRO selects survey participants among PCPs listed in member-facing MCO provider directories under family medicine, internal medicine, pediatrics, and obstetrics/gynecology headings. To measure the impact of provider density on experiences with specialty referrals, the EQRO stratified the samples by county-level PCP density categories — low, medium, and high based on the number of PCPs per 1,000 enrollees.

The survey tool collects basic information about the provider's practice as well as difficulties in making referrals based on condition and specialist. Phase 1 of the study, completed in April 2016, focused on gathering statewide data on specialty referrals among Texas STAR providers that could be used to develop a sample for a more in-depth study of barriers and challenges to making specialty referrals. The response rate from the first phase was low (9.5 percent), which limited the study's ability to make inferences about the STAR provider population. In 2017, Phase 2 of the study expanded the scope of the study beyond STAR to include CHIP, STAR Health, and STAR+ PLUS. To improve response rates, the EQRO implemented changes to participant identification and recruitment, including independent verification of provider addresses, advance notification letters with incentives of two dollars, and a mixed-mode data collection protocol allowing for completion of the tool online. Data collection and analysis for Phase 2 will be complete in February 2018, and results will be included in the 2018 Summary of Activities Report.

STAR+PLUS HCBS Program – Service Validation Study

HCBS providers contracted with STAR+PLUS MCOs may not be meeting members' needs for the most common types of HCBS.

The STAR+PLUS Home and Community-Based Services (HCBS) program operates under the authority of the Texas Healthcare Transformation Quality Improvement Program. The service coordinators from the STAR+PLUS MCOs work with beneficiaries to develop a person-centered individual service plan (ISP) which identifies, allocates, and authorizes services in accordance with individual preferences and needs. Ensuring that STAR+PLUS HCBS services are delivered in accordance with members' ISPs is an important objective for quality assurance. In 2017, the EQRO completed a validation study of 2014 services authorized in STAR+PLUS HCBS ISPs submitted by the STAR+PLUS MCOs. The study used claims and encounter data to assess:

1. Whether services authorized on HCBS participants' ISPs were rendered; and
2. The extent to which service units specified on the ISPs matched those reported in claims for the same service period.

The EQRO analyzed 22,124 ISP records from 2014, focusing on the seven most common types of HCBS across ISPs:

1. Personal assistance services;
2. In-home respite care;
3. Dental services;
4. Home-delivered meals;
5. Emergency response services (ERS);
6. ERS services installation; and
7. Protective supervision.

Root cause analyses and targeted PIPs could improve access to and quality of HCBS.

Overall, the validation findings suggested that HCBS providers contracted with STAR+PLUS MCOs may not be meeting members' needs for the most common types of HCBS. In particular, personal assistance services were rendered in one-third or less of ISP records in which personal assistance services were authorized, and in-home respite care had wide variation in rates of rendered services across MCOs (two to 39 percent). Home-delivered meals had rendering rates below 20 percent for most MCOs. This study did not assess the reasons for the observed low rates of rendered HCBS in STAR+PLUS. While the findings pointed toward deficiencies in the delivery of care, including possible issues with providers, network adequacy, or access to care, low rates of rendered services can also occur if service coordinators overestimate the amount of services required to meet members' needs. Poor quality or missing data may also have contributed to low rates, although the EQRO took several measures to ensure the data included in this study were valid and comparable.

STAR Kids Pre-Implementation Focus Study

Understanding member needs and caregiver satisfaction in STAR Kids at baseline is critical for quality improvement efforts.

The STAR Kids program was implemented in November 2016 to provide managed care services to Medicaid members 20 years old and younger who have disabilities.

To assist Texas HHS in assessing implementation of STAR Kids, the EQRO is conducting a multi-year focus study with two primary aims:

1. Identify utilization and quality-of-care measures appropriate to the STAR Kids population; and
2. Compare findings on selected survey and administrative measures in the population of members eligible for STAR Kids before and after program implementation.

In 2017, the EQRO completed the pre-implementation phase of the STAR Kids focus study, which provided baseline results on utilization, access, and satisfaction measures for STAR Kids-eligible members in four different service groups:

1. Medically Dependent Children Program (MDCP);
2. HCBS programs for children with intellectual and developmental disabilities (IDDs);
3. FFS SSI; and
4. STAR+PLUS SSI.

The study included a telephone survey with 986 caregivers of STAR Kids-eligible members in the four service groups, which incorporated items from the CAHPS Health Plan Survey for Children with Chronic Conditions and the National Survey of Children with Special Health Care Needs (NS-CSHCN). Additionally, the EQRO calculated selected administrative measures from HEDIS, the AHRQ PDIs, and 3M PPE measures for STAR Kids-eligible members using claims and encounter data from 2014 and 2015.

STAR Kids MCOs should tailor outreach and quality improvement to meet the needs of each service group.

STAR Kids-eligible members differed across service groups on demographics, health status, and service needs. MDCP members had the highest service needs and rates of limitations to activities of daily living, and were more likely to live in households with two married parents. Members in HCBS programs for children with IDD were generally older, and more likely to need treatment or counseling for an emotional, behavioral, or developmental condition. Members in FFS or STAR+PLUS who were not also in a waiver program were more likely to be Hispanic.

Caregivers were generally satisfied with the care from their children's personal doctors, specialist providers, and overall health care. However, caregivers of children in the highest-need groups (MDCP and IDD waivers) reported more difficulty in getting needed routine care, specialized services, and prescription medications than caregivers of children in Medicaid nationally. Caregivers also reported issues with access to and satisfaction with care coordination. In particular, more than one-third of caregivers across all service groups stated they could have used extra help with care coordination for their children.

Findings on administrative measures revealed the need for continued monitoring for members transitioning from FFS and STAR+PLUS with regard to developmental screening, well-care visits in the first 15 months of life, compliance with asthma medications, follow-up after hospitalization for mental illness, and alcohol and other drug dependence treatment (for adolescents). Administrative results also revealed the need for continued monitoring of members in all service groups on measures addressing care for children and adolescents on antipsychotic medications. Among service groups, members in MDCP had the highest rates of PPAs, PPVs, and PPRs.

STAR Kids MCOs should expand provider education programs to improve antipsychotic prescribing practices, and conduct root cause analyses to determine reasons for low rates on preventive and behavioral health measures.

These findings will be compared with results on survey and administrative measures to be calculated for STAR Kids members (post-implementation) in 2018 and 2019. For members in most pre-implementation service groups (e.g., FFS only, MDCP, and IDD waivers) the move to STAR Kids involves a shift to a managed care delivery model. For members who were previously in STAR+PLUS, some changes in satisfaction and effectiveness of care may be anticipated due to changes in MCO membership — as some STAR+PLUS MCOs (e.g., Cigna-HealthSpring and Molina) do not participate in STAR Kids.

National Core Indicators – Aging and Disabilities (NCI-AD)

The NCI-AD study is an initiative designed to support performance assessment of state programs for long-term services and supports (LTSS) for older adults, individuals with physical disabilities, and caregivers. The primary aim of NCI-AD is to collect and maintain valid and reliable data that give states a broad view

of how their publicly funded LTSS programs affect the quality of life and outcomes of service participants. Since 2015, Texas is one of 16 states that participates in the NCI-AD study. Texas participates biennially and the EQRO provides technical assistance to HHS in the design and administration of the state's NCI-AD study.

For 2017, the Texas NCI-AD study focuses on:

1. Members in the STAR+PLUS HCBS program; and
2. Individuals enrolled in the Program of All-Inclusive Care for the Elderly (PACE).

The study targets a total of 1800 complete in-person surveys, including 300 surveys in each of the five STAR+PLUS MCOs and 300 surveys in PACE. The EQRO contracted with the non-partisan and objective research organization (NORC) at the University of Chicago to collect the NCI-AD data over a 40-week fielding period that began in July 2017. The EQRO functions as a liaison between HHS, NASUAD, HSRI, and NORC, providing assistance with interviewer training, development, and coordination of interview protocols, sample preparation and management, and continuous progress and quality monitoring of data collection. Fielding of the NCI-AD survey is ongoing, with an expected completion date of April 2018.

In-Depth Analyses of Selected Quality Incentive Measures

To examine factors that contribute to compliance on quality incentive measures, the EQRO conducted logistic regression analyses on the following measures:

1. STAR+PLUS Diabetes Screening for People with Schizophrenia or Bipolar Disorder Who are Using Antipsychotics (SSD);
2. CHIP Adolescent Well-Care (AWC);
3. STAR Timeliness of Prenatal Care (PPC-Pre); and
4. STAR Postpartum Care (PPC-Post).

All analyses accounted for the effects of member age; sex; race/ethnicity; percent of individuals in the census tract below poverty; presence of physical conditions, behavioral health conditions, and physical-behavioral health comorbidities; and MCO or MCO/SA. The analyses identified specific profiles of enrollees for whom targeted interventions for quality improvement would be of the most benefit.

With regard to diabetes screening for STAR+PLUS members taking antipsychotic medications, the probability of receiving screening was higher for females (compared to males) and for members with chronic physical conditions (compared to those without). The probability of receiving diabetes screening was lower for black, non-Hispanic members (compared to white, non-Hispanic members). In particular, STAR+PLUS MCOs should focus improvement efforts on black, non-Hispanic members without chronic physical health conditions, for whom the predicted probability of receiving screening was 64 percent.

The analysis of adolescent well-care visits among CHIP members found that the probability of receiving well care was higher for adolescents with a physical health condition (compared to those without). The probability of receiving well care was lower for adolescents 15 to 19 years old (compared to those younger than 15) and for white, non-Hispanic members (compared to Hispanic members). In particular, CHIP MCOs should focus improvement efforts on white, non-Hispanic adolescents, for whom the predicted probability of receiving well care was 63 percent.

The probability of receiving timely prenatal care visits for pregnant women in STAR was higher for members older than 20 years (compared to those younger than 20) and for Hispanic members (compared

to white, non-Hispanic members). In efforts to improve rates on this measure, STAR MCOs should focus on women younger than 20 years old, who had the lowest probability of receiving timely prenatal care (79 percent).

Lastly, the probability of receiving postpartum care for pregnant women in STAR was lower for black, non-Hispanic members (compared to white, non-Hispanic members); members who live in a census tract with greater than 20 percent poverty (compared to less than 10 percent poverty); members having a physical health condition (compared to those without); and members having a behavioral health condition (compared to those without). In particular, STAR MCOs should focus improvement efforts on members with behavioral health conditions, for whom the predicted probability of receiving postpartum care was 60 percent.

SECTION 2: MANDATORY EQRO ACTIVITIES & PROTOCOLS

On Target Performance

Delivery of health care via managed care organizations has been shown to be effective and efficient in meeting the needs of Medicaid and CHIP recipients. CMS requires that all states receiving federal funding be evaluated by an EQRO. The EQRO for Texas provides comprehensive, expert-level analyses for each of the three protocols deemed mandatory by CMS and finds that each of the requirements has been met; in several instances, they are exceeded. Such results are described in this section.

Protocol 1: Assessment of Compliance with Medicaid Managed Care Regulations

Administrative Interviews:

Managed Care Organization and Dental Maintenance Organization

The Centers for Medicare and Medicaid Services (CMS) Protocol 1 requires the EQRO for Medicaid and Children's Health Insurance Program (CHIP) managed care to include administrative interviews (AIs), which assess MCO and DMO compliance with relevant state and federal regulations. Health plan compliance with state and federal regulations represents the strength of the MCOs' and DMOs' structure, which ensures appropriate processes are in place to affect member outcomes. The EQRO fulfills the requirements of CMS EQR Protocol 1 through the AI deliverables, which include the web-based AI tool and on-site visits. The health plans that are selected each year for review rotate to ensure that the EQRO conducts the AI activities for all health plans every three years.

In CY 2017, the EQRO evaluated responses on the web-based AI tool for nine MCOs and one DMO and conducted site visits with these plans between August and December 2017.[1] The web-based tool includes questions that address state and federal regulations with which MCOs and DMOs must comply. The EQRO evaluates health plan responses, including a review of each plan's policies and procedures to assess compliance with state and federal regulations. Each health plan receives a final score and a set of recommendations based on overall findings.

Quick Findings from 2017 Administrative Interviews

- *Overall, MCOs and DMO had scores of 90% or higher in all of the AI categories.*
- *Although component scores were strong overall, full compliance was not achieved in Members' rights and protections or the grievance system.*
- *MCO compliance with state and federal regulations increased from 2016 to 2017.*
- *Most DM programs have low active participation rates, especially the obesity DM programs.*

Significance

- *MCO compliance with state and federal regulations represents the strength of the MCOs' structure and ensures appropriate processes are in place to affect member outcomes.*
- *MCOs are required to actively engage high-risk members in the applicable DM program to identify gaps in care, coordinate care, address social needs, and educate members about their health condition among other activities.*

Recommendations

- *MCOs should ensure that all policy and procedures pertinent to the state and federal regulations are updated and submitted to HHS and the EQRO.*
- *MCOs should identify the reason for low active participation rates and develop an approach to increase active participation in DM programs for high-risk members.*

[1] Children's Medical Center did not complete the web-based AI tool since they started in November of 2016 and HHS determined that CMC should wait to complete the tool until the next year. However, because the EQRO would conduct a site visit with CMC in 2017, it requested that the MCO submit all policies and procedures related to the state and federal regulations. The EQRO subsequently reviewed the documents to assess compliance with the regulations in lieu of reviewing the AI tool.

In 2017, the EQRO conducted AIs that addressed:

- Organizational structure of the health plan
- Member enrollment and disenrollment
- Children's programs and preventive care
- Care coordination and disease management Programs
- Member services
- Member complaints and appeals
- Provider network and reimbursement
- Authorizations and utilization management
- Health plan information systems
- Data acquisition

Overall, the MCOs/DMO did well in all categories, with an average compliance rate of greater than 94 percent in each category.

MCO Compliance with State and Federal Regulations

The EQRO reviewed MCO and DMO responses on the web-based AI tool to assess compliance with state and federal regulations. These regulations fall in the following categories:

General Provisions:

- Information about enrollment, benefits, and access to care the MCOs and DMOs are required to provide to members
- Type and timeframe for communication of the required information to the members

State Responsibilities:

- State timeframe requirements for disenrollment from the health plan

Member Rights and Protections:

- Members' rights to access care and participate in treatment
- Required coverage and payment of emergency and post-stabilization services

Quality Assessment and Performance Improvement (QAPI)[2]:

- Provider network requirements and member access to out-of-network providers
- Requirements for identification and assessment of members with special health care needs and the development of treatment plans for these members
- Process and timeframes for standard and expedited authorization of services
- Provider selection and credentialing
- Requirement that the health plan ensure data reported by providers is verified for accuracy and timeliness

[2] This section refers to a section of the federal regulations titled, Quality Assessment and Performance Improvement, which includes specific regulations with which the MCOs must comply. These sections of the AI evaluations are separate from the QAPI templates the health plans are required to complete on an annual basis. However, some of the regulations in this section of the CFR are captured in the QAPI template rather than the AI tool.

Grievance System:

- Establishment of a grievance system, which includes the processes by which a provider or member may file a complaint or appeal at the MCO AND DMO or state level in accordance with federal and state regulations
- Timeframes for the health plan response to a complaint or appeal and the information that must be included in the MCO's and DMO's response.

Figure 1 presents the average score for each of the federal regulation categories listed above. Overall, the MCOs/DMO did well in all categories, with an average compliance rate of greater than 94 percent in each category. The EQRO followed up with MCOs and DMO during the site visits to discuss all regulations where they were deemed non-compliant. Based on the discussions during the site visits, the health plans indicated they would provide the policy and procedure that pertained to the regulation or would update their policies and procedures to ensure compliance with all regulations.

Figure 1. 2017 Overall Administrative Interview Scores by Federal Regulation Category

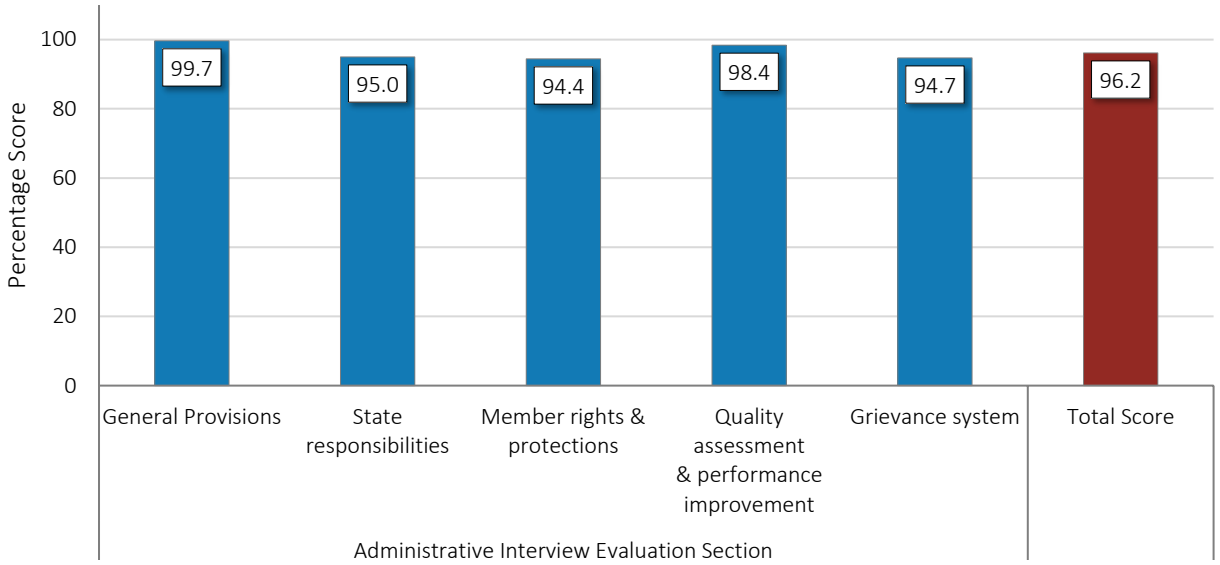


Table 4 summarizes the overall evaluation scores for the 2017 AI tool and percent point change in scores from 2016 to 2017 for the nine MCOs and one DMO.[3] Only BlueCross BlueShield of Texas saw a decrease in their AI evaluation overall score, which was mainly due to BCBSTX not providing its policy for emergency and post-stabilization services (EPSS). In addition, BCBSTX provided updated complaints and appeals policies; however, they did not include the required information needed to be compliant with the regulations.

[3] All health plans, with the exception of Children's Medical Center, completed the web-based AI tool, but evaluations and site visits were only conducted with 9 MCOs and 1 DMO due for the 3-year assessment per CMS Protocol 1. The EQRO also conducted an on-site visit with Children's Medical Center since they were a new plan.

Table 4. 2017 Administrative Interview Evaluation Scores

	2017 Administrative Interview Evaluation Scores	Percent Change in Scores from 2016
MCO Average	**96.2**	**6.5%**
Aetna Better Health	97.7	2.4%
BlueCross BlueShield of Texas	91.8	-2.6%
CHRISTUS Health Plan	90.6	5.4%
Community Health Choice	97.7	13.2%
Dell Children's Health Plan	99.1	3.1%
Driscoll Health Plan	95.5	0.9%
MCNA Dental	98.1	N/A*
Parkland Community Health Plan	96.3	20.8%
RightCare from Scott & White Health Plan	96.7	1.1%
Texas Children's Health Plan	98.8	14.0%

The MCOs that had the greatest percent change from the previous year included Community Health Choice, Parkland Community Health Plan, and Texas Children's Health Plan. Of note, these three MCOs had the highest compliance with the EQRO's previous recommendations, which resulted in them submitting the requested documentation and a greater increase in their AI evaluation score.

Disease Management Programs

This section presents findings from the 2017 AIs, which cover the structure and practice of disease management (DM) and health promotion programs, focusing on those required by the state during CY 2016. Texas HHS requires all MCOs participating in STAR, STAR+PLUS, STAR Kids, and CHIP to provide disease management services covering asthma, diabetes and other chronic diseases based on disease prevalence within each MCO's membership. HHS also requires MCOs participating in STAR+PLUS to offer disease management for chronic obstructive pulmonary disease, congestive heart failure, and coronary artery disease (23).

Five disease management programs (Attention Deficit Hyperactivity Disorder, behavioral and mental health, high-risk obstetrics, obesity in adults, and obesity in children) had participation rates below 30 percent across STAR, STAR+PLUS, and CHIP as shown in Table 5.

Participation rates are based on the number of members who are eligible for a particular disease management program relative to those who actively participate in it, where active participation is defined as one or more encounters (either by phone or face-to-face) between DM staff and the member or member's representative. Eligibility for each DM program is defined by the MCO. However, members should be considered eligible for a DM program if they have been identified as having a qualifying condition (i.e., asthma, diabetes, etc.) and eligible for active engagement if the member was identified as high-risk (i.e., identified as non-adherent to recommended care, has multiple chronic conditions, or evidence that the condition is uncontrolled).

Table 5. Member Participation Rate in Disease Management by Program, 2016

DM Type	STAR	CHIP	STAR+PLUS
Asthma	33.9%	27.5%	38.3%
Attention Deficit Hyperactivity Disorder	8.2%	2.8%	17.6%
Behavioral and Mental Health	17.8%	6.2%	27.4%
Coronary Artery Disease	60.7%	16.7%	26.0%
Congestive Heart Failure	19.5%	8.3%	34.2%
Chronic Obstructive Pulmonary Disease	32.3%	18.0%	35.0%
Depression	49.7%	31.7%	22.4%
Diabetes	45.4%	27.9%	33.4%
General Disease Management	63.1%	65.1%	17.2%
High-Risk Obstetrics	19.3%	5.3%	1.5%
Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome	73.2%	96.6%	30.5%
Obesity in Adults	0.4%	0.0%	9.2%
Obesity in Children	0.5%	0.4%	0.0%
Oncology	100%	100%	100%

Evaluation of MCO and DMO Quality Assessment and Performance Improvement Programs

The EQRO annually reviews the Texas Medicaid MCO and DMO Quality Improvement (QI) programs to evaluate aspects of structure and process that contribute to their success and to assess compliance as specified in the Code of Federal Regulations (CFR) (2). This section discusses the EQRO's evaluation of 2017 MCO and DMO QAPI programs as they pertain to 42 CFR §438.358 Activities Related to EQR and 42 CFR §438.364, which cover activities conducted by the MCO and DMO during CY 2016.

Evaluation

The QAPI program evaluations follow CMS guidelines to evaluate both quality assurance and QI practices of the Texas Medicaid MCOs and DMOs.

The average QAPI score across all health plans was 97.5 percent. Sixteen of 22 MCOs or dental plans scored above the average score.

CMS specifies five essential elements of a quality assessment and performance-improvement program:

1. Design and scope;
2. Governance and leadership;
3. Feedback, data systems, and monitoring;
4. Performance improvement projects; and
5. Systematic analysis.

Using documentation submitted by the health plans, the QAPI program evaluations assess the MCOs' and DMOs' performance improvement structures and program assessments through review and scoring on 15 domains.

Scoring Methods

The scoring system rates each MCO and DMO on a scale of 0-100 based on its QAPI summary report. The QAPI program evaluation includes 15 activities. The EQRO calculated the scores for each, and then weighted them to assign more importance to those activities representing the five essential components of a successful QI program as described above, with the exception of element 4—performance improvement projects—since they are evaluated separately.

The EQRO applied more weight to the following activities, together representing 70 percent of the score:

- A1: Role of Governing Body (CMS Element 2)
- A3: Adequate Resources (CMS Element 2)
- A4: Improvement Opportunities (CMS Elements 3 and 5)
- B1: Program Description (CMS Elements 1 and 3)
- B4: Availability and Access to Care Monitoring and Results (CMS Elements 3 and 5)
- B5a: Clinical Indicator Monitoring (CMS Elements 3 and 5)
- B5b: Service Indicator Monitoring (CMS Elements 3 and 5)

The remaining eight activities accounting for 30 percent of the final score include:

- Required Documentation
- A2: Structure of QI Committee(s)
- B2: Overall Effectiveness
- B3: Clinical Practice Guidelines
- B6: Credentialing and Re-Credentialing
- B7: Delegation of QAPI Program Activities
- B8: Corrective Action Plans
- B9: Previous Year's Recommendations

For any activity that did not apply to a plan, the EQRO scored the activity as "N/A" and redistributed the points to all remaining activities. Overall, the final weighted scores allow for a more accurate analysis of the MCOs' QI programs. The results below are based on the evaluations of the 2017 QAPI programs. Table 6 shows the overall score for each MCO and DMO. The average score of all MCOs/DMOs was 97.5 percent. Sixteen of 22 MCOs or DMOs scored above the average score. Molina Healthcare of Texas received the lowest score (87.6 percent) on the QAPI, which was primarily due to the MCO not updating information from the previous year's QAPI in several sections.

Table 6. Quality Assessment and Performance Improvement Scores by MCO, Measurement Year 2017

MCO	Score
MCO Average	**97.5**
Aetna Better Health	92.3
Amerigroup	100
BlueCross BlueShield of Texas	99.1
CHRISTUS Health Plan	92.1
Cigna-HealthSpring	93.3
Community First Health Plans	100
Community Health Choice	100
Cook Children's Health Plan	99.4
Dell Children's Health Plan	97.5
DentaQuest	99.7
Driscoll Health Plan	98.5
El Paso Health	100
FirstCare	99.2
MCNA Dental	97.9
Molina Healthcare of Texas	87.6
Parkland Community Health Plan	98.8
RightCare from Scott & White Health Plan	99.4
Sendero Health Plans	97.9
Superior HealthPlan	99.4
Texas Children's Health Plan	100
UnitedHealthcare Community Plan	98.8
ValueOptions	93.5

The EQRO also evaluated the plans' QAPI program summary reports by section to identify areas of high performance and opportunities for both systematic and individual improvement. Table 7 presents the average QAPI program summary report activity score, calculated as the average weighted score across all MCOs for each activity. Overall, the MCOs performed well in all areas of the QAPI. With exception to complying with the previous year's recommendations (average score was 77.3 percent), the average activity scores ranged from 94.6 percent to 100.0 percent. Every year the EQRO makes recommendations on evaluation components where the MCO and DMO received a partially met or not met score. During the evaluation of the QAPI the following year, the EQRO assesses health plan compliance with the previous year's recommendations and assigns a met, partially met, or not met score depending on whether or not the MCO and DMO fully incorporated the previous year's recommendation into its QAPI program. Based on EQRO review of the previous year's recommendations, the MCOs/DMOs only complied with 77.3 percent of the recommendations made on the previous year's QAPI program evaluation.

Table 7. Quality Assessment and Performance Improvement Scores by Activity, 2017

Activity	Score
Required Documentation	97.7
A1: Role of Governing Body	100
A2: Structure of Quality Improvement Committee(s)	99.7
A3: Adequate Resources	98.9
A4: Improvement Opportunities	98.2
B1: Program Description	94.6
B2: Overall Effectiveness	98.5
B3: Clinical Practice Guidelines	99.6
B4: Availability and Access to Care Monitoring and Results	98.1
B5a: Clinical Indicator Monitoring	96.6
B5b: Service Indicator Monitoring	99.2
B6: Credentialing and Re-Credentialing	100
B7: Delegation of QAPI Program Activities	100
B8: Corrective Action Plans	100
B9: Previous Year's Recommendations	77.3

Protocol 2: Validation of Performance Measures Reported by MCOs

CMS EQR Protocol 2 is used to validate Medicaid and CHIP performance measures reported by the MCOs. The MCOs report the hybrid measures listed in Table 8 while the EQRO reports all measures that rely on administrative data. For a complete listing of measure reporting by program, please see Appendix B: Summary of Quality Measures Calculated and Reported by the EQRO for the 2016 Measurement Year by Program.

Table 8. Healthcare Effectiveness Data and Information Set (HEDIS®) Measures Hybrid Reporting

Abbreviation	Description
ABA	Adult Body Mass Index (BMI) Assessment
WCC	Weight Assessment and Counseling for Nutrition and Physical Activity for Children and Adolescents
CIS	Childhood Immunization Status
CBP	Controlling High Blood Pressure
SPC	Statin Therapy for Patients with Cardiovascular Disease
CDC	Comprehensive Diabetes Care
PPC	Prenatal and Postpartum Care
W15	Well-Child Visits in the First 15 Months of Life
W34	Well-Child Visits in the Third, Fourth, Fifth, and Sixth Years of Life
AWC	Adolescent Well-Care Visits

The above measure results are integrated into the overall Healthcare Effectiveness Data and Information Set (HEDIS®) reporting done by the EQRO under Protocol 6: Calculation of Performance Measures. Since all of these are National Committee for Quality Assurance (NCQA) certified measures with nationally established reporting procedures, the EQRO requires each MCO to provide an NCQA-certified audit report for all submitted hybrid measure reports, which are reviewed by the EQRO to ensure that the MCOs passed the audit and followed NCQA hybrid methodology appropriately. In addition to providing the certified audit reports, each MCO is required to provide the member-level data used to support the measure calculations, which are also reviewed directly by the EQRO. The MCO may also submit supplemental data for HEDIS measure calculations, per the NCQA definitions and specifications. These data must also be accompanied by NCQA-certified audit approval to be included in the EQRO quality measure calculations.

In addition, the EQRO works closely with Texas HHS to continually monitor data quality and identify issues that might affect MCO reporting. Details about the MCO processing systems and capacity for internal quality assessment are reviewed through MCO response on the web-based AI tool and followed up with during the AI on-site visits when applicable. More details of the AI process are described in earlier in this section under Protocol 1. The hybrid results received are also more fully described in Section 3 with the overall discussion of quality assessment results reported by the EQRO.

Protocol 3: Validation of Performance Improvement Projects (PIPs)

PIP Evaluations

PIP validation is a mandatory EQRO activity per 42 CFR §438.358(b) (1). The purpose of the PIPs is to improve outcomes in the Medicaid and CHIP populations. The EQRO determines the quality of the design and implementation of the PIP in addition to ensuring the PIPs were conducted in a methodological approach. This is determined based on the assessment of the validity and reliability of the PIPs through the assessment of the study methodology, verification of PIP findings, and evaluation of the overall validity and reliability of the results (24). This section presents assessments of study methodologies and evaluations of overall validity and reliability of PIP results following guidance by CMS on required EQRO activities.

Health plans participating in Medicaid or CHIP in Texas are now required to conduct PIPs on a two-year cycle. Previously, PIPs were conducted on a one-year cycle. HHS transitioned to a staggered two-year cycle to allow more time for each health plan to develop meaningful projects, observe the outcomes, and use feedback from completed PIPs in the design of new projects. In 2014, the MCOs and DMOs implemented two PIPs per program. However, to fully transition to the staggered two-year PIP approach, the 2014 PIPs were split into two-year PIPs and three-year PIPs. This section describes the three-year 2014 PIPs.

Quick Findings from PIP Evaluations

- *The activity with the greatest opportunity for improvement assesses health plans' root cause analysis, interventions, and implementation strategy, for which some plans did not provide adequate details of proposed interventions.*
- *Several health plans achieved statistically significant improvement in at least one study measure, but few achieved sustained improvement.*
- *PIP Progress Report scores were lower for reports 1 and 2, but improved for progress report 3.*

Recommendations

- *Health plans should improve description of the chosen intervention and how it addresses barriers identified in the root cause analysis. They should also describe how the intervention will be implemented and how the plan will communicate with both members and providers.*

Methods

Following CMS guidance, the EQRO systematically evaluates PIPs according to several activities with each activity including one or more evaluation components. Activities for the PIP plan report, progress report, and final PIP report differ. Scoring for each component of each activity is based on a three-point scale: Component *Met* (100 percent), Component *Partially Met* (50 percent), or Component *Not Met* (0 percent). The score for each activity is the average of component scores.

The overall PIP score is the average of all activities one through 11. Table 9 provides a summary of each activity. Activities 1-7 are evaluated in the PIP plan and provide insight into how the MCOs performed in the development and design of the PIP. Activities 8-11 are evaluated in the final PIP report and provide an overview of the success of the PIP. The results presented in the section that follows focus on MCO performance for each of these categories.

Table 9. Summary of Activities Evaluated for the PIP Plan and Final PIP Reports

Activities	Components Per Activity	Summary of Activity
Activity 1. Study Topic	1	Assesses the characteristics of members targeted by the PIP, as well as prevalence of the problem.
Activity 2. Study Question	1	Assesses the study question(s) in the required, "Does doing X result in Y?" format.
Activity 3. Study Population	3	Includes components that evaluate the defined target population and data collection approach for the entire population or sample population.
Activity 4. Study Indicators	6	Includes components that evaluate the defined study indicators for reliable measures of change, goals for improvement, baseline and repeat measurement rates, and measure timeframes.
Activity 5. Sampling Methods	2	Assesses whether a sample for measures and interventions are used and described in detail.
Activity 6. Data Collection Plan	4	Assesses the data collection and analysis plan for the data collected and from which sources.
Activity 7. Root Cause Analysis (RCA) and Interventions	8	Includes components that evaluate the root cause analysis, how the RCA was used to develop interventions, and the implementation strategy.
Activity 8. Analyzing Data and Interpreting Results	6	Includes components that evaluate the analysis of findings, numerical results for baseline and repeat measurements, statistically significant results, factors that influenced results, and interpretation as to whether the PIP was or was not successful.
Activity 9. Intervention Follow-up	9	Includes components that evaluate all interventions for follow-up information such as number and percentage of members/providers targeted and reached, tracking and monitoring efforts, modifications made to the PIP to overcome barriers, communication methods, and engagement and feedback from providers involved in the interventions.
Activity 10. Real Improvement	2	Assesses if statistically significant improvement over baseline is achieved for at least one indicator. Identifies future plans for the PIP topic.
Activity 11. Sustained Improvement	2	Assesses if statistically significant improvement over baseline is sustained for at least two reporting periods and how health plans will use the results to maintain or achieve sustained improvement.

In addition to evaluating the PIP plans and final PIPs (Activities 1-11), the EQRO assesses MCO and DMO progress throughout the implementation period and evaluates PIP progress reports every July. For the three-year PIPs, there were three PIP progress reports for which the results are discussed below. As with the PIP plans and final PIPs, progress reports are scored on a three-point scale: Component *Met* (100 percent), Component *Partially Met* (50 percent), or Component *Not Met* (0 percent). The score for each activity is the average of component scores. The PIP progress report assesses whether or not the health

plan implemented the interventions as planned (i.e., started on the planned start date, whether or not modifications were made to the interventions, etc.) in addition to the tracking and monitoring efforts made for each intervention.

Results

This section provides the 2014 three-year PIP plan, final PIP, and overall PIP scores by program and topic. The overall score is an average of MCO AND DMO performance on the PIP plan and final PIP report, and it does not include the scores from the progress reports. Additionally, it briefly provides the results of the PIP progress reports. The PIP plan scores reflect the strength of the design of the PIP while the final PIP score represents the analysis, results, and interpretation of the results of the PIP. The PIP progress report scores reflect the health plans' implementation of the interventions and their tracking and monitoring efforts. This section also summarizes MCO performance by activity for PIP topics that were addressed by five or more MCOs per program. For programs that are only covered by five or fewer MCOs, summaries were compiled for PIP topics that were addressed by a majority of the MCOs (i.e., there are five STAR+PLUS MCOs and four had a PIP that focused on comprehensive diabetes care). Activities 5 (Sampling Plan) and 6 (Data Collection Plan) of the PIP plan were scored as not applicable. All plans used HEDIS measures, which have specifications for inclusion in the measure. Thus, the MCOs do not have to develop a sampling plan or data collection plan.

STAR

As summarized above and as shown in Table 10, the PIP plan, final PIP, and overall PIP scores for the STAR three-year PIPs by topic and MCO illustrate variation in performance between MCOs. For MCOs that had well-designed PIPs (high PIP plan score), not all had high final PIP scores. This was due to several factors, which ranged from MCOs misinterpreting the results of their PIPs to not achieving a statistically significant improvement and sustained improvement in all study measures (Figure 2). Some MCOs had strong PIPs, while others had opportunities for improvement. The minimum overall score was 69.4 percent, the maximum overall score was 95.5 percent, and the average overall score was 86.1 percent.

STAR PIP Evaluations: Summary of Scores

	PIP Plan Score	Final PIP Score	Overall PIP Score
Minimum	55.6%	61.1%	69.4%
Maximum	98.6%	100.0%	95.5%
Average	86.7%	85.7%	86.1%

There was variation in performance between MCOs on the PIP plans and the final PIP reports. For MCOs that had well-designed PIPs (high PIP plan score), not all had high final PIP scores.

Table 10. STAR 2014 Three-Year PIP Plan, Final PIP, and Overall PIP Scores by Topic and MCO

	PIP Plan Score	Final PIP Score	Overall PIP Scores
Asthma			
Aetna Better Health	93.6%	92.7%	93.1%
Amerigroup	93.6%	92.7%	93.1%
BlueCross BlueShield of Texas	98.6%	78.5%	87.1%
CHRISTUS Health Plan	93.6%	61.1%	76.1%
Community First Health Plans	66.7%	88.9%	78.6%
Cook Children's Health Plan	93.6%	95.8%	93.1%
Dell Children's Health Plan	94.4%	84.4%	88.7%
Driscoll Health Plan	83.3%	92.9%	88.5%
El Paso Health	86.1%	82.1%	84.0%
Parkland Community Health Plan	93.6%	92.7%	93.1%
RightCare from Scott & White Health Plan	55.6%	84.9%	71.4%
Sendero Health Plans	93.1%	77.4%	84.1%
Superior HealthPlan	88.9%	87.3%	88.0%
Follow-Up After Behavioral Health Hospitalization			
Community Health Choice	73.6%	100.0%	87.8%
Texas Children's Health Plan	98.6%	92.9%	95.5%
Pneumonia			
FirstCare Health Plans	91.7%	92.9%	92.3%
Adolescent Well-Care			
Molina Healthcare of Texas	73.6%	65.9%	69.4%
Well-Child Visits, W15			
UnitedHealthcare Community Plan	88.9%	83.3%	85.9%

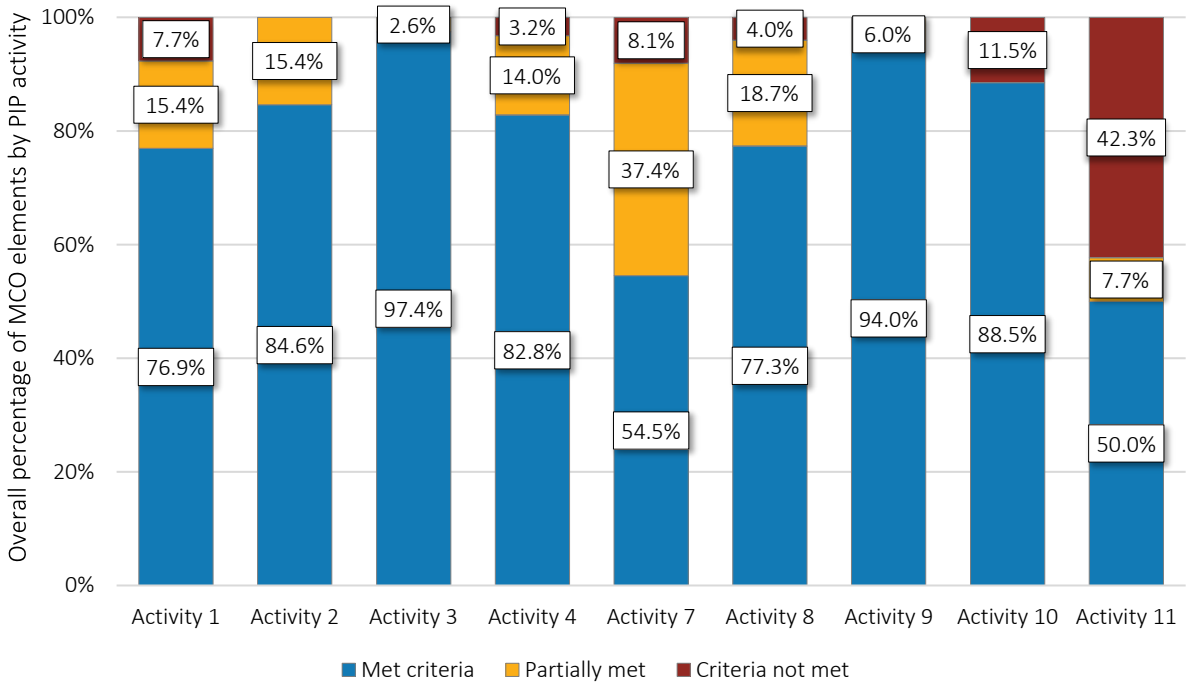
Thirteen STAR program MCOs conducted PIPs that focused on asthma for which Figure 2 provides a summary of the percentage of the evaluation components within each activity that scored a *Met, Not Met,* or *Partially Met* for each PIP activity. Overall, the MCOs did well in activities 2-4 and 8-10. However, there were opportunities for improvement in activities 1, 7, and 11. Activity 1 focuses on the study topic selected for the PIP and includes evaluation components that assess how well the MCO described the problem among its member population. Only 76.9 percent of the components in Activity 1 were *Fully Met*. The remaining components were either *Partially Met* or *Not Met*, which was due to insufficient information about how members were affected by the particular problem addressed by the PIP.

Activity 7 assesses the MCOs' root cause analysis (RCA), proposed interventions, and implementation strategies. The higher percentage of components that received *Not Met* and *Partially Met* scores was due to some MCOs inadequately reporting member-, provider-, or system-level factors in the RCA, providing limited details of how literacy and cultural needs were addressed in the proposed interventions, inadequately describing details of the interventions (i.e., what exactly will be done for a particular

intervention), and providing insufficient details as to how the MCO will communicate with members and providers.

Finally, only two MCOs achieved sustained improvement for at least one of the asthma study measures. Specifically, Superior and Scott and White achieved sustained improvement for one, but not both, of their asthma measures, which resulted in the partial score in Activity 11. The remaining PIPs did not achieve sustained improvement, and thus, they received a score of *Not Met* for that component. Activity 11 only includes two evaluation components — sustained improvement and future direction. Additionally, sustained improvement is measured by the MCO achieving a statistically significant improvement in study measures for two consecutive years; a partial score is received if the MCO achieves a sustained improvement in at least one, but not all, of the study measures.

Figure 2. STAR Asthma PIP Validation Scores by Activity



CHIP

Table 11 provides the PIP plan, final PIP, and overall PIP scores for the CHIP three-year PIPs by topic and MCO. As observed with the STAR PIPs, performance on the initial plan component did not necessarily reflect how the MCO would perform on the final PIP. The average scores were 89.2 percent for the PIP plan, 85.2 percent for the final PIP, and 87.1 percent for the overall PIP score.

CHIP PIP Evaluations: Summary of Scores

	PIP Plan Score	Final PIP Score	Overall PIP Score
Minimum	66.7%	63.9%	73.5%
Maximum	98.6%	98.6%	96.9%
Average	89.2%	85.2%	87.1%

Table 11. CHIP 2014 Three-Year PIP Plan, Final PIP, and Overall PIP Scores by Topic and MCO

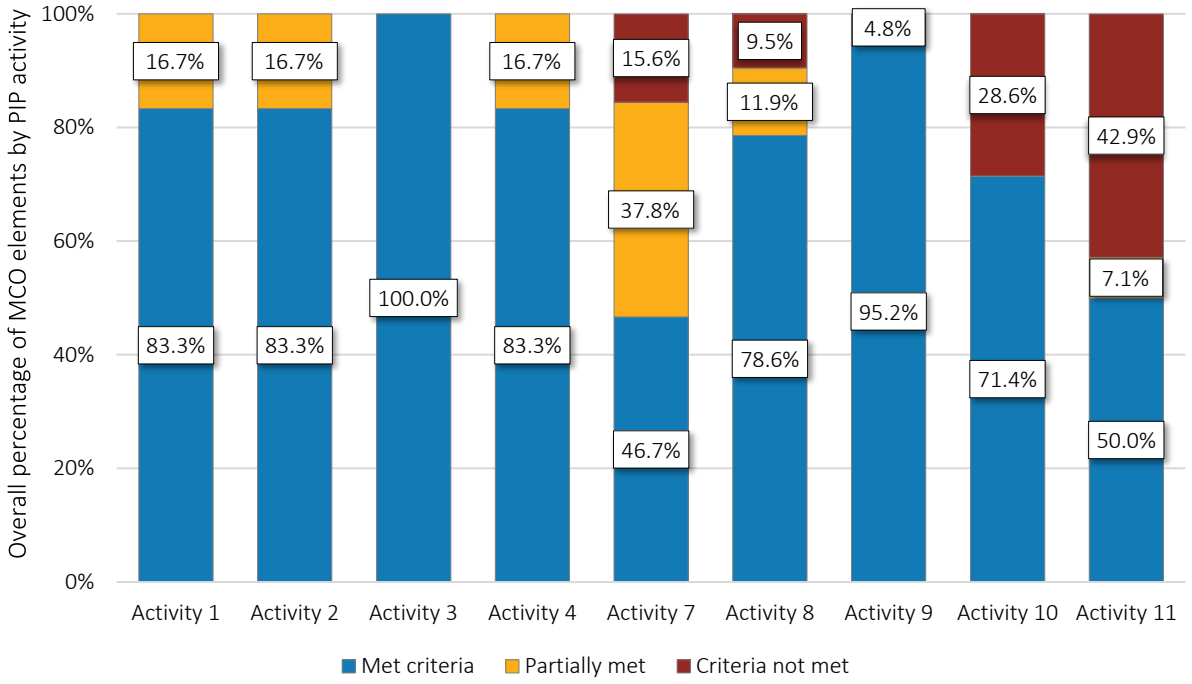
	PIP Plan Score	Final PIP Score	Overall PIP Scores
Asthma			
Aetna Better Health	93.6%	92.7%	93.1%
Amerigroup	93.6%	85.4%	88.9%
Community First Health Plans	66.7%	80.6%	74.1%
Community Health Choice	80.6%	83.3%	82.1%
Cook Children's Health Plan	93.6%	95.8%	94.9%
Parkland Community Health Plan	N/A	92.7%	92.7%
Sendero Health Plans	93.1%	77.4%	84.1%
Potentially Preventable Admissions (PPAs)			
Dell Children's Health Plan	95.0%	98.6%	96.9%
Well-Child Visits, W34			
BlueCross BlueShield of Texas	95.8%	84.9%	90.0%
Driscoll Health Plan	91.7%	92.9%	92.3%
Texas Children's Health Plan	94.4%	68.3%	80.3%
UnitedHealthcare Community Plan	90.3%	92.9%	91.7%
Adolescent Well-Care			
CHRISTUS Health Plan	84.7%	63.9%	73.5%
El Paso Health	90.3%	92.9%	91.7%
Molina Healthcare of Texas	73.6%	75.4%	74.6%
Superior HealthPlan	98.6%	77.8%	87.4%
Pneumonia			
FirstCare Health Plans	91.7%	92.9%	92.3%

Seven MCOs conducted PIPs that focused on asthma in the CHIP program and percentage of components *Met, Not Met*, and *Partially Met* in each activity is in Figure 3. Overall, the MCOs did well with several activities. Activities 7, 8, 10, and 11, however, revealed opportunities for improvement. Activity 7 assesses the MCOs' RCAs, proposed interventions, and implementation strategies. The higher percentage of components receiving *Not Met* and *Partially Met* scores was due to some MCOs inadequately reporting details of how the proposed interventions addressed members' literacy and cultural needs, inadequately describing the details of the interventions, and limited details on how the MCO would communicate with members and providers.

Activity 8 assesses the data analysis methods and MCO interpretation of the results. For the most part, the MCOs did well in this area. However, components were not fully met on all evaluation components due to the use of incorrect baseline or measurement year when determining whether a statistically significant improvement was achieved. Additionally, some MCOs did not fully meet the criteria of the evaluation components due to a misinterpretation of statistical significance. For example, an MCO

concluded that there was a statistically significant improvement in a rate when the rate had actually decreased and a higher rate represented better performance.

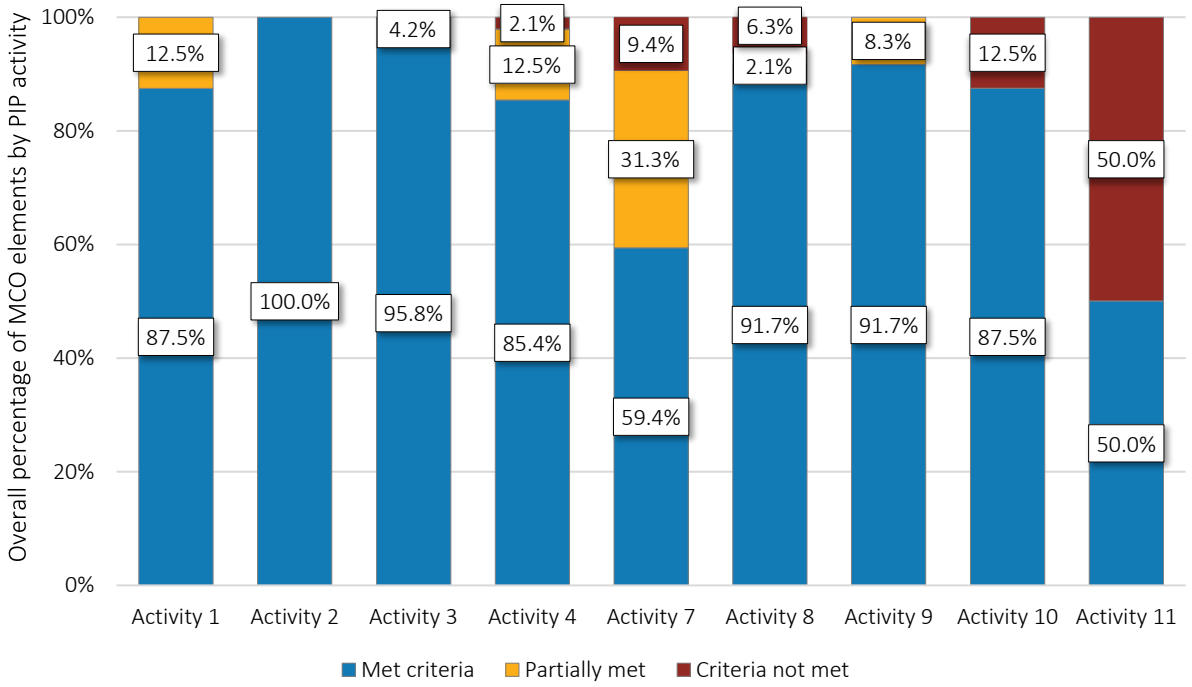
Figure 3. CHIP Asthma PIP Validation Scores by Activity



Finally, Activities 10 and 11 assess whether the MCOs achieved statistically significant improvement and sustained improvement for at least one study indicator. For the CHIP asthma PIPs, 28.6 percent of the evaluation components in Activity 10 were scored as *Not Met* because some of the MCOs did not achieve a statistically significant increase in any of the study indicators. Further, none of the MCOs achieved sustained improvement for the asthma PIPs. Therefore, 50 percent of evaluation components in Activity 11 were marked as *Not Met.*

Eight MCOs in the CHIP program conducted PIPs that focused on well-child visits: Four focused on improving well-child visits in the third, fourth, fifth, and sixth years of life and four focused on improving well-child visits among adolescents. Figure 4 provides a summary of the percentage of evaluation components within each activity that scored a *Met, Not Met,* or *Partially Met.* Overall, the MCOs did well with most activities. There were, however, opportunities for improvement in activities 7 and 11. For Activity 7, the main reasons for point loss were due to the need for some MCOs to develop interventions that addressed factors identified in the RCA. Additionally, *Partially Met* and *Not Met* scores were received due to some MCOs providing limited details on methods of addressing literacy and cultural needs in the proposed interventions, inadequately describing details of the interventions, and providing limited details on how the MCO would communicate with members and providers. As with other PIP topics and programs, none of the CHIP MCOs achieved sustained improvement for the well-child PIPs. Therefore, 50 percent of evaluation components in Activity 11 were marked as *Not Met*.

Figure 4. CHIP Well-Child PIP Validation Scores by Activity



STAR+PLUS

Four of the MCOs focused on comprehensive diabetes care, while Superior HealthPlan focused on adherence to antipsychotic medications. The UnitedHealthcare and Superior HealthPlan PIPs were well-designed with PIP plan scores of 95.8 percent for UnitedHealthcare and 98.6 percent for Superior HealthPlan. However, as with other programs, performance on the PIP plans was not always a determining factor for performance on the final PIP. Overall, the average score on the STAR+PLUS PIPs was 82.5 percent, with some plans performing better overall than others (Table 12).

STAR+PLUS PIP Evaluations: Summary of Scores

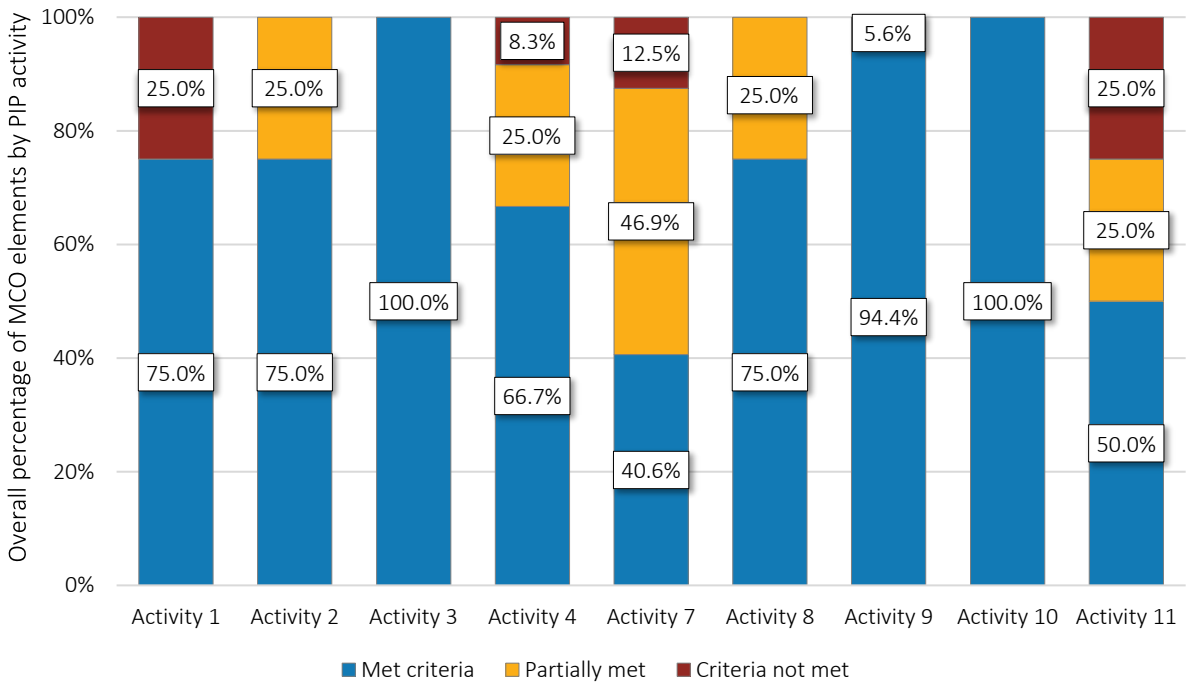
	PIP Plan Score	Final PIP Score	Overall PIP Score
Minimum	69.4%	67.1%	75.8%
Maximum	98.6%	92.7%	94.0%
Average	83.3%	81.6%	82.5%

Table 12. STAR+PLUS 2014 Three-Year PIP Plan, Final PIP, and Overall PIP Scores by Topic and MCO

	PIP Plan Score	Final PIP Score	Overall PIP Scores
Comprehensive Diabetes Care (CDC)			
Amerigroup	77.8%	89.7%	84.2%
Cigna-HealthSpring	69.4%	82.3%	76.8%
Molina	75.0%	76.4%	75.8%
UnitedHealthcare	95.8%	92.7%	94.0%
Adherence to Antipsychotic Meds (SAA)			
Superior HealthPlan	98.6%	67.1%	81.6%

Four of the five STAR+PLUS MCOs conducted PIPs that addressed comprehensive diabetes care. As illustrated in Figure 5, Activities 1, 2, 4, 7, 8, and 11 had higher percentages of evaluation components that were either *Partially Met* or *Not Met.* MCOs are required to report on the prevalence of the problem among their member populations in Activity 1. However, one MCO did not do this, resulting in a point loss for that evaluation component. MCOs performed well with regard to the study question (Activity 2), with the exception of one plan that received a partial score because they did not clearly state the question being addressed.

Figure 5. STAR+PLUS Comprehensive Diabetes Care PIP Validation Scores by Activity



The percentage of evaluation components scored as *Partially Met* or *Not Met* in Activity 4 was the result of one MCO using an MCO-derived measure to calculate diabetes-related readmissions rather than the standardized 3M PPR measure. Additionally, the MCO-derived measure did not accurately capture the

rate of diabetes-related PPRs, which resulted in the MCO not receiving full credit for several evaluation components in Activity 4. Further, the timeframes reported for the measures did not align with the timeframes for the PIP. Therefore, the EQRO recommended that the MCO utilize the standardized PPR measure provided by the EQRO and adjust the timeframe for the study indicators so that the indicators were reported on a calendar-year basis.

Activity 7 had the fewest evaluation components that were fully met. Specifically, MCOs provided limited details about the interventions and insufficient details about how they would communicate with members and providers.

Activity 8 assesses the data analysis methods and MCO interpretation of the results. For the most part, the MCOs did well in this area. However, three health plans received a *Partially Met* score for using the incorrect baseline year when determining whether a statistically significant improvement was achieved. Some MCOs did not fully meet the criteria of the evaluation components because they did not achieve a statistically significant improvement in all study measures for the PIP. However, all MCOs did achieve a statistically significant improvement in at least one study measure, as can be seen in Activity 10 (Real Improvement) in Figure 5.

Finally, Activity 11 assesses whether the MCOs achieved sustained improvement in the study indicators. For the STAR+PLUS diabetes PIPs, 25 percent of the evaluation components were *Partially Met* due to two health plans achieving sustained improvement in at least one study measure and 25 percent were *Not Met* because two health plans did not achieve sustained improvement for any of the study measures.

STAR Health

Table 13 provides the PIP plan, final PIP, and overall PIP scores for the STAR Health three-year PIP. Superior HealthPlan, the only MCO for STAR Health, had a well-designed PIP that addressed antidepressant medication management. However, points were deducted in the final PIP report because it did not achieve a statistically significant improvement and thus, had no sustained improvement in the study measure.

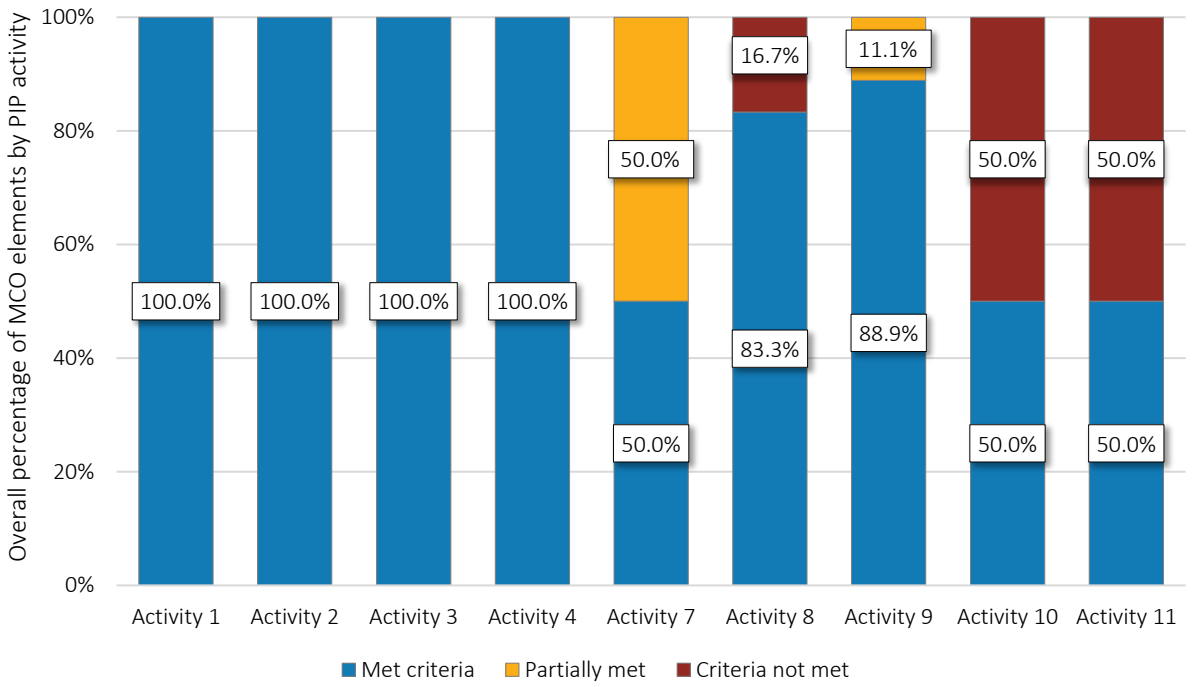
Table 13. STAR Health 2014 Three-Year PIP Plan, Final PIP, and Overall PIP Scores

	PIP Plan Score	Final PIP Score	Overall PIP Scores
Anti-Depressant Medication Management (HEDIS AMM)			
Superior HealthPlan	94.4%	68.3%	80.3%

Figure 6 illustrates that the MCO did well with most activities in regards to percentage of the evaluation components were *Met* for the antidepressant medication management PIP. There were, however, opportunities for improvement in activities 7, 10, and 11. Only 50 percent of the evaluation components in Activity 7 were *Fully Met.* The remaining components that received a *Partially Met* did so due to the need for additional interventions that address factors identified in the RCA, as well as the plan's limited provision of details about how it would communicate the PIP efforts to network providers.

Finally, for the anti-depressant medication management PIP, only 50 percent of the components in Activity 10 were met since the MCO did not achieve a statistically significant improvement in the study measure. As a result, sustained improvement in the study measure (Activity 11) was not achieved.

Figure 6. STAR Health PIP Validation Scores by Activity



Medicaid/CHIP Dental

Table 14 shows the PIP scores received for each DMO. DentaQuest had opportunities for improvement in the design of the PIP (PIP plan score was 57.8 percent for both Medicaid and CHIP). However, both DMOs performed well on the final PIP. The overall average of the DMOs' PIPs was 86.7 percent. Details of DMO performance are described below and illustrated in Figure 7.

For both the Medicaid and CHIP PIPs, MCNA Dental's PIPs addressed annual dental visits, and DentaQuest implemented PIPs to address timeliness of oral evaluation. Figure 7 provides a summary of the percentage of the evaluation components within each activity that scored a *Met*, *Not Met*, or *Partially Met* for each PIP activity for both the Medicaid and CHIP programs. The DMOs implemented the same interventions and utilized the same measures for both populations. As a result, the scores were the same for both programs, which is why the programs are presented together in Figure 7.

Medicaid/CHIP Dental PIP Evaluations: Summary of Scores

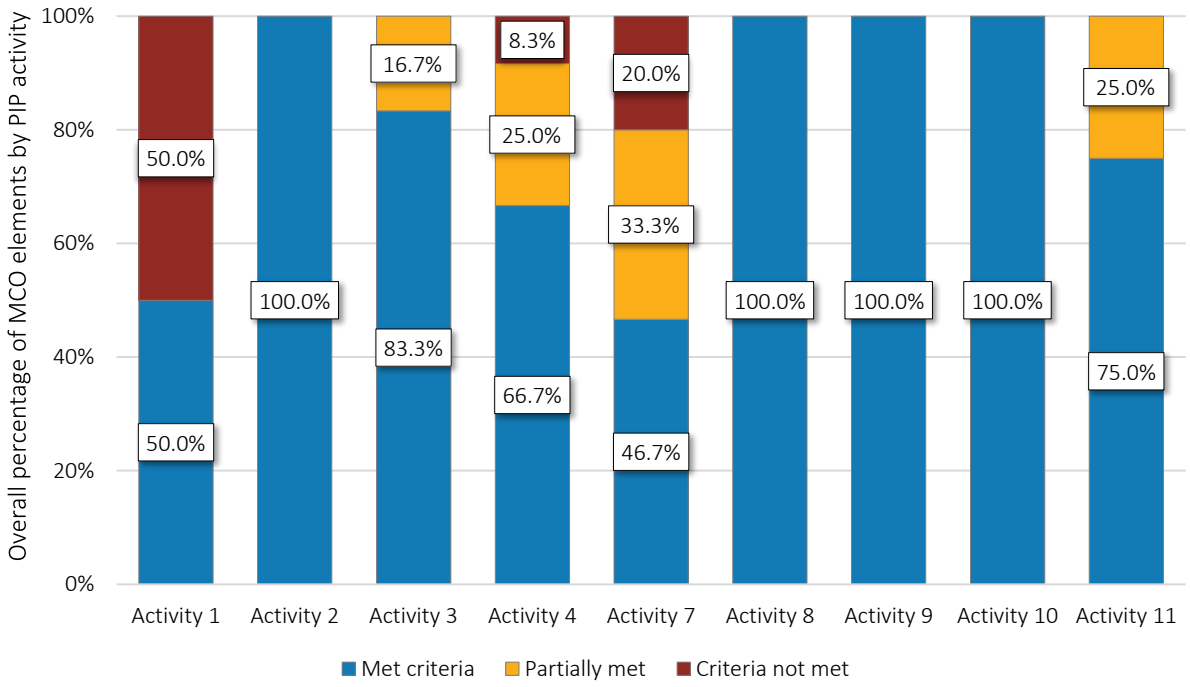
	PIP Plan Score		Final PIP Score		Overall PIP Score	
	Medicaid Dental	*CHIP Dental*	*Medicaid Dental*	*CHIP Dental*	*Medicaid Dental*	*CHIP Dental*
Minimum	57.8%	57.8%	96.4%	96.4%	78.6%	78.6%
Maximum	88.9%	88.9%	100.0%	100.0%	94.9%	94.9%
Average	73.3%	73.3%	98.2%	98.2%	86.7%	86.7%

Table 14. Medicaid/CHIP Dental 2014 3-Year PIP Plan, Final PIP, and Overall PIP Scores by Topic and DMO

	PIP Plan Scores		Final PIP Scores		Overall PIP Scores	
	Medicaid Dental	CHIP Dental	Medicaid Dental	CHIP Dental	Medicaid Dental	CHIP Dental
Timeliness of Oral Evaluation						
DentaQuest	57.8%	57.8%	96.4%	96.4%	78.6%	78.6%
Annual Dental Visit						
MCNA Dental	88.9%	88.9%	100.0%	100.0%	94.9%	94.9%

Activities 1, 4, 7, and 11 have a higher percentage of evaluation components receiving a *Partially Met* or *Not Met* score per activity compared to the other activities. For Activity 1, the point loss was due to one DMO not providing sufficient information to illustrate the prevalence of the problem within its member population. Additionally, the information that was reported grouped Medicaid and CHIP members together rather than reporting on them as two separate populations. Due to the differences in the populations between programs, the EQRO recommends that reported data and rates be program specific.

Figure 7. Medicaid/CHIP Dental PIP Validation Scores by Activity



The *Partially Met* and *Not Met* evaluation components in Activity 4 were due to one DMO utilizing a DMO-derived measure-to determine timeliness of oral evaluation, which did not accurately capture the information that it reported would be measured. Additionally, rates were not reported by program and instead were reported overall for both Medicaid and CHIP. As mentioned above, DMOs should report

rates by program. Finally, for the same DMO, the timeframe for the baseline measurement did not align with the baseline year and no goals were set for the measures. A majority of the evaluation components in Activity 7 received either a *Partially Met* or *a Not Met* score. The reasons for the deduction of points were similar to other PIPs, neither DMO adequately reported details of how literacy and cultural needs were addressed in the proposed interventions. One DMO did not include an RCA. The other DMO developed interventions to target providers, but did not address provider- or system-level factors in its RCA. Both DMOs achieved a statistically significant improvement in at least one study measure, as can be seen in Activity 10 in Figure 7. Further, both DMOs achieved sustained improvement. The percentage of partial scores in Activity 11 was due to one DMO achieving a sustained improvement in only one study indicator rather than all study indicators used for the PIP.

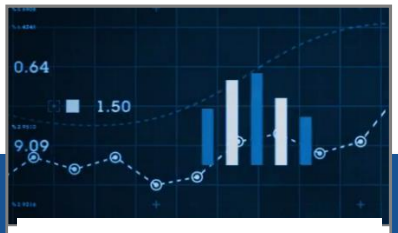
PIP Progress Reports

Table 15 shows the minimum, maximum, and average PIP progress report scores by program. Several opportunities for improvement were seen in progress reports 1 and 2 for all programs, but the average score by program increased with progress report 3. Loss of points was due to health plans not implementing interventions on the scheduled start date, with some health plans not implementing interventions until year 2. Several interventions were modified or retired without justification for the change in intervention. In addition, some of the health plans reported limited details of the tracking and monitoring efforts. Appendix C: Quality Assessment and Performance Improvement Recommendations provides more detail.

Table 15. 2014 Three-Year PIP Progress Report Scores by Program

	Minimum Score	Maximum Score	Average Score
PIP Progress Report 1 Scores			
STAR	50.0%	93.8%	82.1%
CHIP	50.0%	92.9%	81.8%
STAR+PLUS	43.8%	93.8%	75.4%
STAR Health	85.7%	85.7%	85.7%
Medicaid/CHIP Dental	43.8%	50.0%	46.9%
PIP Progress Report 2 Scores			
STAR	50.0%	96.4%	79.4%
CHIP	53.6%	96.2%	82.5%
STAR+PLUS	67.9%	92.9%	82.9%
STAR Health	75.0%	75.0%	75.0%
Medicaid/CHIP Dental	46.4%	71.4%	58.9%
PIP Progress Report 3 Scores			
STAR	67.9%	100.0%	89.7%
CHIP	71.4%	100.0%	93.5%
STAR+PLUS	89.3%	100.0%	93.6%
STAR Health	96.4%	96.4%	96.4%
Medicaid/CHIP Dental	64.3%	100.0%	82.1%

SECTION 3: OPTIONAL EQRO ACTIVITIES & PROTOCOLS



Data Reveals Opportunities

CMS Protocols 4 through 8 are optional activities for EQROs evaluating the performance of state MCOs. Texas has chosen to contract with its EQRO to perform four of the five optional reviews. In this section, plan-level data and composite state-level data are presented to introduce findings related to the quality of the encounter data, consumer surveys, performance measures, and focus studies. Variation in performance is observed within and across Texas' various programs, with both positive quality of care results and opportunities for improvement.

Protocol 4: Validation of Encounter Data Reported by MCOs

Encounter Data Validation – Medical/Dental Record Review

This section presents assessments of the processes for collecting and submitting accurate and complete encounter data and the overall data quality. This procedure follows guidance by CMS on optional EQRO activities for review of medical/dental records.

The EQRO annually validates encounter data for accuracy and completeness by comparing encounters against a representative sample of dental or medical records. The EQRO annually rotates between medical encounter data validation and dental encounter data validation. The 2017 Encounter Data Validation – Dental Record Review (EDVDRR) study examined dental records from 2016, for members in Medicaid and CHIP.

The validation of administrative dental data against abstracted dental records showed high agreement between the data sources for both DMOs and both Medicaid and CHIP, indicating appropriate documentation in records and appropriate submission of claims and encounters.

Methods

The study timeframe was from January 1 through December 31, 2016, with at least a six-month lag for processing purposes and data quality verification.

Sampling

The goal of the sampling strategy was to ensure that findings for the DMOs are statistically sound representations of the DMOs' respective performances. The sample size was determined by using the previous year's lowest match rate, which was 80.6 percent. Therefore, the fault rate used for the current sample size calculation has been set to 19.4 percent and the value of the proportion being estimated (p*) is 0.194. The sample size required to estimate a proportion using a 95 percent confidence interval with +/- 5 percentage points of the fault rate is:

$$n \geq \frac{z_{\frac{\propto}{2}}^{2} p*(1-p*)}{\varepsilon^{2}}$$

Where n is the sample size, $z_{\frac{\propto}{2}}^{2} = 1.96^2$ for a 95 percent confidence level, p* is the value of the proportion being estimated (p* = 0.194), and ε is the maximum error rate of 0.05. Based on the formula and criteria listed above, the estimated sample size needed is 241 records per dental plan per program. Previous record requests yielded a 54 percent return rate. Therefore, to obtain 241 records per dental plan per program, 447 records per dental plan per program were requested, as shown in Table 16.

Table 16. Dental Encounter Data Validation - Sample Size

DMO	Medicaid Dental	CHIP Dental
DentaQuest	447	447
MCNA Dental	447	447
Total	**894**	**894**

Inclusion Criteria:

- Members in Medicaid dental and CHIP dental who had at least one visit with a dental health provider during the period of January through December 2016, as determined by a Medicaid or CHIP encounter for at least one date of service.
- Members who met Medicaid dental and CHIP dental eligibility during the measurement year, as determined by an enrollee who is a member of a participating DMO for at least one month during the period of January through December 2016.

Providers associated with the randomly selected encounters were sent a hard-copy of a letter and list of their members requesting that they provide the EQRO with one year's worth of records for the specific members on the list. Additionally, EQRO staff called high-volume providers to ask for the records. A second mailing, three weeks after the initial mailing, was sent to providers who had not responded to the first mailed request or telephone calls.

Analysis

Dental records and encounter data were reviewed to calculate procedure and date of service match rates as follows:

1. Dental records were reviewed to identify whether procedures and dates of service that were in the encounter data were also in the dental records; and
2. Dental records were reviewed to determine if procedures and dates of service documented in the dental records were also in the encounter data.

Final match rates for procedures and dates of service were calculated as follows:

- Procedures: total number of matched procedures / total number of procedures in encounters and in dental records.
- Dates of Service: total number of matched dates of service / total number of dates of service in encounters and in dental records.

One provider might have been associated with multiple members due to the sampling methodology for this study. Therefore, final match rates were adjusted to account for the clustering of members around providers. One member may have multiple encounters during the year. Therefore, final match rates were adjusted to account for the clustering of encounters around individuals. It is possible that variation exists in the length of enrollment per member in the sample; therefore, final match rates were weighted by length of enrollment.

Results

Table 17 shows that the match rates were 90 percent or higher for the categories of dates of service and procedures for both Medicaid and CHIP. Overall, both DMOs had high match rates. However, MCNA performed slightly better than DentaQuest in Medicaid dental.

Table 17. Match Rates by DMO and Program

	Medicaid Dental			CHIP Dental		
DMO Name	Match Rate	In dental record/ Not in encounter	In encounter/ Not in dental record	Match Rate	In dental record/ Not in encounter	In encounter/ Not in dental record
Date of Service Match Rates						
DentaQuest	96.6%	1.7%	1.7%	98.7%	0.3%	1.0%
MCNA Dental	99.4%	0.3%	0.3%	97.5%	2.2%	0.3%
Total Across DMOs	**98.0%**	**1.0%**	**1.0%**	**98.1%**	**1.3%**	**0.6%**
Dental Procedure Match Rates						
DentaQuest	90.6%	6.8%	2.6%	89.5%	7.0%	3.5%
MCNA Dental	94.6%	2.0%	3.3%	93.2%	6.8%	2.6%
Total Across DMOs	**92.7%**	**4.3%**	**3.0%**	**91.4%**	**5.0%**	**3.6%**

Encounter Data Validation – Data Certification

Texas MCOs and DMOs submit service encounter extracts to the administrative contractor Texas Medicaid and Healthcare Partnership (TMHP). The encounter data, along with extracts from state paid claims (also processed by TMHP) and pharmacy encounter data are delivered to the EQRO. Enrollment and provider data are provided to the EQRO for use in all of their activities.

The EQRO developed procedures for annually certifying the quality of Texas Medicaid and CHIP encounter data using the CMS Encounter Data Toolkit (4), CMS EQR Protocols, (24) and Texas Government Code §533.0131 (25). Data certification is conducted for each MCO or DMO program and service area and is completed after allowing at least four months for claims adjudication and adjustment. The data certification completed for this report was for the FY 2016 service period.

The EQRO performed three types of analyses:

Volume analysis (claims and paid amounts)

- Monthly
- By service category
- By claim status

Data validity and completeness analysis

- Service representation (e.g., billing codes and dates)
- Quality measurement requirements (e.g., provider, service, or diagnostic codes)

Consistency analysis

- Between encounter data and financial statistical reports (FSRs) provided by the MCO.

Volume Analysis Based on Service Category

The EQRO evaluates the volume or distributions of claims for unexpected or unexplained changes and for consistency across programs, months, and MCOs/DMOs. Changes may result from normal changes in business practice and are not necessarily cause for concern.

Submitted claims are unpaid for a variety of reasons. Disallowed services and invalid information should be corrected through re-adjudication. Denied and voided claims create extra volume in the claims and encounters processing system. Keeping them to a minimum improves efficiency. Based on review of reported industry standards, the EQRO has established 10 percent as an acceptable, expected level for unpaid final adjudications; more than 20 percent is considered an area of concern. Besides the impact on the processing system, this may also be indicative of underlying problems in the data recording process that could affect quality analyses.

No unexpected changes or variations were found in the encounter volume analyses. Overall, volume declined slightly in STAR and more so in STAR+PLUS. Volume decreased substantially for several CHIP MCOs but was generally consistent program-wide throughout the year.

The ratio of professional to institutional claims in STAR+PLUS was greater than 90 percent in El Paso and Hidalgo SAs, while for other SAs, the ratio was less than 70 percent and as low as 48 percent. The reason for the variation is unknown and exploration could provide insight to variation in the care delivery system.

Distribution of institutional vs. professional claims differed by SA in the STAR+PLUS program, indicating an area to examine more in depth

Analyses of claim volume by claim status (paid/unpaid) were recently added to the EQRO methodology (8; 7; 26). Due to the allowed lag period (minimum of four months), nearly all encounters analyzed represent the final adjudication of the claim. Unpaid institutional claims were generally within acceptable levels. Although some MCOs exceeded 10 percent in all programs, only a few noted exceptions in STAR (Driscoll, Sendero, and Scott and White Health Plan) exceeded 20 percent of institutional claims that were unpaid. Professional claims were less consistent. For the STAR program, the percent unpaid ranged from two percent for Texas Children's Health Plan-Jefferson to 48 percent for Scott and White Health Plan-MRSA Central, with an average of 22 percent by MCO/SA.

Only Molina and Texas Children's Health Plan had unpaid rates less than 10 percent. For CHIP, the percent of unpaid professional claims similarly ranged from 2 percent for Texas Children's Health Plan-Jefferson to 40 percent for Sendero-Travis, with an average of 19 percent by MCO/SA. Only Molina and CFHP had unpaid rates less than 10 percent. Unpaid professional claims exceeded 20 percent in STAR+PLUS for Amerigroup, Superior and United Healthcare, but were less than 10 percent for Molina and HealthSpring. The fact that some MCOs consistently remain below the threshold indicates that high accuracy is achievable. Investigation into this issue could improve efficiency and quality for Medicaid and CHIP programs. No major discrepancies were identified in pharmacy or dental data volume analyses.

Data Validity and Completeness Analysis

The EQRO derived data validity completeness and accuracy/validity of:

- Key data elements, such as percentage of encounter records in which the variable data was either missing or did not meet the validity standards;
- Present on admission (POA) indicators (to calculate PPCs);
- Provider information such as the percentage of time the primary provider identifier (National Provider Identifier [NPI]) was identified and the taxonomy was filled; and
- T1015 claim modifiers that are used by the Federally Qualified Health Centers (FQHCs) and Rural Health Clinics (RHCs).

Overall, the quality of encounter data has improved over time. This is a product of continued improvements to the TMHP data processing system, including the addition of key edits, which resulted in corrections to the data submission process by the MCOs and the DMOs. In addition, the MCOs generally continue to improve their internal data collection and processing systems as the importance of high quality health care data increases across many business areas. The EQRO continues to work with HHS and TMHP to improve data quality and quality monitoring.

Present on Admission (POA) Diagnoses Indicators

The completeness and accuracy of the POA indicators improved after their inclusion in EQRO quality analysis. Valid coding of POA for reported diagnoses is critical to calculation of the PPC measure. When POA codes on secondary diagnosis are missing or invalid, the encounters may be misclassified or excluded from the PPC rate calculations.

When applying the provider screening checks for POA on secondary diagnoses, deficiencies were noted in the quality and accuracy of submitted information, although almost all POA for secondary diagnoses are filled. In calculating PPC for FY 2016, over 40 percent of potentially eligible admissions were excluded because the provider (hospital) failed the POA screening.

Quick Findings from POA Diagnoses Indicators

- *POA for secondary diagnoses screening shows deficiencies.*

Significance

- *Biases PPC rates and risk adjustments.*

Recommendation

- *Provide information to MCOs and encourage them to work with providers in their networks to improve quality.*

Provider data

Adequate provider identification is critical to the EQRO's efforts to calculate HEDIS measures, conduct provider surveys, and obtain medical records for the purposes of validating encounter data and calculating hybrid HEDIS measures. An overall assessment of provider data completeness was made by determining the completeness ("fill rate") in professional encounters for billing provider NPI and taxonomy by encounter and rendering NPI and taxonomy by detail encounter item. Additionally, the EQRO assessed the quality of the provider identification information for professional encounters used for calculating HEDIS measures requiring a specific provider type.

The analysis included checking the provider information in two ways:

1. The percentage of time the NPI was identified as an individual in the Master Provider data; and
2. The percentage of time taxonomy was filled for the primary NPI.

Quick Findings from Provider Data Validation

- *Rendering provider and specialty is not consistently identified for professional services.*

Significance

- *Quality measures that require provider specialty are affected.*

Recommendation

- *The EQRO has been working with HHS and TMHP to require taxonomy information. This issue should continue to be monitored for improvement*.

Taxonomy for the rendering NPI is not filled on institutional encounters. On professional encounters, fill rate for taxonomy for the rendering NPI ranged from extremely low (Dell Children's Health Plan-Travis, 1 percent) to excellent (Community Health Choice-Harris, 98 percent) for the STAR program (average 52 percent). Rates were also extremely low for all CHIP MCOs (average 58 percent) with the exception of Community Health Choice, across all MCOs in the STAR+PLUS program (average 21 percent), and for the STAR Health program (31 percent). The submitted rendering NPI identified an individual only 81 percent of the time in STAR and CHIP and only 71 percent of the time in STAR+PLUS. Taxonomy fill was only slightly better on these selected encounters than overall (62 percent for STAR, 66 percent for CHIP, and 51 percent for STAR+PLUS). The EQRO has continued to work with Texas HHS to improve taxonomy information by creating additional data checks that will require MCOs to submit taxonomy information with encounter data. These requirements take effect in FY 2018.

Dental data

Specific data elements considered of special interest for calculation of quality measures included tooth and tooth surface identification and coding for caries risk assessment (CRA). Tooth identifier and surface are now consistently provided. Coding for risk assessment was identified as an area needing improvement. Only 61 percent of records for Medicaid dental and 55 percent for CHIP dental are properly coded. When the CRA are not properly coded, members are excluded from DQA measure calculations, which can bias measure results. Based on this report, HHS has been working with the DMOs to receive corrected data and to ensure better reporting for the future. The EQRO will continue to monitor this issue to ensure improvement.

Quick Findings from Dental Data Validation

- *Coding for Caries Risk Assessment is poor.*

Significance:

- *This information is required for calculation of dental measures in the dental P4Q program.*

Recommendation:

- *DMOs should work with their providers to improve coding for this fundamental procedure.*

Consistency Analysis between Encounter Data and FSR Provided by the MCOs

The EQRO compared payment dollars documented in the encounter data to payment dollars in the MCO self-reported FSR. According to the standard set by HHS for SFY 2016, the encounter data and the FSR must agree within six percent for the data to be certifiable. All MCO/SA combinations across programs met this standard.

Certification and Recommendations

Based on an administrative review, the EQRO considered the required data elements for all MCO/SA combinations in all programs to be accurate and complete, meeting the following components of Texas Government Code § 533.0131 for data certification purposes.

The EQRO suggests that HHS continue to work with the MCOs to improve the quality and completeness of provider data, and increase the standards for reporting. These data elements are critical for objective evaluation and rate setting activities. When MCOs have significant data deficiencies, it is difficult to include them fully in quality incentive programs.

Protocol 5: Validation and Implementation of Surveys

Consumer Quality of Care Surveys

The EQRO conducts biennial surveys to measure experiences and satisfaction of adult members and caregivers of child and adolescent members in Texas Medicaid and CHIP. The EQRO conducts the consumer quality of care surveys to monitor and evaluate the quality of care provided to the members, assist members in choosing among health plans, and inform HHS on quality improvement initiatives. During CY 2017, the EQRO conducted STAR Child and CHIP caregiver surveys, dental surveys, and behavioral health surveys.

Methods

The CAHPS Health Plan Survey is a widely used instrument for measuring and reporting consumer experiences with health plans and providers. The survey includes several questions that indicate health plan performance (such as personal doctor and health plan ratings), including composite measures that combine results for closely related survey items which measure the similar constructs. The Experience of Care and Health Outcomes (ECHO) Survey is an instrument used for measuring and reporting consumer experiences with their health plan (MCO or BHO) and BH care providers. The survey allows for the calculation and reporting of behavioral health care composites, which are scores that combine results for closely related survey items. The Dental Caregiver Member Survey is adapted from the adult CAHPS Dental Plan Survey with items modified for use with a child population. Additional survey questions were adapted from the National Health Interview Survey, the Behavioral Risk Factor Surveillance System, and the National Survey of America's Families. Respondents were also asked to report height and weight for BMI calculation.

The EQRO selected participants for the CAHPS surveys from stratified random samples of child members (17 years or younger) and adult members (18 years or older) who were continuously enrolled (with no more than one 30-day gap) in the same health or dental plan for at least six months. The EQRO stratified the samples to include representation from each MCO and DMO operating in the program for which the survey was conducted. The targeted number of completed surveys was 250 to 300 per MCO and DMO. CAHPS specifications published by the AHRQ suggest having 300 completed surveys per comparison group. To ensure feasibility of large-scale surveys in STAR and CHIP, power analyses by the EQRO determined that a minimum of 250 completed surveys per comparison group would allow for meaningful comparisons among the health plans. Table 18 lists the member surveys conducted by the EQRO in CY 2017, and their enrollment and fielding periods.

Table 18. Member and Caregiver Survey Enrollment and Fielding Periods, 2017

Survey	Enrollment Period	Fielding Period
STAR Child Caregiver Survey	September 2016 – February 2017	May 2017 – August 2017
CHIP Caregiver Survey	September 2016 – February 2017	May 2017 – August 2017
Medicaid Dental Caregiver Survey	December 2016 – May 2017	August 2017 – October 2017
CHIP Dental Caregiver Survey	December 2016 – May 2017	August 2017 – October 2017
STAR Adult Behavioral Health	February 2016 – January 2017	July 2017 – October 2017
STAR Child Behavioral Health	February 2016 – January 2017	July 2017 – October 2017
STAR+PLUS Behavioral Health	February 2016 – January 2017	July 2017 – October 2017

The EQRO contracted with the University of Florida Survey Research Center (UFSRC) and NORC at the University of Chicago to conduct the 2017 member and caregiver satisfaction surveys using Computer Assisted Telephone Interviewing (CATI) systems. For all satisfaction surveys, the EQRO sent advance notification letters written in English and Spanish to members or caregivers requesting their participation. Calling began approximately four days following each advance mailing.

The EQRO generally follows both AHRQ and NCQA specifications for scoring the CAHPS ratings and composites. Results in this report follow AHRQ reporting specifications, and produce scores that represent the percentage of members who rated their health care a 9 or 10 (on a scale from zero to 10 with higher scores indicating greater satisfaction), and rate *Always* having a positive experience in a given composite score.

Previous behavioral health member surveys stratified the samples by program and either health plan, behavioral health delivery model (MCO, BHO or NorthSTAR), dual eligibility status, developmental age, or a combination of these factors depending on the program. To streamline the survey results and provide meaningful comparisons, the EQRO stratified 2017 behavioral health surveys by behavioral health delivery type (BHO or MCO) and developmental age for the child survey. Dual-eligible members and NorthSTAR groups were excluded. Survey participants for the Dental Caregiver Member Survey were selected from a stratified random sample of beneficiaries ages 17 or younger who were enrolled in CHIP or Medicaid. Technical appendices with all the findings were provided to HHS.

Results

Satisfaction with Care

Composite scores and ratings in Texas were higher than 2017 National CAHPS Child Medicaid and CHIP rates with the exception of Getting Needed Care.

Ratings on many of the CAHPS survey items for MCOs in Texas were higher than the 2017 National CAHPS Child Medicaid and CHIP rates. Satisfaction with care is measured as the percentage of STAR Child and CHIP caregivers who rate *Always* for a particular item. In 2017, *How Well Doctors Communicate* received high ratings from both STAR Child and CHIP caregivers. *Health Plan Information and Customer Service* and overall *Health Plan Rating* were also high among STAR Child caregivers, indicating that the plans are doing well communicating information to caregivers.

Ratings on STAR Child and CHIP caregiver satisfaction with *Getting Needed Care* and CHIP satisfaction with personal doctors were lower than the 2017 National CAHPS Child Medicaid and CHIP ratings. Additional information on STAR and CHIP and STAR and STAR+PLUS members is in Table 19.

Table 19. 2017 CAHPS STAR Child and CHIP Caregiver Satisfaction with Care

	STAR Child		CHIP	
Survey Question	Rate for Texas STAR Child	National CAHPS Child Medicaid 2017 Rates	Rate for Texas CHIP	National CAHPS CHIP 2017 Rates
Percentage who Always had a positive experience				
Getting Needed Care	60.0%	61%	58.9%	62%
Getting Care Quickly	75.5%	73%	75.4%	74%
How Well Doctors Communicate	81.9%	78%	82.0%	79%
Health Plan Information and Customer Service	82.2%	67%	75.0%	66%
Percentage Who Rated Their Care a "9" or "10"				
Personal Doctor Rating	76.4%	75%	74.1%	76%
Specialist Rating	78.2%	72%	77.1%	72%
Health Plan Rating	82.0%	69%	74.7%	69%
Health Care Rating	77.2%	68%	73.1%	69%

Satisfaction with Behavioral Health Care

Global ratings were on a scale from zero to 10. The composite ratings for Getting Treatment Quickly, How Well Clinicians Communicate, Getting Treatment and Information from the Plan, and Getting Treatment and Information from the BHO were on a scale from one to three. Information about Treatment Options was a dichotomous item with a yes/no response. Finally, Perceived Improvement was scored on a four-point scale. Ratings on behavioral health care were separated into ratings for MCOs and ratings for BHOs.

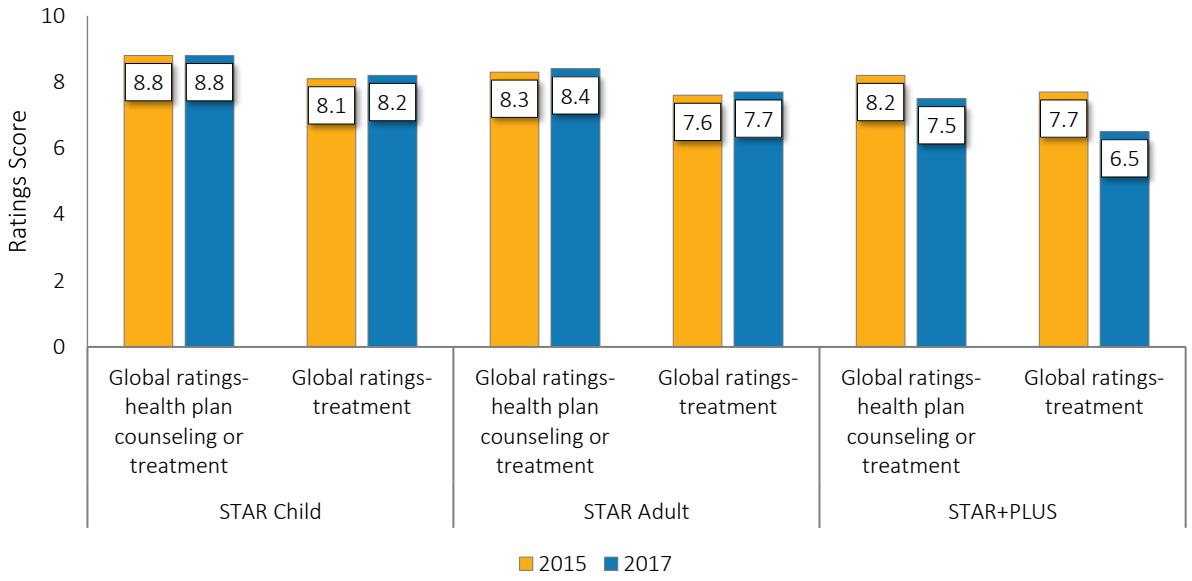
Member ratings were slightly higher among MCOs compared to BHOs. The difference in mean member ratings between MCOs and BHOs was significant at the p=0.05 level for *Getting Treatment Quickly* and *How Well Clinicians Communicate* across all programs. Variation in the means for global ratings was not significant between MCOs and BHOs. Additional information on the mean ratings for STAR Child caregivers' satisfaction with child behavioral health care and STAR Adult and STAR+PLUS member satisfaction with behavioral health care are shown in Table 20.

Differences in mean rating comparisons for behavioral health care by program between 2015 and 2017 are shown in Figure 8. The global ratings for STAR+PLUS *Treatment* and *Health Plan for Counseling or Treatment* dropped noticeably. A possible reason for this decrease in scores is the change in sampling methods requested by HHS. In the 2015 STAR+PLUS BH survey, the EQRO sampled by NorthSTAR, Medicaid only, and Dual Eligible, but in 2017, the sampling for STAR+PLUS was only stratified by MCO and BHO categories for comparison.

Table 20. Member Satisfaction with Behavioral Health Care Based on the ECHO Survey, 2017

ECHO Measure	MCO		BHO		Total
	Mean	SD	Mean	SD	Mean
STAR Adult Member Satisfaction with Behavioral Health Care					
Getting treatment quickly	2.1	0.7	2	0.7	2.1
How well clinicians communicate	2.3	0.7	2.3	0.7	2.3
Getting treatment and information from the BHO	-	-	2.1	0.8	2.1
Getting treatment and information from the MCO	2.1	0.7	-	-	2.1
Perceived Improvement	3	0.9	2.9	0.9	2.9
Information about treatment options	0.4	0.4	0.4	0.4	0.4
Global ratings-health plan for counseling or treatment	8.4	2.2	-	-	8.4
Global ratings-treatment	7.6	2.8	7.7	2.9	7.7
STAR Child Member Satisfaction with Behavioral Health Care					
Getting treatment quickly	2.2	0.7	2	0.7	2.1
How well clinicians communicate	2.2	0.8	2.3	0.8	2.3
Getting treatment and information from the BHO	-	-	2.1	0.8	2.1
Getting treatment and information from the MCO	2.4	0.6	-	-	2.4
Perceived Improvement	3.3	0.7	3.3	0.8	3.3
Information about treatment options	0.6	0.5	0.6	0.5	0.6
Global ratings-health plan for counseling or treatment	8.8	2.2	-	-	8.8
Global ratings-treatment	8.2	2.8	8.2	2.7	8.2
STAR+PLUS Member Satisfaction with Behavioral Health Care					
Getting treatment quickly	2.2	0.7	2	0.7	2.1
How well clinicians communicate	2.2	0.8	2.3	0.8	2.3
Getting treatment and information from the BHO	-	-	2.1	0.8	2.1
Getting treatment and information from the MCO	2.4	0.6	-	-	2.4
Perceived Improvement	3.3	0.7	3.3	0.8	3.3
Information about treatment options	0.6	0.5	0.6	0.5	0.6
Global ratings-health plan for counseling or treatment	8.8	2.2	-	-	8.8
Global ratings-treatment	2.2	0.7	2	0.7	2.1

Figure 8. Member Satisfaction with Behavioral Health Care by Program, 2015-2017



Satisfaction with Dental Care

Member satisfaction with dental health care was highest among Medicaid members. Both Medicaid and CHIP members indicated satisfaction with their interactions with dentists. CHIP caregiver ratings on *Dental Plan Costs and Services* and overall *Dental Plan Rating* were lower than ratings on these items among Medicaid consumers, suggesting this is an area for improvement. Additional information about satisfaction with dental care is provided in Table 21. Medicaid/CHIP Dental Caregiver Satisfaction of Care. Child dental surveys have no national standards for comparison.

Medicaid Dental caregivers had higher satisfaction of care scores on all measures than CHIP Dental caregivers.

Table 21. Medicaid/CHIP Dental Caregiver Satisfaction of Care

Measure	Medicaid Dental	CHIP Dental
Care from Dentists and Staff – Responses of "Always"		
Regular dentist treated patient with courtesy and respect	93.2%	92.5%
Access to Dental Care – Responses of "Always"		
Member able to get a dental appointment as soon as needed	80.0%	77.8%
Dental Plan Costs and Services - Responses of "Always		
Dental plan covered all services caregiver thought were covered	86.0%	62.6%
Caregiver Ratings (rating of 9 or 10)		
Dentist Rating	80.0%	75.5%
Dental Care Rating	78.7%	74.0%
Access to Dental Care Rating	74.5%	73.0%
Dental Plan Rating	81.9%	68.7%

Protocol 6: Calculation of Performance Measures

As noted previously, Texas HHS has contracted with the EQRO to conduct comprehensive quality evaluations across all Medicaid programs. The EQRO receives all medical, dental, and pharmacy encounter extracts, enrollment extracts, and provider data on a monthly basis. It also maintains a complete data warehouse in support of all EQRO functions — in particular, the calculation of quality measures. Texas HHS selects quality measures each year to facilitate CMS reporting, quality incentive programs, initiative planning, and other program administration objectives with the goal of improving quality of care for Texas Medicaid and CHIP members.

Administrative data support calculation of quality measures from four nationally recognized quality assessment programs:

1. NCQA HEDIS measures
   HEDIS has been supported and maintained by the NCQA for more than 20 years and is used by more than 90 percent of health plans in the United States. Texas HHS includes over 50 HEDIS measures for Medicaid and CHIP performance evaluation (27).
2. AHRQ PDIs and PQIs
   AHRQ is part of the U.S. Department of Health and Human Services (DHHS) and serves as the lead federal agency in improving the safety and quality of America's health care system. The Prevention Quality Indicators (PQI) and Pediatric Quality Indicators (PDI) track performance based on administrative hospital inpatient data (28).
3. DQA measures
   Established by the American Dental Association (ADA), the Dental Quality Alliance (DQA) develops evidence-based performance measures for oral health care (29).
4. 3M Health Information Systems measures of PPEs
   3M has been a leader in health care data processing, payment systems, and analytics for over 30 years. Their software uses administrative data to identify the occurrence and expenditures associated with PPEs (30).

Additional measures are specified by Texas HHS and are summarized in Appendix B: Summary of Quality Measures Calculated and Reported by the EQRO for the 2016 Measurement Year by Program. The appendix provides the complete summary of quality measures calculated and reported by the EQRO during the activity period.

The EQRO uses NCQA-certified software for calculation of HEDIS measures (Inovalon Quality Spectrum®) and contracts with an NCQA-certified auditor DTS Group to fully evaluate the measure calculation process for HEDIS, AHRQ, and all dental quality measures (31).

Some HEDIS measures rely on medical record abstraction (for example, measures requiring specific laboratory results such as blood pressure reading). Others can be enhanced through abstraction (for example, immunizations recorded based on records reviewed by the provider, but not billed by the provider. Hybrid methods are specified by NCQA for these measures, which include sampling based on administrative criteria, followed by medical record review from the sample to determine compliance. For 11 HEDIS measures that require hybrid sampling methodology, the EQRO receives measure results from each MCO. In addition, the MCOs are required to submit NCQA audit certification for each measure and the member-level data from each hybrid sample. The EQRO reviews all reported results and audit

documents (i.e., per CMS EQR Protocol 2). The hybrid rates for the MCOs are weighted by their eligible populations to produce overall statewide rates for these measures.

Results for the HEDIS measures are compared to benchmark percentiles gathered and compiled by NCQA from Medicaid managed care plans nationally. These national benchmarks provide a commonly used standard of comparison, but have some limitations:

- Rates from the national benchmarks combine administrative and hybrid results and reflecting a mix of different methods.
- Limited information is available about the health and sociodemographic characteristics of members enrolled in Medicaid plans nationally and it is not clear how these factors compare with Texans enrolled in Medicaid and CHIP.
- Submission of HEDIS data to NCQA is a voluntary process; therefore, MCOs that submit HEDIS data nationally may not be fully representative of the industry in Texas.
- Health plans participating in NCQA HEDIS reporting tend to be older, more likely to be federally qualified, and more likely to be affiliated with a national managed care company than U.S. MCOs overall.
- In addition to the NCQA benchmarks, the EQRO uses year-over-year comparisons and trending, across program comparisons, and other publicly available comparison data to evaluate measure results.

The AHRQ area measures are calculated using the software provided by AHRQ and adapted by the EQRO to summarize results specific to the Texas Medicaid and CHIP populations. The area measures use program populations as general denominators.

Dental services are an important and required part of services for children in Medicaid and CHIP. The EQRO has worked extensively with Texas HHS to develop an evaluation program for oral health that is scientifically sound and promotes accountability and improvement in the dental coverage programs. Some measures are adapted to reflect the age groups in specific dental programs. Other measures have been developed to evaluate specific services associated with Texas initiatives, such as the Texas Health Steps (THSteps) program.

The 3M measures of PPEs evaluate health outcomes, safety, efficiency, and utilization rates, as well as costs associated with potentially avoidable care. Identified PPEs represent opportunities for improving efficiency and quality, timeliness and access to care, and better care coordination. The EQRO has worked extensively with 3M to develop methodology for applying the grouping software most effectively to the Texas Medicaid and CHIP populations to provide actionable information and reliable metrics that support P4Q initiatives.

In addition to reporting results to HHS, the EQRO submits data on behalf of Texas HHS to CMS, for both Adult and Child Core Health Care Quality Measures. These measure sets provide national- and state-level snapshots of the quality of care provided to adults and children enrolled in Medicaid and CHIP. Submission of results to CMS is voluntary; however, CMS supports improvements in uniform data collection and reporting and assists states in understanding how to use these data to improve the quality of care.

All performance measures calculated and evaluated by the EQRO are presented on the THLC portal. This site provides public access to quality of care measures including HEDIS, AHRQ, and dental measures, and PPEs. Additionally, authorized users from Texas HHS, MCOs, and designated stakeholders have access to more in-depth PPE analyses, HHS performance dashboard summaries, super-utilizer visualizations, and other quality evaluation resources.

HEDIS results

The EQRO reports HEDIS results for Medicaid and CHIP annually by program, MCO, and SA. Additionally, overall results for all Medicaid programs and results categorized by race, sex, and health status are included. In addition to electronic reports provided to Texas HHS, annual HEDIS results are publicly available on the THLC portal.

The EQRO also conducts quality evaluation for Texas FFS Medicaid. These results are included in summary tables in this section, although most FFS enrollment in Texas represents transition into or between managed care programs and only a limited population meets the longer enrollment criteria for many measures. A separate evaluation is also conducted for the carve-out behavioral health program, NorthSTAR. This program was discontinued as of December 2016. Although results were reported to the state for 2016, they are not included in this report. The Dallas SA results for each MCO are not reported for measures where coverage would have been provided through NorthSTAR.

Results presented in this section are for measures in the following HEDIS domains:

- Prevention and Screening
- Respiratory, Cardiovascular, Diabetes, and Musculoskeletal Conditions
- Behavioral Health
- Medication Management
- Overuse/Appropriateness
- Access/Availability
- Utilization

HEDIS results were compared to the national percentiles compiled by NCQA based on Medicaid Health Maintenance Organization (HMO) data submitted for the 2016 measurement year. Also presented for comparison are Texas HHS 2016 performance dashboard standards for selected measures. These can be found in the Uniform Managed Care Manual (UMCM), Chapter 10.1.7 Performance Indicator Dashboards for Quality Measures (32). Selected measures also include the range of results across MCOs within each program for comparison.

Rationale and additional explanation of measure development are found in the AHRQ National Quality Measure Clearinghouse (NQMC), and the NCQA State of Health Care Quality Report (33). The NQMC is a joint initiative of AHRQ and DHHS that provides detailed information on quality measures. It also promotes further dissemination, implementation, and discussion, better informing the health care decision-making process.

Prevention and Screening

Measures of preventive care assess rates of primary care visits, screenings, and vaccinations that are intended to prevent the onset of disease and adverse health outcomes. Screening tests include standard evaluations for normal development or function as recommended for all patients in a specific age or sex

groups (e.g., developmental screening or hearing tests, or regular blood pressure testing) and tests for specific diseases or conditions, which may be recommended based on age, sex, or other risk factors (e.g., cancer or chlamydia screening). This is different from diagnostic testing (such as a strep culture) which is done in response to symptoms. Appropriate screening provides important timely information that can improve outcomes and efficiency of care by allowing for earlier intervention or treatment. Table 22 lists the seven HEDIS measures that the EQRO reports in this domain by program, in addition to the Oregon Health Science University (OHSU) measure for developmental screening (part of CHIPRA core measure) (34).

Table 22. EQRO Reporting on Preventive Care Measures

Code	Measure	CHIP	STAR	STAR+PLUS	STAR Health
ABA	Adult BMI Assessment	-	-	Q,D	Q
WCC	Weight Assessment and Counseling for Nutrition and Physical Activity for Children and Adolescents	Q,D,P	Q,D	-	Q
CIS	Childhood Immunization Status	Q,D,P	Q,D	Q,D	Q
IMA	Immunizations for Adolescents	Q	Q	Q	Q
BCS	Breast Cancer Screening	-	Q	Q	-
CCS	Cervical Cancer Screening	-	Q,D	Q,D,P	-
CHL	Chlamydia Screening in Women	Q,D	Q,D	Q,D	Q
DVS	Developmental Screening in the First 3 years of Life	Q	Q	Q	Q
	Q = Quality of Care Reporting; **D** = HHS Performance Dashboard; **P** = Included in 2018 P4Q program				

Performance on prevention and screening measures is generally poor-to-moderate across Texas Medicaid and CHIP programs relative to national benchmarks. Although administrative results for CIS and IMA are reported for STAR+PLUS, and WCC, CIS, and IMA results are reported for STAR Health and FFS, performance on these hybrid measures based on administrative data alone is not highly comparable to national benchmarks. These results are used as a barometer for baseline compliance each year. Results shown in the charts below show measure performance against state-determined minimum and high standards published in the UMCM (32).

Adult BMI Assessments and Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents

A key component of preventive health is counseling provided during regular health assessments, or well-care visits. Obesity is a growing national health crisis and providers should address healthy weight management as part of any preventive health visit (34; 15). The weight assessment and counseling measure, WCC, addresses the rising prevalence of obesity among children. Overweight children and adolescents are more likely to become obese as adults, which highlights the importance of early intervention. Childhood obesity has more than doubled in children and tripled in adolescents in the past 30 years; in fact, one in three young people are overweight. It is the primary health concern among parents in the United States, more prevalent than concerns about drug abuse and smoking. The costs associated with childhood obesity top $14 billion per year in the United States. Obesity contributes to

heart disease, type 2 diabetes, stroke, and several types of cancer (15). Figure 9 shows 2016 performance on these measures along with the performance dashboard standards for CHIP, STAR, and STAR+PLUS.

Quick Findings on HEDIS ABA and WCC Measures:

- *Many CHIP MCOs performed below the national average on nutrition and physical activity counseling.*

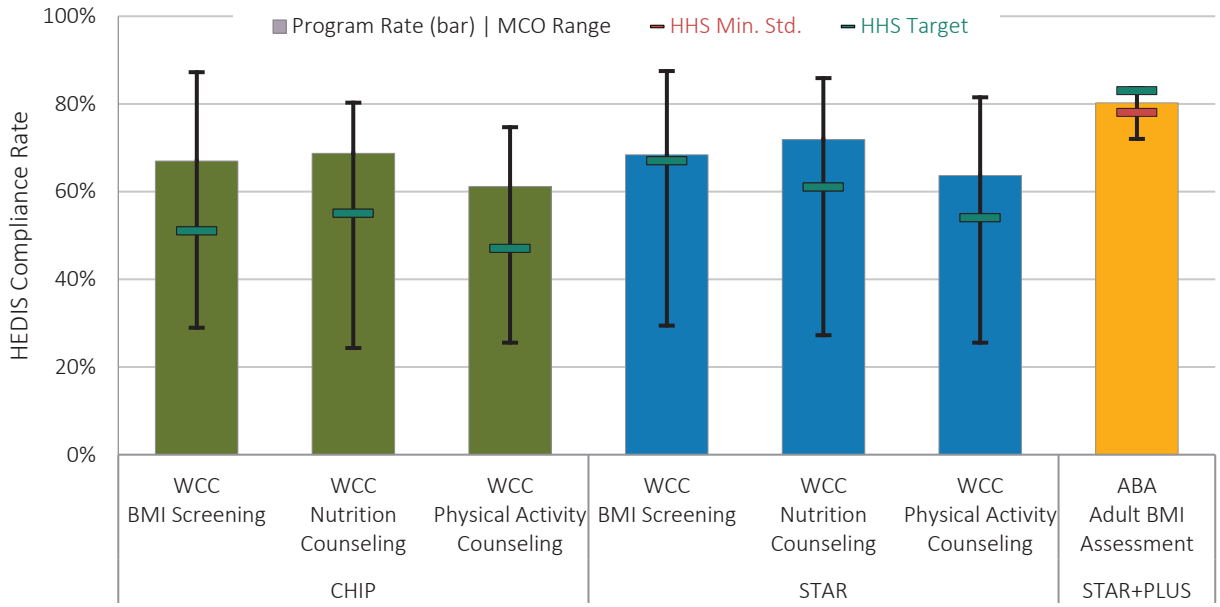
Significance:

- *Childhood obesity is a significant health crisis.*

Recommendation:

- *The state should work with high-performing MCOs to develop statewide intervention strategies.*

Figure 9. Adult BMI Assessments (ABA) and Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents (WCC)



The CHIP P4Q program includes the nutrition and physical activity counseling sub-measures for WCC. FirstCare and Sendero performed below the HHS minimum standard for both nutritional and physical activity counseling standards, while Molina fell below the set standards for nutrition. CHRISTUS fell below the same for physical activity.

Immunizations

Recommended vaccination is a proven way to help a child stay healthy and avoid the potentially harmful effects of childhood diseases. The Centers for Disease Control and Prevention provides recommendations for vaccination against 16 diseases for children and teens. Vaccination not only protects vaccinated children from disease, but also protects others in the family or community by preventing the spread of diseases. The DHHS estimates that 14 million cases of disease are prevented through immunization, resulting in tens of millions of dollars in health care savings (35). Texas evaluated program performance using the most complete vaccination recommendations in the measure definitions, Combination 10 for

childhood immunizations (CIS) and Combination 2 for adolescent immunizations (IMA). Individual vaccine compliance was also reviewed.

Quick findings on HEDIS Vaccination Measures

- *Eight MCOs in CHIP performed above the 75th percentile nationally.*
- *Vaccination rates for Rotavirus and Influenza lagged behind other immunizations.*

Significance

- *Rotavirus causes half of the hospitalizations related to diarrhea for children under age five.*
- *Children have a higher risk of Influenza -related complications.*

Recommendation

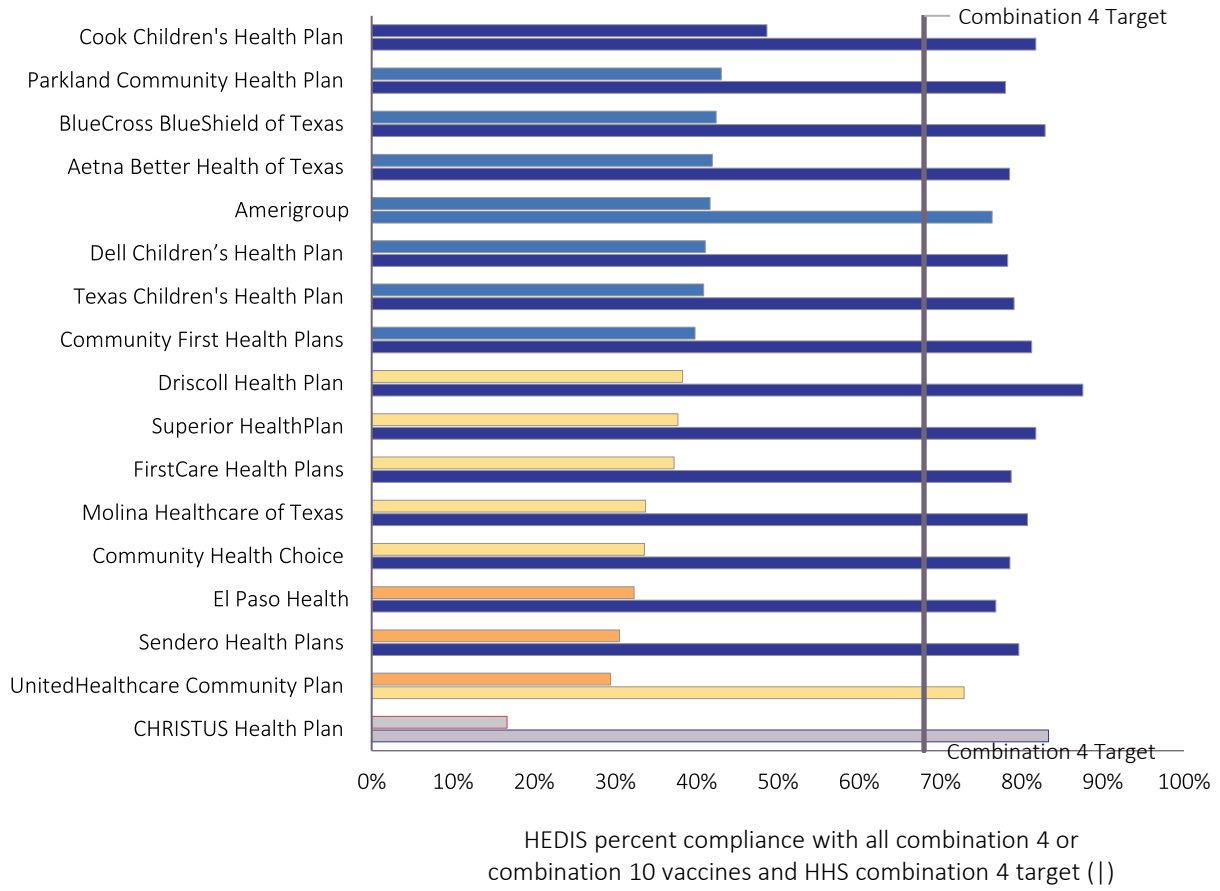
- *Although other immunization rates are good, providers need to improve compliance for Rotavirus and influenza, which are two important recommended vaccines.*

The CHIP P4Q program includes the CIS Combination 10 sub-measure. Performance varied widely across MCOs, with eight MCOs performing above the 75th national percentile and four plans below the 25th percentile. Texas began evaluating MCOs for performance on CIS Combination 10 for the 2015 measurement year and the dashboard standards were established starting with CY 2017. Prior to that, Combination 4 was included on the performance dashboard for evaluation. Combination 10 included rotavirus and influenza vaccination in addition to the eight other vaccines included in Combination 4. Figure 10 shows 2016 performance on both sub-measures for the CHIP MCOs. HHS performance standards are only available for Combination 4 in 2016. All CHIP MCOs performed well on Combination 4, but due to low compliance on influenza vaccination, performance for Combination 10 is not as strong (Figure 10). Increased focus on influenza vaccination should lead to needed improvement. Rotavirus vaccination rates can also be improved, although Texas has done better than most compared to the national percentiles.

Performance in STAR was variable across MCOs for Combination 4, with seven MCOs performing above the 75th national percentile and six performing below the 50th percentile. Performance on Combination 10 was consistently worse relative to national standards, with fewer than half of the MCOs performing above the 50th percentile and three below the 25th percentile.

Performance on adolescent vaccination (IMA) was below the 50th national percentile for all MCOs in both CHIP and STAR. Due in part to legal requirements relating to foster care, performance on required care measures was generally acceptable in the STAR Health program but fell below the 10th national percentile for IMA. This was largely because of poor performance on human papilloma virus (HPV) vaccinations.

Figure 10. Childhood Immunization Status: CHIP Combinations 4 and 10 by MCO



Cancer Screening

Screening tests for cancer (BCS, CCS measures) can help identify cancer at an earlier stage, before symptoms appear. Early detection generally provides more treatment options and better chances for survival (36). Breast cancer affects hundreds of thousands of women each year, and mammography can detect cancer too small to be identified by manual palpation exam. Cervical cancer rarely causes symptoms in early stages, and is detectable using a Pap test.

Quick Finding on HEDIS Cervical Cancer Screening Measures

- *Women in STAR+PLUS received screening for cervical cancer less frequently than the national average.*

Significance

- *Cancer screening is an important part of routine preventive care.*

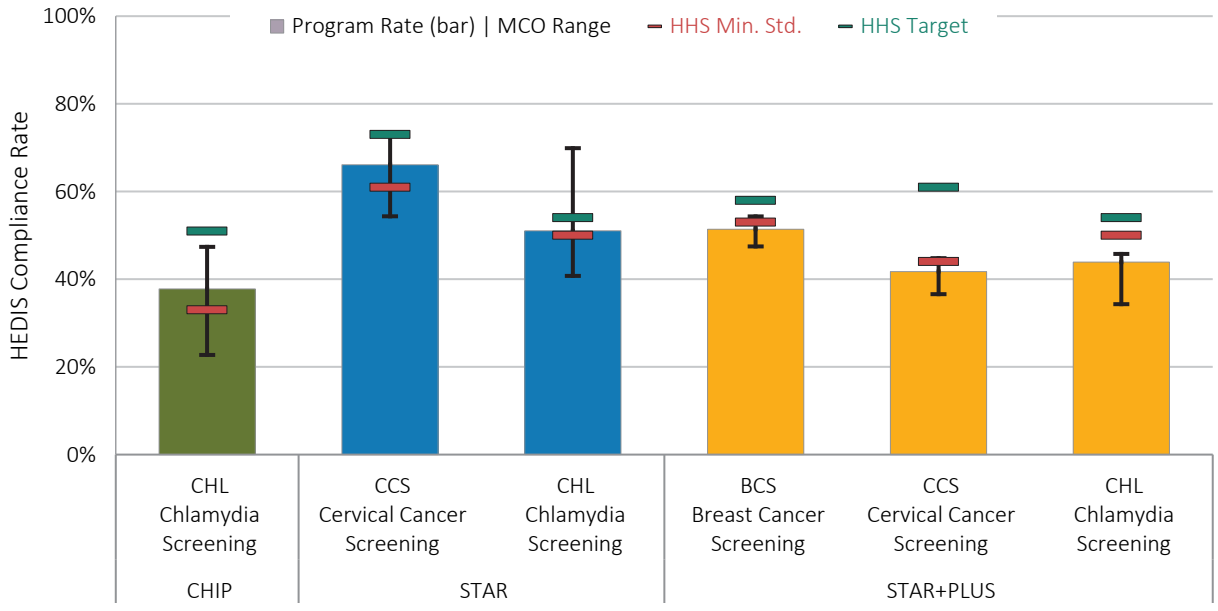
Recommendations

- *The state should work with MCOs to identify barriers to receipt of recommended screening; and*
- *Align performance improvement project topics with areas of greatest need for improvement, such as cervical cancer screening rates.*

Chlamydia Screening

Chlamydia trachomatis is the most common sexually transmitted infection (STI) in the United States, infecting 3 million people each year (37). Most women do not experience symptoms, making screening (CHL measure) an essential tool in identifying this treatable disease. Complications resulting from untreated disease include pelvic inflammatory disease, infertility, and ectopic pregnancy. Figure 11 shows the 2016 performance on HHS performance dashboard screening measures in CHIP, STAR, and STAR+PLUS.

Figure 11. Cancer and Chlamydia Screening



The STAR+PLUS P4Q program includes the CCS measure. All MCOs were at or below the 10th national percentile for this measure. Only Superior met the minimum dashboard standard for this measure for STAR+PLUS. Women with disabilities are less likely to have regular cervical cancer screening (38). This can be due to difficulties making or getting to appointments, expected or experienced environmental barriers to testing, or reluctance by providers to screen. Targeted interventions should focus on women with disabilities to improve compliance in this population.

Chlamydia screening is included on HHS performance dashboards for CHIP, STAR, and STAR+PLUS. More than half of STAR MCOs and all STAR+PLUS MCOs performed below the minimum standard set by HHS. Performance was below the 10th national percentile for CHIP and STAR+PLUS.

Developmental Screening

Developmental Screening in the First 3 Years of Life (DVS) is part of the CHIPRA Child Core Measure Set (39). These screenings are critical in identifying children at risk for delays. Early identification should lead to better outcomes through further evaluation, diagnosis, and treatment. Overall, Texas programs performed better than average on this measure, with 2016 performance near or above the 75th national percentile for CHIP and STAR Health.

Respiratory Conditions, Cardiovascular Conditions, and Diabetes

The HEDIS measure set includes several measures targeting conditions of particular importance to the respiratory and cardiovascular system. Controlling chronic conditions in this area is particularly important for the STAR+PLUS population, many of whom struggle with significant or multiple persistent health issues. Measures for high blood pressure (CBP) and diabetes care (CDC) are included in the STAR+PLUS P4Q program. To be most effective and efficient, high-quality care for chronic and acute conditions should promote the most appropriate treatments and minimize the need for emergent care. The EQRO reported on nine HEDIS measures related to acute respiratory disease, chronic respiratory and cardiovascular conditions, and diabetes, shown in Table 23. EQRO Reporting on HEDIS Measures Related to Acute Respiratory Disease, Chronic Respiratory Cardiovascular Conditions, and Diabetes.

Table 23. EQRO Reporting on HEDIS Measures Related to Acute Respiratory Disease, Chronic Respiratory Cardiovascular Conditions, and Diabetes

Code	Measure	CHIP	STAR	STAR+PLUS	STAR Health
CWP	Appropriate Testing for Children with Pharyngitis	Q,D	Q,D	Q	Q
SPR	Use of Spirometry Test in Assessment and Diagnosis of COPD	Q	Q	Q	Q
PCE	Pharmacotherapy Management of COPD Exacerbation	Q	Q	Q	Q
MMA	Medication Management for People with Asthma	Q,D	Q,D	Q,D	Q,D
AMR	Asthma Medication Ratio	Q,D	Q,D	Q,D	Q
CBP	Controlling High Blood Pressure	-	Q,D	Q,D,P	Q
SPC	Statin Therapy for Patients with Cardiovascular Disease	Q	Q	Q	Q
CDC	Comprehensive Diabetes Care	Q	Q,D	Q,D,P	Q
SPD	Statin Therapy for Patients with Diabetes	Q	Q	Q	Q

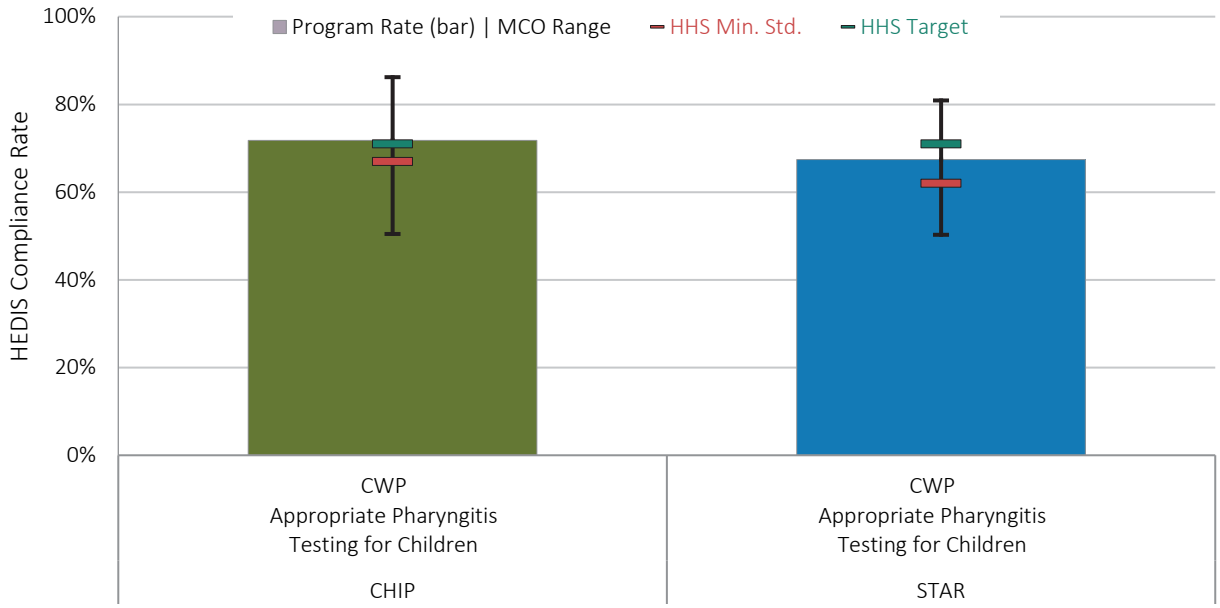
Q = Quality of Care Reporting; **D** = HHS Performance Dashboard; **P** = Included in 2018 P4Q program

Despite receiving national attention, asthma, chronic obstructive pulmonary disease (COPD), cardiovascular disease, and diabetes continue to be major health issues. Although not all of the HEDIS performance measures listed in Table 23 for these conditions are included in P4Q programs, these conditions are responsible for large numbers of potentially preventable events. These conditions are responsive to high-quality preventive care, and developing interventions around these performance measures may improve both effectiveness and efficiency of care, promote better health, and reduce expenditures resulting from preventable episodes of acute care.

Diagnostic Support for Antibiotic Use

Antibiotics are not recommended treatment for most upper respiratory infections, which are typically viral and thus not responsive to antibiotics. The Centers for Disease Control and Prevention considers antibiotic resistance a major health concern, and inappropriate prescription of antibiotics is costly (19). Four STAR and four CHIP MCOs fail to meet the HHS minimum standards for this measure. Improvement in this measure might contribute to reductions in medication costs and help address a serious national health issue. The Appropriate Testing for Children with Pharyngitis (CWP) measure considers whether children diagnosed with pharyngitis and prescribed antibiotics received testing for streptococcus. Figure 12 shows the 2016 performance on this measure, which is included in the HHS performance dashboards for CHIP and STAR. Four STAR and four CHIP MCOs failed to meet the HHS minimum standards for this measure.

Figure 12. Appropriate Testing for Children with Pharyngitis - Diagnostic Support for Antibiotic Use



COPD Testing and Control

Spirometry testing is a simple method of evaluating airflow for individuals suspected of having COPD or being at risk for it. Although COPD is the fourth leading cause of death in the United States, it is estimated that more than 40 percent of all cases are undiagnosed (40). Earlier diagnosis improves management of symptoms and decreases the number of exacerbations of this irreversible condition. The Use of Spirometry Test in Assessment and Diagnosis of COPD (SPR) measure identifies whether new diagnoses of COPD were confirmed or made based on spirometry testing. Overall, 2016 performance on this measure was below the 50th national percentile in STAR+PLUS. However, performance in Hidalgo SA was above the 90th percentile. The MCOs performing exceptionally well in Hidalgo do not have similar performance in other SAs, suggesting that this finding was a service area effect. However, reasons for the higher rates in Hidalgo have not been determined. The Pharmacotherapy Management of COPD Exacerbation (PCE) measure evaluates medication management for COPD following an ED visit or hospital discharge for COPD. Interestingly, 2016 performance on both sub-measures was lowest in Hidalgo. The denominators for SPR and PCE were new COPD diagnoses and acute care episodes for COPD, respectively. Overall, the ratio of acute episodes to new diagnoses was almost two to one, but in Hidalgo, this ratio is the opposite. Initiatives to improve care statewide can be strengthened by understanding differences in care patterns and how these differences relate to patient outcomes.

Quick Findings on HEDIS COPD Testing and Control Measures

- *Diagnoses and acute treatment patterns for COPD differed by region.*
- *The Hidalgo SA had positive performance for measures related to COPD.*

Significance

Understanding how patterns of care relate to patient outcomes informs initiatives for improvement.

Recommendation

- *Investigate differences in COPD care and identify the best practices and/or community context which contribute to better care performance in the outcomes in the Hidalgo SA.*

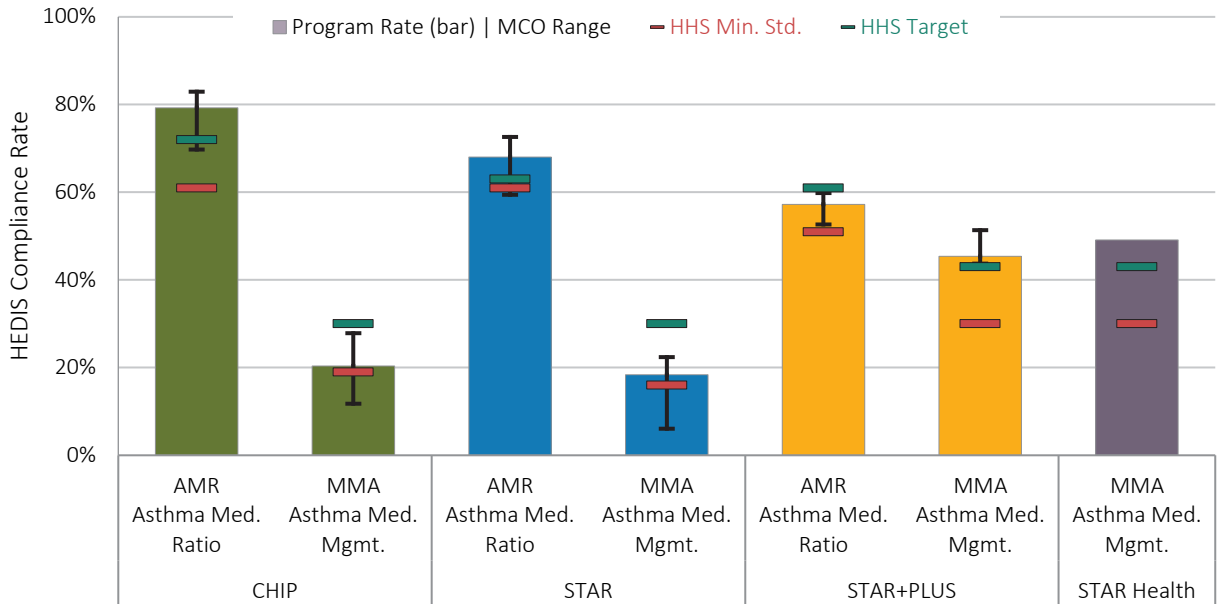
Asthma Control

Asthma is a treatable condition affecting millions of Americans and costing billions of dollars in total medical costs. Using appropriate medication for controlling asthma is more effective and efficient care than relying on rescue medication and acute care (12). Two quality measures for asthma care are currently evaluated for Texas CHIP and Medicaid. The Asthma Medication Ratio (AMR) measure considers the ratio of controller versus reliever (i.e. rescue) medications dispensed. Texas CHIP MCOs uniformly perform well on this measure, with overall 2016 performance in CHIP above the 90th national percentile. For STAR, overall performance was above the 75th percentile, but a few MCOs fell below the 50th percentile or performed poorly in a specific service area. The Nueces, Bexar, and MRSA West SAs showed lower performance relative to the state, across MCOs.

The medication management for asthma measure (MMA) considers whether controller medication was dispensed to provide treatment for more than 75 percent of days covered. Although rates have improved slightly year over year, 2016 performance in CHIP and STAR was uniformly low, falling below the 10th national percentile overall. Most CHIP MCOs failed to meet the minimum HHS performance standard. However, in STAR Health, performance was above the 90th percentile on both measures, while in STAR+PLUS, better performance on the MMA measure was also observed relative to CHIP and STAR.

Both asthma measures were included on the performance dashboards for CHIP, STAR, and STAR+PLUS and were the focus of performance improvement projects for some of the MCOs. The STAR Health performance dashboard included the medication management measure. Figure 13 shows 2016 performance on these measures by program.

Figure 13. Asthma Management



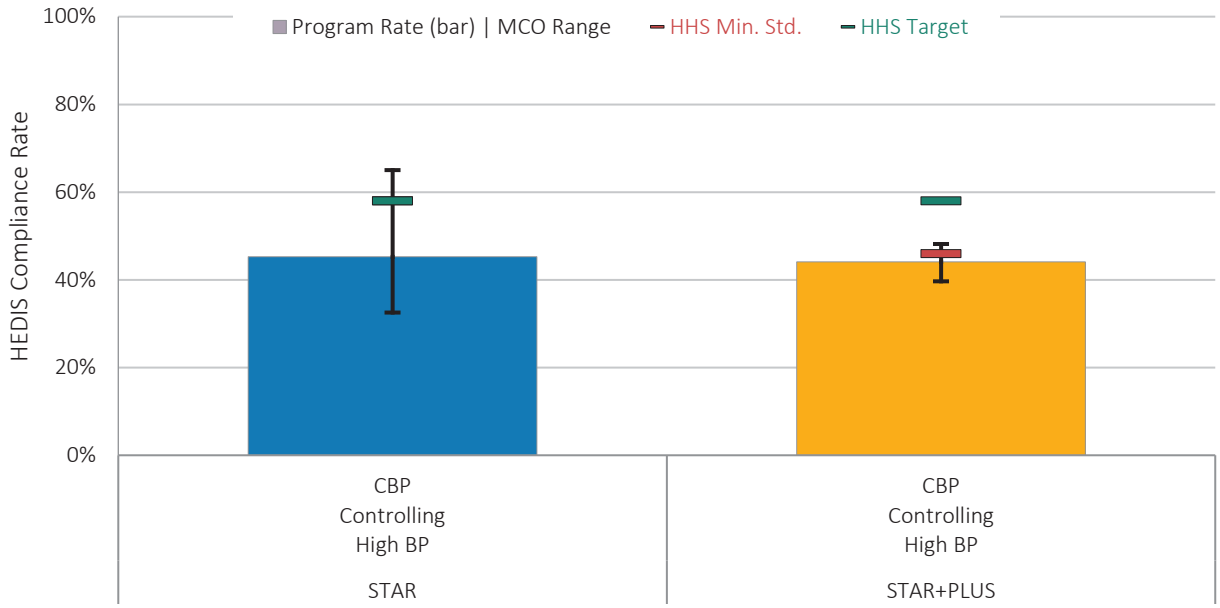
Blood Pressure Control

Cardiovascular disease is the leading cause of death in the United States, responsible for one in every four deaths. Hypertension is controllable with diet, lifestyle, and medication management (41). The CBP measure evaluates whether patients with diagnosed hypertension are adequately controlling their blood pressure. Figure 14 shows the 2016 performance on this measure, which is included in the HHS performance dashboards for STAR and STAR+PLUS. With few exceptions, performance on this measure was poor in the STAR program with the overall performance occurring below the 25th national percentile. The CBP measure is also included in the STAR+PLUS P4Q program. However, for the 2016 measurement year, overall performance was below the 25th national percentile, and all MCOs, except Superior, failed to meet the minimum HHS performance standard of 46 percent.

Cholesterol Control

Statins are drugs used to inhibit cholesterol formation and thus lower cholesterol in the blood. The use of statins has been shown to reduce complications of cardiovascular disease. The statin therapy for diabetics measure (SPD) evaluates patients with cardiovascular disease who received and adhered (greater than 80 percent of covered days) to high or medium-intensity statin therapy. Nationally, adherence to statin therapy is low and performance for STAR+PLUS was below the 50th national percentile for both sub-measures. Improvement on this measure could improve effectiveness and efficiency of cardiovascular care, reducing the need for acute treatment for heart attack.

Figure 14. Controlling High Blood Pressure



Diabetes Control

Diabetes affects more than 25 million Americans and the cost of diabetes complications is estimated to be greater than $245 billion annually. Many of these complications can be prevented with effective diabetes management and monitoring (42). The comprehensive diabetes control (CDC) sub-measures include monitoring and control of HbA1c (an indicator of average blood sugar over time), screening for diabetic retinal disease, and screening or treatment for diabetic nephropathy (both caused by vascular damage resulting from chronic high blood sugar). Figure 15 shows the 2016 performance on the CDC sub-measures included on the HHS performance dashboards for STAR and STAR+PLUS. For STAR, performance on these sub-measures relative to national standards was low, falling below the 25th national percentiles. The adequate HbA1c control (less than 8) sub-measure is included in the STAR+PLUS P4Q program. In 2016, all MCOs performed below the 50th national percentile.

Quick Findings on HEDIS Diabetes Control Measures

- *Performance on diabetes control measures was below the national average.*

Significance:

- *Performance on diabetes control measures was below the national average.*

Recommendation:

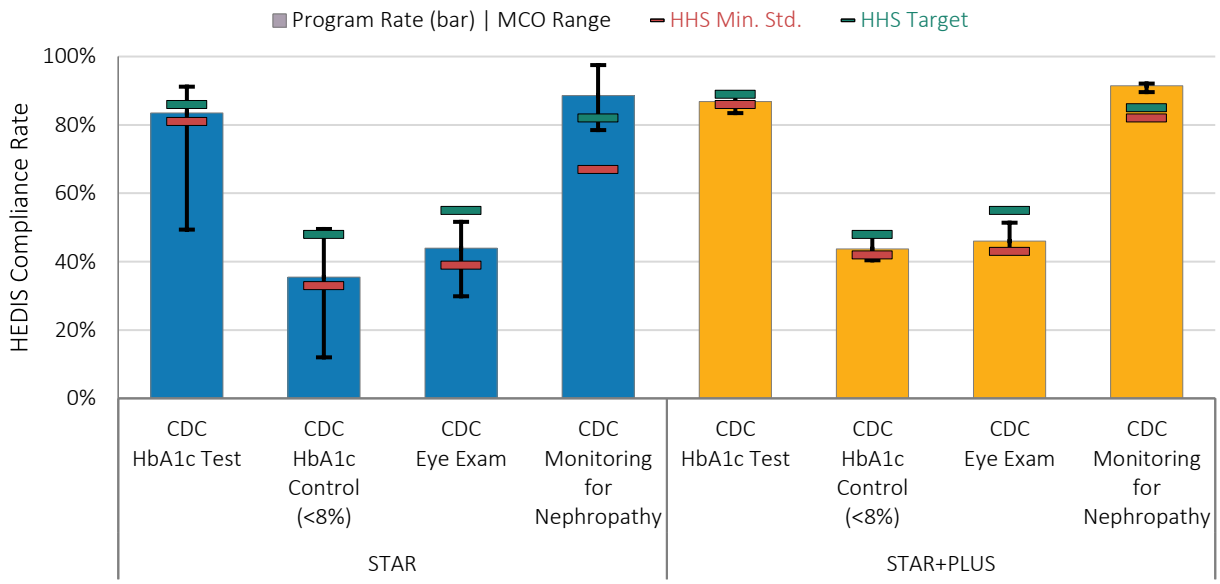
- *Work with MCOs to identify barriers to better disease management by patients and providers.*

Statin Therapy for Diabetics

Diabetes is linked to increased cardiovascular risk, in part due to elevated cholesterol levels. Thus, statin therapy is recommended for diabetics over 40 years of age (14). The statin therapy for diabetics (SPD) measure evaluates the percentage of diabetic patients without cardiovascular disease that receive statin

therapy, as well as their adherence to therapy. Overall, 2016 performance was low in relation to national benchmarks.

Figure 15. Comprehensive Diabetes Care



Behavioral Health

More than one-quarter of the population is estimated to suffer from a diagnosable mental disorder, and behavioral health disorders may soon surpass physical causes of disability (43). Health care spending for mental health treatment exceeds $100 million per year in the United States, with Medicaid as the single largest payer for mental health services. Medicaid beneficiaries with behavioral health diagnoses account for a significantly disproportionate amount of overall health care spending (44). Access to behavioral health services, including substance abuse treatment and integration of behavioral and physical health services, are national priorities. The HEDIS measures in this domain address follow-up care, medication management, and challenges of co-occurring conditions. The EQRO reports on 10 HEDIS behavioral health measures, as shown in Table 24.

Table 24. EQRO Reporting on HEDIS Behavioral Health Measures

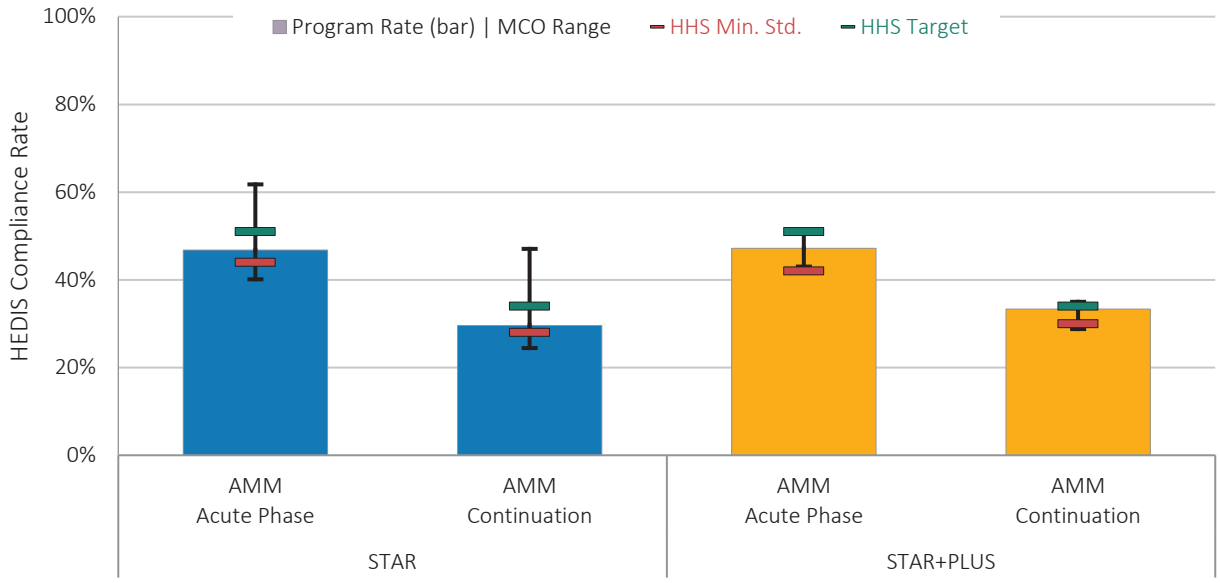
Code	Measure	CHIP	STAR	STAR+PLUS	STAR Health
AMM	Anti-Depressant Medication Management	Q	Q,D	Q,D	Q
ADD	Follow-Up Care for Children Prescribed ADHD Medication	Q,D	Q,D	Q,D	Q,D
FUH	Follow-Up after Hospitalization for Mental Illness	Q,D	Q,D	Q,D	Q,D
FUM	Follow-Up after ED Visits for Mental Illness	Q	Q	Q	Q
FUA	Follow-Up after ED Visits for Alcohol and Other Drug Dependence	Q	Q	Q	Q
APM	Metabolic Monitoring for Children and Adolescents on Anti-Psychotics	Q	Q	Q	Q
SSD	Diabetes Screening for People with Schizophrenia or Bipolar Disorder, Using Anti-Psychotic Medications	-	Q	Q,P	Q
SMD	Diabetes Monitoring for People with Diabetes and Schizophrenia	-	Q	Q	Q
SMC	Cardiovascular Monitoring for People with Cardiovascular Disease and Schizophrenia	-	Q	Q	Q
SAA	Adherence to Anti-Psychotic Medications for Individuals with Schizophrenia	-	Q	Q	Q

Q = Quality of Care Reporting; **D** = HHS Performance Dashboard; **P** = Included in 2018 P4Q program

Behavioral Health Medication Management

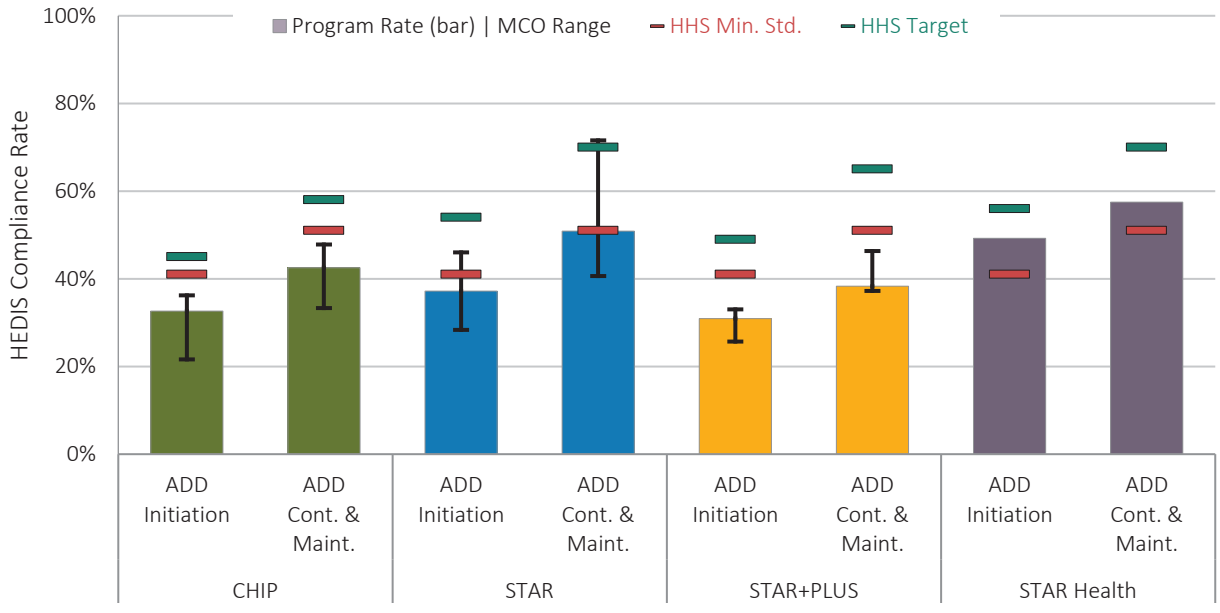
Adherence to medication plans is important in the effective management of behavioral health conditions. Non-compliance can lead to worsening conditions or the avoidable need for acute care. Even limited missed medication doses can result in serious consequences for behavioral health conditions, and these patients may have greater challenges in maintaining compliance (45). Close adherence to treatment plans is critical for the 20 million Americans suffering from depressive disorders. The anti-depressant management measure (AMM) evaluated the success of adults' adherence to antidepressant medication during the first three or six months following diagnosis. Performance on this measure was poor relative to national benchmarks, across programs. Figure 16 shows 2016 performance on the AMM sub-measures on the HHS performance dashboards.

Figure 16. Anti-Depressant Medication Management



Children with attention deficit hyperactivity disorder ([ADHD] about 10 percent of school-aged children) may experience significant difficulties, including with academics and with interpersonal relationships and interactions. When managed appropriately, medication for ADHD can control symptoms. It is important, however, that treatment is monitored monthly when initiated and that monitoring continue at least every six months (17). Rates of Follow-Up Care for Children Prescribed ADHD Medication (ADD) were low across programs in 2016 and worsened relative to national benchmarks. Figure 17 shows 2016 performance on the ADD measures on HHS performance dashboards. Minimum standards were met only for STAR Health and some STAR MCOs.

Figure 17. Follow-Up Care for Children Prescribed ADHD Medication



For patients with schizophrenia, medication non-adherence is a significant cause of relapse. The SAA measure evaluated adherence to anti-psychotic medication for at least 80 percent of the measurement year. Performance on this measure in 2016 was generally low for patients in STAR and FFS. Performance on SAA in STAR+PLUS, where the majority of Medicaid patients with schizophrenia receive their care, was below the 50th national percentile and this finding was generally consistent across MCOs and SAs.

Behavioral Health Follow-Up Care

Follow-up care after hospitalization for mental illness (FUH) or ED visits for mental illness or substance abuse (FUM, FUA) is recommended to increase the likelihood that the benefits of care are sustained, and to monitor any problems with medication or treatment plans. Performance was generally low relative to national benchmarks for FUH. Figure 18 shows 2016 performance on the FUH sub-measures relative to HHS performance dashboards.

Differences by MCO and SA indicate that higher rates are attainable. For example, in STAR, Community Health Choice, and Texas Children's Health Plan both performed above the 75th national percentile for seven-day follow-up. Both of these MCOs performed better than average in the Jefferson SA, but they did best in the Harris SA. Harris was the only SA to perform at better than the 75th percentile; the best performance of any MCO/SA combination was Amerigroup in Harris (greater than the 90th percentile), even though Amerigroup was below the 50th percentile overall (across eight SAs). In contrast, Molina performed below the 10th percentile in Harris and overall (across four SAs). These results suggest that both geographic differences and MCO differences influenced performance on this measure. Results for CHIP showed a similar trend. The FUM and FUA measures do not yet have national benchmark data available, but rates for FUM were consistently moderate, while rates for follow-up after ED visit for alcohol and other drug dependence were extremely low across all programs. Variation in these two measures was more by SA than by MCO, suggesting geographic differences in how ED services were integrated into the care delivery system.

Quick Findings from HEDIS Measures of Behavioral Health Follow-up Care

- *Follow-up care after a hospitalization for a mental illness differed by MCO and geographic service area.*
- *Some SAs had rates of individuals receiving follow-up care after a hospitalization for a mental illness that was above the 75th national percentile.*

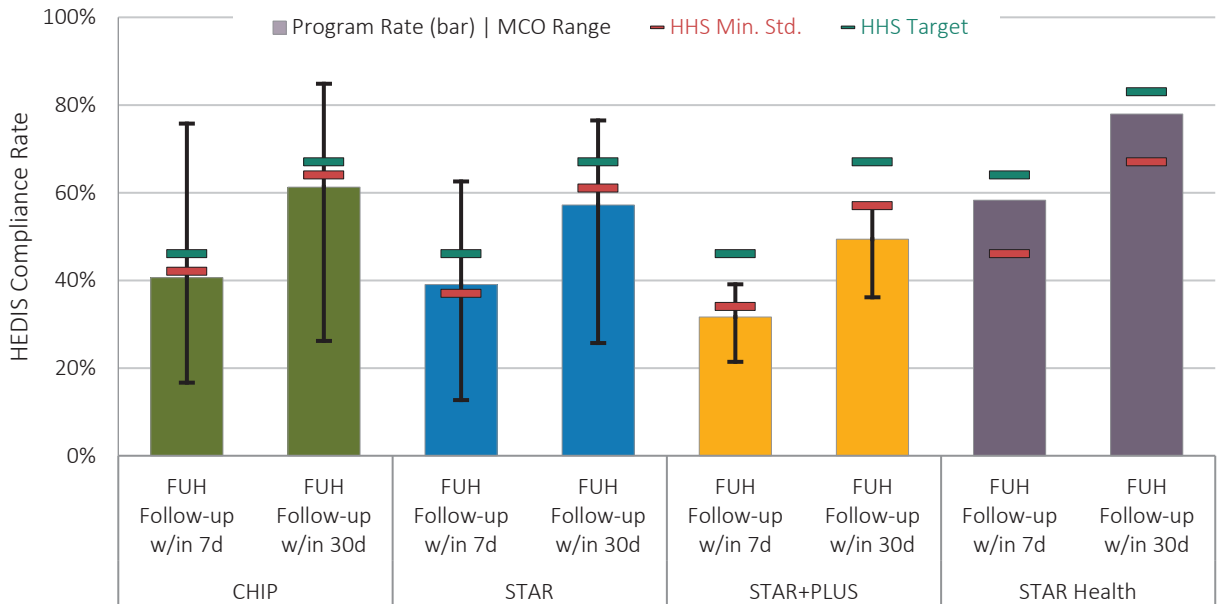
Significance

- *The findings indicate that both geographic differences and MCO differences influenced the rates of follow-up care.*

Recommendation

- *Identify root causes for differences in care outcomes and use results to increase the effectiveness of improvement strategies.*
- *Identify best practices and local factors that contribute to improved rates of follow-up care.*

Figure 18. Follow-Up after Hospitalization for Mental Illness

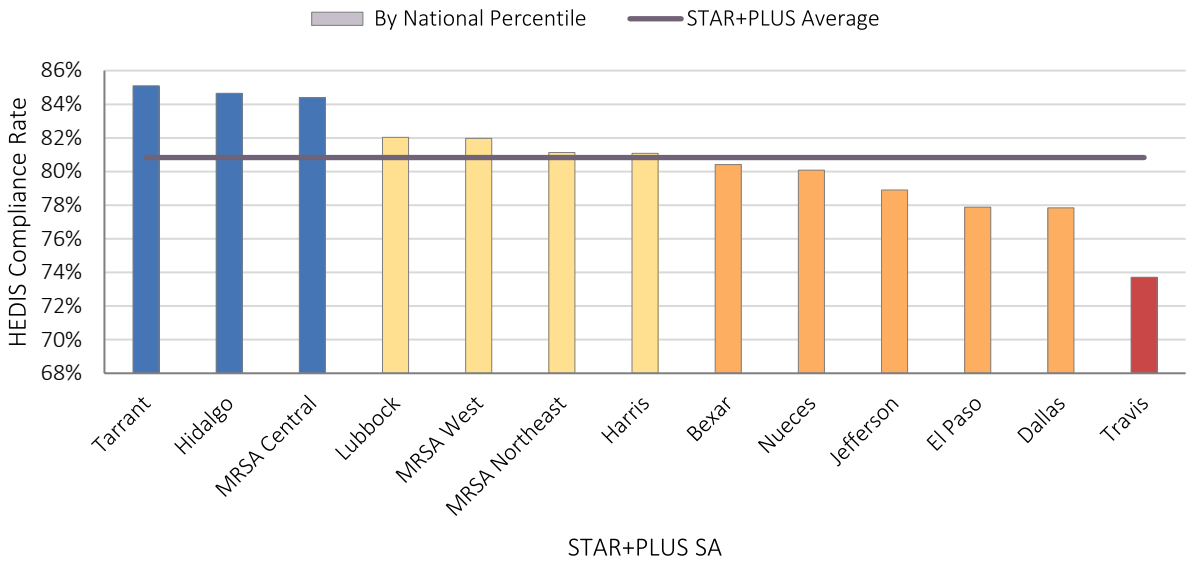


Behavioral Health and Co-Existing Conditions

The remaining behavioral health measures assessed monitoring of co-existing conditions in schizophrenic or bipolar adults (diabetes screening [SSD]; diabetes monitoring [SMD]; and cardiovascular monitoring [SMC]) or metabolic monitoring for children on anti-psychotics (APM) (45). Schizophrenia has been directly linked to metabolic disorders and the use of anti-psychotic medications can further increase risk (18). Lifestyle factors associated with schizophrenia (e.g., poor diet, substance abuse) may also contribute to the risk of diabetes. As with SAA, performance on the adult measures was low for STAR and FFS. For all three measures, overall performance in STAR+PLUS was close to the 50th national percentile and was consistent across MCOs. Rates varied more by SA: Tarrant, Hidalgo, and MRSA Central performed above the 75th percentile, and Travis performed below the 10th percentile.

The SSD measure is included in the STAR+PLUS P4Q program. Understanding the geographic differences in rates would serve efforts to improve performance on this measure. Figure 19 shows rates of diabetes screening for this population.

Figure 19. Diabetes Screening for Adults with Schizophrenia and Bipolar Disorder Using Anti-Psychotics: STAR+PLUS by Service Area



Bars show NCQA Percentile Bands	Low Denominator	0 – 10	10 – 25	25 – 50	50 – 75	75 – 90	90 – 100

Medication Management

Medications improve quality of life for millions of Americans. However, when not taken properly, adverse events occur which can result in serious health consequences, hospitalizations, and increased health care costs. Medication management includes taking the appropriate medications on time, avoiding dangerous medication interactions, and timely monitoring of conditions being treated or that might be affected by medications to allow adjustments to treatment plans (16).

The annual monitoring for patients on persistent medications measure (MPM) examined treatment for a common group of medications that can have negative effects, particularly in the elderly, when use is not monitored and adjusted as needed. Results are reported for the STAR+PLUS program. Overall, performance was above the 90th national percentile and consistently high across MCOs and SAs.

Overuse/Appropriateness

Measures of overuse and appropriateness consider common treatments or screening tests that are often misdirected and can result in poor outcomes. The EQRO reported on three HEDIS measures of overuse as shown in Table 25.

Table 25. EQRO Reporting on HEDIS Measures of Overuse

Code	Measure	CHIP	STAR	STAR+PLUS	STAR Health
URI	Appropriate Treatment for Children with Upper Respiratory Infection	Q,D,P	Q,D,P	-	Q
AAB	Avoidance of Antibiotic Therapy for Adults with Acute Bronchitis	-	Q,D	Q,D	-
APC	Use of Multiple Concurrent Antipsychotics in Children and Adolescents	Q	Q	-	Q

Q = Quality of Care Reporting; **D** = HHS Performance Dashboard; **P** = Included in 2018 P4Q program

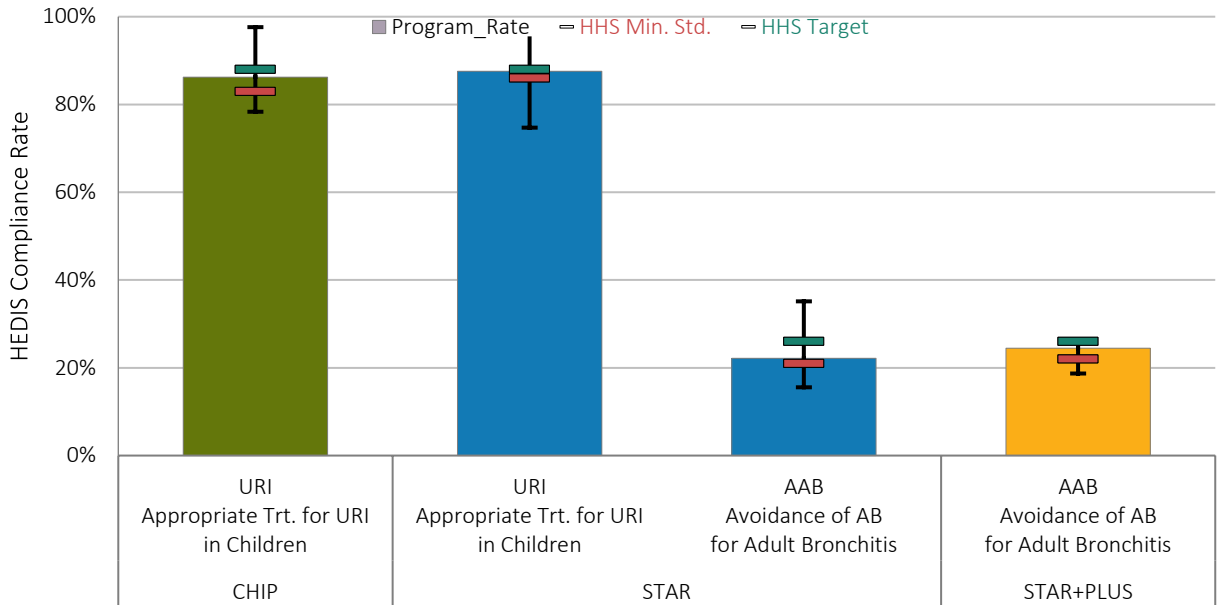
Antibiotic Overuse

Texas has focused interest on the inappropriate use of antibiotics, estimated by the Centers for Disease Control and Prevention to be 30 percent of dispensed antibiotics, representing 47 million unnecessary prescriptions (19). The use of antibiotics for diagnosis of URI measure evaluates inappropriate use of antibiotics in children. The measure is reported as an inverted rate (i.e., the number of URI cases with antibiotics prescribed are counted and the reported rate is 1 minus the counted rate). The Avoidance of Antibiotic Therapy for Adults with Acute Bronchitis (AAB) measure similarly counts the cases of adult bronchitis with inappropriate antibiotics dispensed and is also reported as an inverted rate. Figure 20 shows the 2016 results for these measures, which were included in the HHS performance dashboards for CHIP, STAR, and STAR+PLUS.

Use of Multiple Antipsychotics in Children

Although the frequency of prescribing antipsychotics to children has increased dramatically, studies of safety and efficacy for some common combination or off-label uses are lacking. The American Academy of Child and Adolescent Psychiatry recommends that, until further study, clinicians avoid the use of multiple concurrent antipsychotic medications for children and adolescents (46). The multiple concurrent antipsychotics in children measure (APC) allowed monitoring of this practice. Unlike most other measures presented in this report, lower APC rates indicated better performance. Performance in Texas was generally good relative to national benchmarks, although denominators are often small and the national percentile ranges are small.

Figure 20. Inappropriate Antibiotic Use in URI and Bronchitis



Access and Availability of Care

The measures in the domain of access and availability addressed access to primary care, maternal care, substance abuse treatment, and psychosocial care for children and teens. Access is measured as the percentage of eligible members utilizing preventive, routine, or treatment services. The EQRO reported on five measures in this HEDIS domain, as shown in Table 26.

Table 26. EQRO Reporting on HEDIS Measures for Access and Availability of Care

Code	Measure	CHIP	STAR	STAR+PLUS	STAR Health
AAP	Adults' Access to Preventive/Ambulatory Health Services	-	Q	Q	-
APP	Use of First-Line Psychosocial Care for Children and Adolescents on Anti-Psychotics	Q	Q	Q	Q
CAP	Children and Adolescents' Access to Primary Care Practitioners	Q,D	Q,D	-	Q,D
IET	Initiation and Engagement of Alcohol and Other Drug Dependence Treatment	Q	Q,D	Q,D	Q
PPC	Prenatal and Postpartum Care	Q	Q,D,P	Q,D	Q

Q = Quality of Care Reporting; **D** = HHS Performance Dashboard; **P** = Included in 2018 P4Q program

**The HEDIS annual dental visit measure is included with the other dental measures.*

Access to Primary Care

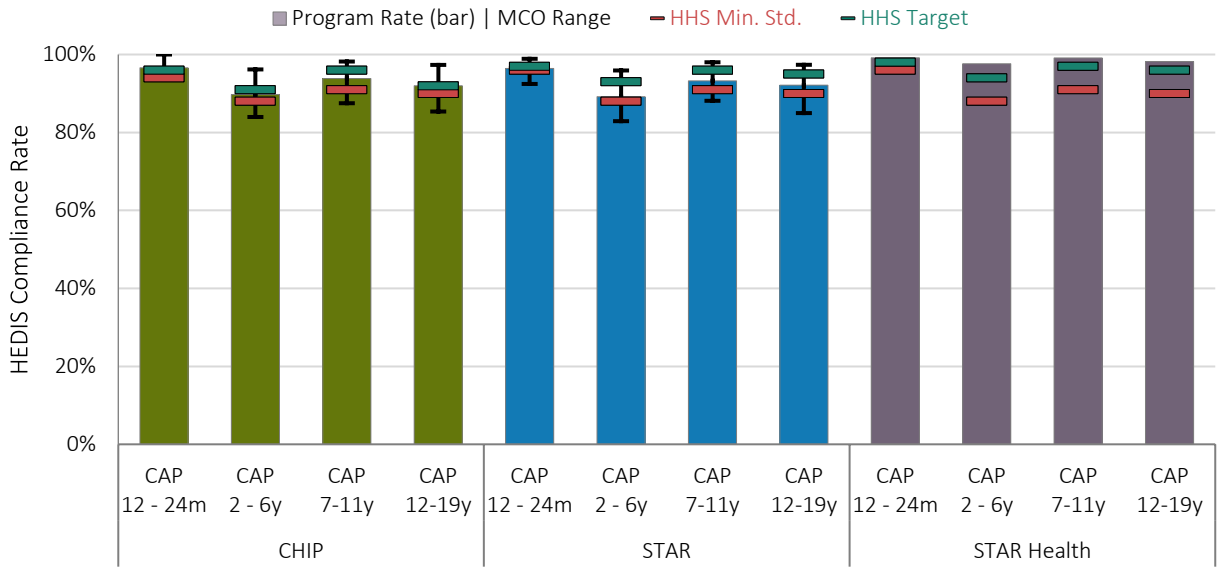
Routine preventive health visits allow providers the opportunity to discuss patient health issues as well as screening or other recommended testing. Routine visits also provide for more timely diagnosis and intervention for many health care problems (47).

Nationally, the best performance on measures for adults' (AAP) or children's (CAP) access to care are for children between 12 and 24 months, averaging more than 90 percent. Rates for older children and older adults (45 to 64 years old) are also very good nationally, while the lowest rates are seen for younger adults.

In Texas, performance in managed care programs was generally good relative to the national benchmarks, although differences were seen across SAs and by MCO. Contrary to some other measures, performance in the Medicaid Rural Service Areas tended to be above average. Performance by MCOs varied across the reported age groups. Overall, however, some MCOs did better across this category of measures (e.g., Superior) while others struggled (e.g., Molina, CHRISTUS).

The CAP measure was part of the performance dashboards for CHIP, STAR, and STAR Health. MCOs should work to understand and alleviate barriers to care in their networks. Performance on these measures has decreased slightly over time, and was lower relative to national standards. Figure 21 shows 2016 performance by program.

Figure 21. Children and Adolescents' Access to Primary Care



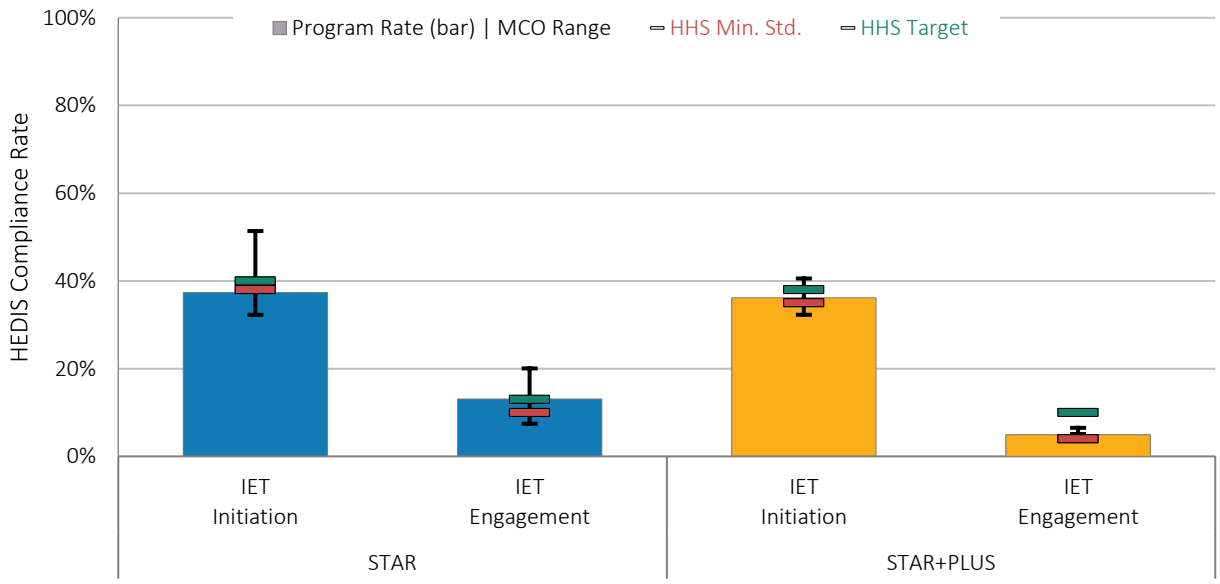
Substance Abuse Treatment

Treatment for substance abuse is a large burden on the health care system, but initiating a treatment plan early when alcohol and drug disorders are diagnosed improves the chances of avoiding costly treatment for serious medical problems resulting from substance abuse (20). The initiation and engagement of alcohol and other drug dependence treatment measure (IET) evaluated the success of starting and maintaining treatment following an initial intervention. Nationally, rates for initiation of

treatment are less than 50 percent and rates of engagement (continuation following initiation) are less than 20 percent.

In the STAR program, 2016 performance relative to the national benchmarks was better for engagement, with many MCOs performing above the 75th percentile. Performance varied by SA with Hidalgo and El Paso performing extremely-well relative to benchmarks, while Harris and Jefferson both had lower performance on both sub-measures. Performance in STAR+PLUS was uniformly poor. The IET measure is part of the Performance Dashboards for both programs. Figure 22 shows the overall 2016 performance by program. Untreated substance abuse disorders contribute directly and indirectly as risk factors for many other health problems. Improving continuity of care for these conditions may improve overall health and potentially influence cost savings.

Figure 22. Initiation and Engagement of Alcohol and Other Drug Dependence Treatment



Use of First-Line Psychosocial Care for Children (APP)

Anti-psychotic medications are commonly being used to treat non-psychotic conditions such as ADHD. Psychosocial treatment provides a safer first treatment option, which may also lead to better long-term outcomes (17). With the exception of STAR Health (greater than 95th national percentile), performance on the APP measure was low across programs with few exceptions, falling below the 25th national percentile for almost all SAs and MCOs in STAR, and below the 10th percentile for almost all SAs and MCOs in CHIP. Providers should continue to be encouraged to utilize psychosocial treatment options before prescribing antipsychotic medications.

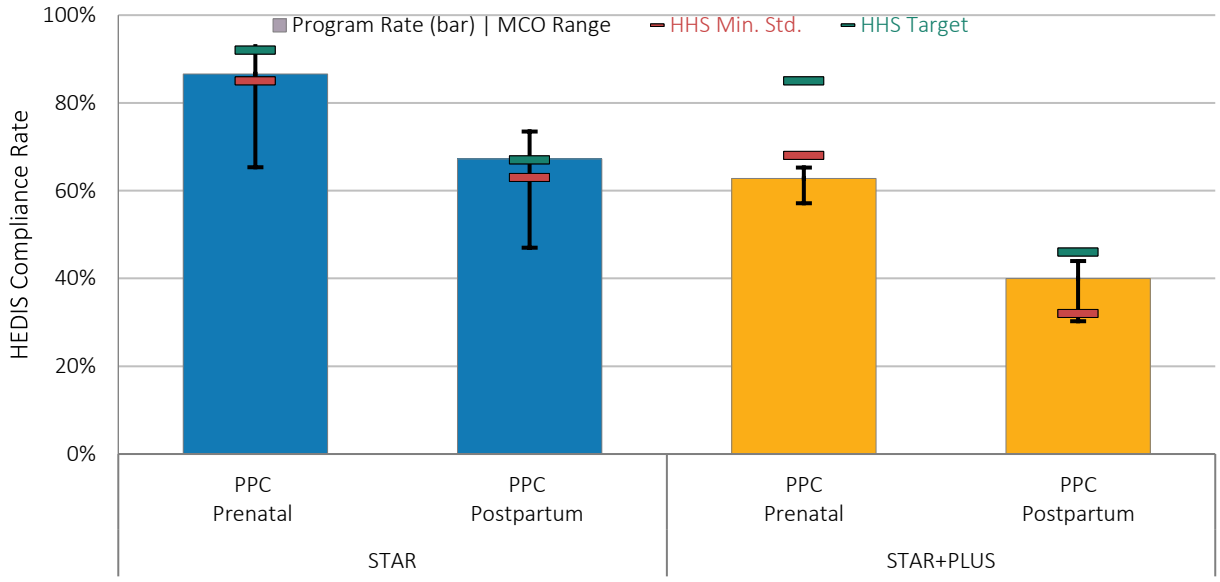
Maternal Care

Prenatal and postpartum care benefit both mother and infant and can improve outcomes during the perinatal period. Although infant mortality rates have been a key metric in public health, and have continued to decrease in response to health care initiatives targeting some major causes (e.g., Sudden Unexpected Infant Death (SUID)), measures of maternal care have not shown the same improvements

(48). This is despite the fact that some leading causes of infant death are directly related to maternal care (e.g., pregnancy complications, short gestation, and low birthweight). Despite improvements in obstetric safety, maternal mortality and severe maternal morbidity in the U.S. have continued to increase over the past 20 years (49; 50).

Medicaid pays for more than half of the births in Texas. Thus, HHS has made maternal care a priority and included the prenatal and postpartum care measure (PPC) measure in the STAR P4Q program. The PPC measure is also included on both the STAR and STAR+PLUS HHS performance dashboards. Performance in STAR was generally good for timeliness of prenatal care, but lower for postpartum care. Figure 23 shows the 2016 PPC performance by program for STAR and STAR+PLUS.

Figure 23. Prenatal and Postpartum Care



Utilization

The utilization measure domain included measures counting the timely occurrence of certain beneficial services (such as well-child care and ongoing prenatal care) and the overall utilization rates for several types of services. The measures of overall use do not necessarily indicate good or poor performance, but when compared to national standards or within the Texas Medicaid system, they can give an indication of where differences in the care delivery system exist. The frequency of prenatal care (FPC) measure uses the same denominator as the PPC measure, but looks at the percentage of recommended visits based on the guidance of the American Academy of Pediatrics. The well-child care measures included rates of receiving recommended well care during the first 15 months of life (W15), during the 3rd to 6th years of life (W34), and for adolescents (AWC). The EQRO reported on four measures of timely beneficial care as shown in Table 27.

Table 27. EQRO Reporting on Measures of Timely Beneficial Care

Code	Measure	CHIP	STAR	STAR+PLUS	STAR Health
FPC	Frequency of Ongoing Prenatal Care	Q	Q	Q	Q
W15	Well-Child Visits in the First 15 Months of Life	Q,D	Q,D,P	Q	Q,D
W34	Well-Child Visits in the 3rd, 4th, 5th and 6th Years	Q,D	Q,D	Q	Q,D
AWC	Adolescent Well-Care Visits	Q,D,P	Q,D	Q,D	Q,D

Q = Quality of Care Reporting; **D** = HHS Performance Dashboard; **P** = Included in 2018 P4Q program

The EQRO also reported on the utilization of services in Texas Medicaid and CHIP using these additional HEDIS measures:

- Ambulatory Care (AMB)
- Inpatient Utilization–General Hospital/Acute Care (IPU)
- Identification of Alcohol and Other Drug Services (IAD)
- Mental Health Utilization (MPT)

Results were compared to national standards and evaluated within Texas programs.

Ongoing Pregnancy Care

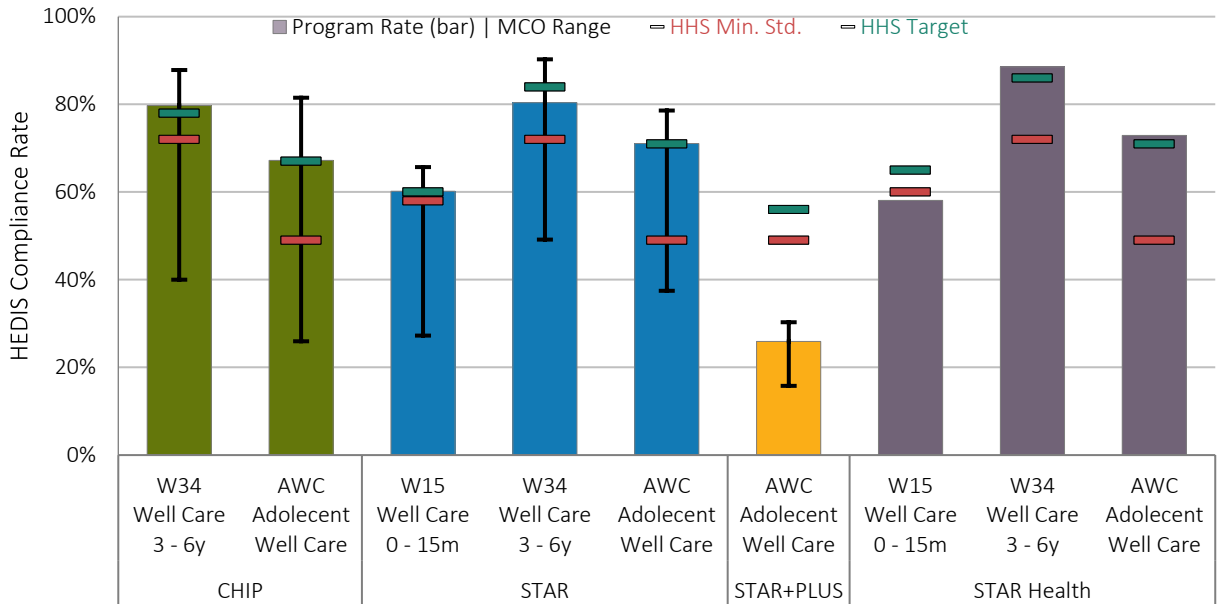
Performance across all programs was below the 25th national percentile for the frequency of ongoing prenatal care measure (FPC) and was uniformly poor across MCOs and SAs, with several falling below the 10th national percentile. Amerigroup, Aetna, and Molina were consistently poor across SAs. Interventions aimed at improving maternal health care should encourage regular periodic care throughout pregnancy and the perinatal period.

Well-Child Care

Regular care throughout the important transitions of childhood is important to monitor development, ensure routine preventive care, and provide education and guidance to parents or caregivers. The American Academy of Pediatrics recommends six or more visits during the first 15 months of life (W15), at least annual visits during the next four years (W34), and annual visits during adolescence (AWC). Overall, performance in Texas was good for W34 and AWC, and has improved year after year. However, performance was below the national average for W15.

In STAR, 11 MCOs performed above the 90th national percentile for AWC. However, several MCOs fell below the 10th percentile for W15, which is included in the STAR P4Q program. For CHIP, performance varied more by MCO for both W34 and AWC. Four CHIP MCOs implemented performance improvement projects around the AWC measure in 2014 and saw marginal improvements. Figure 24 shows performance on the well-child care measures included in the HHS performance dashboards by program.

Figure 24. Well Child Care



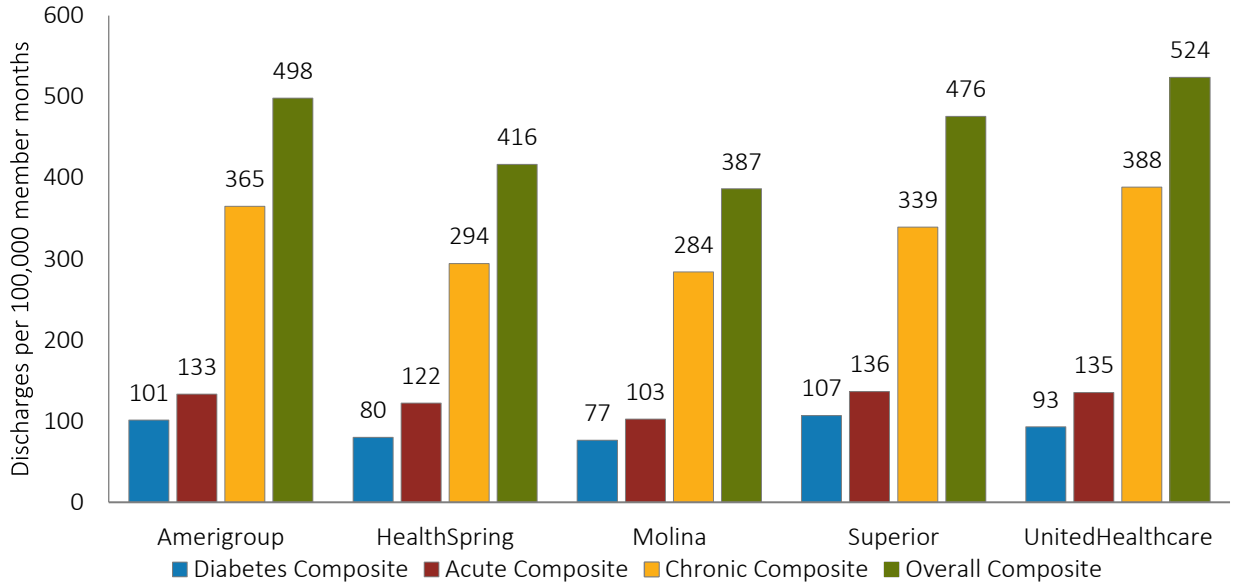
AHRQ Quality Indicators – Area Measures

The AHRQ Prevention Quality Indicators (PQIs) and Pediatric Quality Indicators (PDIs) area measures identify hospital use for ambulatory care sensitive conditions (ACSCs), which are conditions for which good outpatient care and early intervention can potentially prevent the occurrence of hospital admissions. According to AHRQ (51), these measures are to be used as a "screening tool" to help flag potential health care quality problem areas that need further investigation.

The EQRO reported results for 14 PQI and five PDI area measures. The PQI measures applied to adult populations and were included in the STAR and STAR+PLUS performance dashboards. The PDI measures applied to children and were included in the CHIP, STAR, STAR+PLUS, and STAR Health performance dashboards. The results for individual PDI and PQI admission types and the composites rates were also available on the THLC portal. The results provided to Texas HHS were specific to the Texas Medicaid populations (not the AHRQ general population standards), allowing Texas to monitor admissions for these conditions over time within programs.

The PQI composite is included in the STAR+PLUS P4Q program. Due to the health challenges facing most STAR+PLUS members, more admissions that might be considered preventable in the general healthy population were expected. Figure 25 shows the STAR+PLUS PQI composite results by MCO. The overall composite performance varied by about 30 percent across MCOs. The MCOs have an opportunity to work with providers in their networks to improve access to ambulatory services and preventive health care and reduce the impact of these types of admissions.

Figure 25. AHRQ Prevention Quality Composites (PQI) for STAR+PLUS



Dental Measures

Dental care is required in federally funded CHIP and Medicaid programs for children. Texas HHS promotes overall oral health, not only through services provided by the DMOs, but also through state-level initiatives in policy development, education, and population-based preventive services.

To develop meaningful dental and oral health care quality measures, CMS requested that the ADA establish a workgroup. The DQA included organizational members such as the academies and associations of most dental specialties, ADA councils, DMOs (including DentaQuest and MCNA), and The Joint Commission, among others.

The dental quality measures evaluated by the EQRO included the HEDIS annual dental visit measure, DQA preventive and continuity of care measures, DQA utilization measures, and several additional measures specific to Texas Medicaid and CHIP requirements. The complete list of dental measures evaluated is found in Appendix B: Summary of Quality Measures Calculated and Reported by the EQRO for the 2016 Measurement Year by Program.

Table 28. CHIP Dental Performance Measure Results

	CHIP Dental			
Measures included in Dental P4Q Program	HHS Standard	Program Rate	Denta-Quest	MCNA Dental
Sealants in 6-9 Years - Percent of members (6-9 years) enrolled for 6 months who are at "elevated" risk for dental caries and received a sealant on a permanent first molar tooth within the reporting year	23%	20.2%	22.5%	22.8%
Sealants in 10-14 Years - Percent of members (10-14 years) enrolled for 6 months who are at "elevated" risk for dental caries and received a sealant on a permanent second molar tooth within the reporting year	15%	13.2%	14.8%	14.8%
Oral Evaluation - Percent of members enrolled for at least 6 months (under 19) who received a comprehensive or periodic oral evaluation within the reporting year	60%	65.6%	70.1%	67.3%
Topical Fluoride - Percent of enrolled children (1-18 years) who are at "elevated" risk (i.e. "moderate" or "high") who received at least two topical fluoride applications within the reporting year	-	42.6%	44.2%	40.9%

Table 29. CHIP Dental P4Q Measure Results on CY2016 Data Year

	CHIP Dental				
Measures included in CY2016 Dental P4Q Program	Min Threshold	Attainment Goal	Program Rate	Denta-Quest	MCNA Dental
Preventive-Dental Services - % of members (1-18 years) enrolled for at least 11 of the past 12 months who had at least one preventive dental service during the measurement year	57.6%	80%	75.5%	78.5%	74.5%
Annual Dental Visit - % of members (2-3 years) enrolled for at least 11 of the past 12 months who had at least one annual dental visit	56.0%	80%	74.5%	77.5%	77.2%
Annual Dental Visit - % of members (4-6 years) enrolled for at least 11 of the past 12 months who had at least one annual dental visit	63.3%	88%	80.6%	83.3%	79.9%
Annual Dental Visit - % of members (7-10 years) enrolled for at least 11 of the past 12 months who had at least one annual dental visit	65.1%	90%	81.4%	84.1%	80.4%
Annual Dental Visit - % of members (11-14 years) enrolled for at least 11 of the past 12 months who had at least one annual dental visit	60.4%	85%	78%	81.2%	76.8%
Annual Dental Visit - % of members (15-18 years) enrolled for at least 11 of the past 12 months who had at least one annual dental visit	52.4%	75%	70.1%	74.1%	68.9%

	CHIP Dental				
Sealant - % of members (6-9 years) enrolled for at least 6 continuous months who had at least one sealant services on one of the permanent first molars during the measurement year	15.7%	30%	21.5%	24.3%	23.9%
Sealant - % of members (10-14 years) enrolled for at least 6 continuous months who had at least one sealant services on one of the permanent second molars during the measurement year	9.4%	25%	12.1%	13.9%	13.2%

Potentially Preventable Events

In 2011, the Texas Legislature passed Senate Bill (S.B.) 7 (21), which required a quality-based outcomes payment program for Texas Medicaid. The bill included provisions related to reductions in PPEs, which is an advancement beyond the payment reforms enacted by other states, such as Maryland and New York. The National Association of Medicaid Directors recognized the Texas legislation for incentivizing innovations and improvements in hospital-based care, patient management, and follow-up (52).

Today, the Value-Based Payment and Quality Improvement Advisory Committee (established in accordance with Texas Government Code §531.012) provides recommendation to HHS regarding:

- Initiatives to promote better care, better outcomes and lower costs for publicly funded health care services;
- Core metrics and a data analytics framework;
- MCO incentive and disincentive programs based on value; and
- Strategic direction for Medicaid/CHIP value based programs.

The committee provides a forum to promote public-private, multi-stakeholder collaboration in support of quality improvement for Texas Medicaid and CHIP. Reducing PPEs is a focus for the committee. The Healthcare Transformation and Quality Improvement Program 1115 Waiver approved by CMS in 2011 provides for expansion of primary care alternatives and includes initiatives focused on community health issues such as diabetes, obesity, and behavioral health. Two of these categories, quality improvements and population-focused improvements, can also include specific programs to reduce PPEs.

Using 3M software (30), the EQRO calculated PPE rates across all Texas Medicaid programs and CHIP. Members who were dual-eligible for both Medicaid and Medicare were excluded due to lack of complete medical access to Medicare data. Rates were provided by MCO and SA within programs. Additionally, the EQRO calculated PPE rates by provider (hospital) for use in the Delivery System Reform Incentive Payment program (DSRIP) and other provider-based programs of the state. The EQRO calculated rates for these PPE types:

- Potentially preventable ED visits (PPVs) are ED visits that were potentially caused by a lack of access to care or ambulatory care coordination. They may be visits for ACSC such as asthma that could have been prevented or reduced by adequate patient monitoring and follow-up. PPVs may also be visits occurring shortly after a hospitalization, caused by incomplete or poor treatment of the underlying cause of the hospital stay or insufficient coordination with the primary care or specialist physician.
- Potentially preventable admissions (PPAs) reflect the occurrence of serious health events that might have been avoided through improved care coordination, effective primary care, and improved population health.
- Potentially preventable re-admissions (PPRs) are return hospitalizations caused by deficiencies in the care during the initial hospital stay or poor coordination of services at the time of discharge or during follow-up.
- Potentially preventable complications (PPCs) are harmful events that occur after a patient is admitted, including Medicare hospital-acquired conditions, Medicaid health care-acquired conditions, and other patient safety indicators.

The P4Q programs all include PPVs. Other PPEs are included in the bonus pools for STAR and STAR+PLUS, as shown in Table 30.

Table 30. P4Q Program Panel Categories

P4Q Program Panel	STAR	STAR+PLUS	CHIP
At-Risk Measures	PPV	PPV	PPV
Bonus Pool Measures	PPA	PPR, PPC	-

Events were classified as PPEs based on the 3M grouping systems for either ambulatory care (Enhanced Ambulatory Patient Groups [EAPGs]) or inpatient care (All Patient Refined Diagnosis-Related Groups [APR-DRGs]). They were assigned a weight based on the intensity of resource utilization (e.g., the PPA weight of an admission for heart failure is greater than that for asthma). Reported rates within each program were evaluated after accounting for the health status of the population (PPVs and PPAs) or the case mix of the admissions (PPRs and PPCs). The health status categorization used 3M Clinical Risk Groups (CRGs); inpatient case mix grouping is based on APR-DRGs. Comparison of MCO performance was made by calculation of actual-to-expected ratios (A/E greater than one signifies the occurrence of more PPEs than expected, thus poorer performance).

New members and newborns were excluded from PPV and PPA calculations because the CRGs used to get an accurate assessment of population case mix require at least three months of medical history in the prior year. In addition, ED visits that result in admission were excluded from PPVs, although the admission may be considered for PPAs, and admissions identified as PPRs are excluded from PPAs.

The EQRO provided PPE results by calendar year in monthly reports for each program/MCO. These reports included the summary of data and rates, as well as a registry of events identified as potentially preventable. This provides a valuable resource to the MCOs to help them identify network providers or member cohorts for targeted intervention. PPE results are additionally available on the THLC portal. Statewide results are available publicly, and detailed results specific by MCO are available to authorized MCO users. The portal provides information on the demographic and health status of members at risk for and experiencing PPEs, as well as the providers and the reasons associated with these PPEs. Technical notes on all PPE calculations are also available in the resources section of the portal. A listing of 3M Clinical Risk Group Definitions (53) is in Appendix D.

Potentially Preventable ED Visits

The 3M EAPG classification system categorizes all ambulatory patient services using procedure codes and diagnostic classifications. When events occur in the ED, the EAPGs can be categorized as potentially preventable or not. The PPV rate describes avoidable use of the ED in a population. A majority of ED use is avoidable with better coordination of primary care. The denominator for PPV rates is based on the member population at risk for preventable ED use, using eligible member-months. For monitoring utilization efficiency, particularly at a hospital level, the proportion of ED visits that are classified as PPVs can also be useful.

More than 2 million ED visits identified from Medicaid and CHIP 2016 encounters and as meeting the basic member and event criteria for PPE calculations were considered at risk for being a PPV. Table 31 shows the summary of at-risk ED visits by program. Overall, most ED visits (67 percent) were for children; however, the average weight of adult ED visits was greater. The STAR Kids program began serving children with significant health care needs in November 2016. Although not yet included in regular measure reporting, the change in membership had an effect on pediatric enrollment in other programs.

Table 31. ED Visits at Risk for Being PPVs in 2016

ED Visits at Risk	STAR	STAR+PLUS	STAR Health	Fee for Service	All Medicaid*	CHIP	Medicaid & CHIP
Pediatric	1,215,016	7,059	16,852	135,076	1,387,002	79,733	1,466,735
Adult	303,800	310,673	4,055	87,127	708,339	5,814	714,153
Total	**1,518,816**	**317,732**	**20,907**	**222,203**	**2,095,341**	**85,547**	**2,180,888**

**All Medicaid includes STAR Kids visits (Beginning in November 2016)*

The eligible member-months for the Texas Medicaid and CHIP populations at risk for PPVs were more than 43 million. Of the 2.2 million ED visits considered at risk, 1.5 million (70 percent) were identified as PPVs. Statewide PPV results are summarized by program in Table 32.

Table 32. Statewide PPV Results for 2016

Measure	STAR	STAR+PLUS	STAR Health	Fee for Service	All Medicaid*	CHIP	Medicaid & CHIP
Member Months At Risk for PPVs	31,324,584	2,825,192	350,355	4,650,720	39,464,654	4,038,710	43,503,364
ED Visits At Risk of being PPVs	1,518,816	317,732	20,907	222,203	2,095,341	85,547	2,180,888
Total PPVs	1,049,809	239,408	14,434	144,335	1,458,684	57084	1515768
Total PPV Weight	300,250	75,148	4,141	42,609	4,525,317	16685	442002
Total PPV Expenditure ($millions)	$280.29M	$107.25M	$3.44M	$31.63M	$426.65M	$20.57M	$447.22M
PPV Rate (Total PPV weight per 1000 member months)	9.59	26.6	11.82	9.16	10.78	4.13	10.16

**All Medicaid includes STAR Kids visits (Beginning in November 2016)*

The PPV rate was highest in the STAR+PLUS program, as this population has complex health care needs with significantly higher overall utilization. Although better primary and preventive care or care coordination can address some issues, higher PPVs are expected in this group. The lowest rate was seen in CHIP, which is a generally healthy, younger population. The requirement of copayments may have had an effect on utilization in this program relative to Medicaid, however, at least one study finds no impact of Medicaid copayment on non-emergency ED use (54). The reasons for PPVs are grouped based on EAPG. Table 33 shows the top 15 overall reasons for PPVs across Texas Medicaid and CHIP along with PPV weights and expenditures.

Table 33. Top Reasons for PPVs in 2016

EAPG	Description	Total PPVs	% Total PPVs	% Total PPV Weights	PPV Expenditures	% Total PPV Expenditures
0562	Infection of upper respiratory tract and otitis media	321,594	21.22%	16.57%	$59,047,694	13.20%
0627	Non-bacterial gastroenteritis, nausea, and vomiting	113,367	7.48%	9.30%	$35,361,053	7.91%
0675	Other skin, subcutaneous tissue, and breast diagnosis	90,190	5.95%	4.26%	$14,091,769	3.15%
0674	Contusion, open wound, and other trauma to skin, and subcutaneous tissue	82,027	5.41%	6.75%	$20,537,078	4.59%
0628	Abdominal pain	76,120	5.02%	6.38%	$40,175,451	8.98%
0808	Viral illness	63,166	4.17%	4.71%	$13,577,495	3.04%
0564	Level I other ear, nose, mouth, throat, and cranial/facial diagnosis	58,832	3.88%	3.17%	$11,702,429	2.62%
0576	Level I other respiratory diagnosis	53,065	3.50%	3.96%	$12,429,246	2.78%
0807	Fever	51,956	3.43%	3.30%	$14,679,201	3.28%
0727	Acute lower urinary tract infection	48,640	3.21%	3.73%	$17,275,894	3.86%
0661	Level II other musculoskeletal system and connective tissue diagnosis	46,259	3.05%	2.98%	$12,430,121	2.78%
0604	Chest pain	44,781	2.95%	4.76%	$26,604,360	5.95%
0530	Headaches other than migraine	27,150	1.79%	1.72%	$10,158,066	2.27%
0656	Back and neck diagnosis except lumbar disc diagnosis	26,570	1.75%	1.76%	$8,143,283	1.82%
0630	Constipation	26,118	1.72%	1.95%	$10,105,423	2.26%

Upper respiratory infection is by far the most common reason for PPVs overall. However, in the STAR+PLUS program, chest pain, abdominal pain, and other musculoskeletal diagnoses (EAPG 661) were more common. Chest pain and abdominal pain also have higher relative weight and cost. Targeting conditions for intervention should be based on impact assessments that include prevalence and relative cost in the population. Improving access to and promoting the use of primary care for upper respiratory infections and other common acute illnesses that can usually be treated outside the hospital should reduce the costlier use of ED or inpatient services for these conditions. In STAR+PLUS, investigating the root causes of PPVs for chest pain and abdominal pain would inform the consideration of specific interventions that could also make meaningful improvements to care. The performance incentive programs for CHIP, STAR, and STAR+PLUS included PPV.

Potentially Preventable Admissions

Preventable admissions are an indicator for quality of care because they may reflect the occurrence of serious health events that might have been avoided through improved care coordination, effective primary care, and improved population health. AHRQ PQIs identify hospitalizations that are the result of ambulatory care sensitive conditions. Based on review of national hospital admission data, using the AHRQ PQI definitions for inpatient stays, the rate of preventable hospitalizations has been decreasing

(55). This decrease could reflect improvements in primary care. However, the rate of inpatient admissions in general (not just preventable inpatient admissions) has also decreased, which indicates there may be other factors contributing to PPAs. Additionally, the rate of ED visits has increased during the same period. Rates of preventable admissions were higher in the South and in rural areas (56). Additional analyses in this area could potentially identify reasons for differences in rates.

More than one-third of PPA-eligible STAR admissions were for obstetrics. More than 60 percent of PPA-eligible STAR Health admissions were for mental health and/or substance use.

The 3M Potentially Preventable Admissions (PPAs) expand on the conditions identified by AHRQ for PQIs in the 1980s and are designed to more fair and comprehensive in several ways. First, certain admission types that are counted in PQI rates are not included in PPAs because they are not preventable unless appropriate care is given for several years before the admission (e.g., amputation for vascular complications of diabetes). Second, admissions are included in PQI rates irrespective of the severity of the patient condition while PPAs are adjusted for the complexity of the patient population. Third, the comprehensiveness of PPAs is increased by using the APR-DRGs identified by 3M, which cover a more comprehensive range of diagnoses. Additionally, PPAs apply advances in our understanding of the role coordinated care can play in avoiding admissions, together with the understanding that the preventability of these admissions should be adjusted for the overall burden of illness of the individual patient.

The PPA rate describes avoidable hospital admissions in a population. The denominator is based on the member population at risk, using eligible member-months. For monitoring utilization efficiency, particularly at a hospital-level, the proportion of admissions that are classified as PPAs can also be useful.

More than 250,000 admissions were considered at risk for being PPAs in Texas Medicaid and CHIP in 2016. A total of nearly 750, 000 paid admission encounters are recorded for 2016 for non-dual-eligible enrollees. As previously noted, however, PPA reporting depends on encounter history to accurately assign the health status needed for risk adjustment. Thus, admissions for newborns (nearly 300,000) and new members (nearly 200,000) are not considered. In addition, interim admission encounters are rolled up and admissions identified as PPRs are also excluded. The at-risk admission rate per member-month was highest for STAR+PLUS with more than four times the at-risk admissions per member-months as seen in Medicaid and CHIP overall. STAR Health also had two times the overall at-risk admission rate. The lowest rate was seen in CHIP. Table 34 shows the summary of at-risk admissions by program.

Table 34. Admissions at Risk for Being PPAs in 2016

Admissions at Risk	STAR	STAR+PLUS	STAR Health	Fee for Service	All Medicaid*	CHIP	Medicaid & CHIP
MH/SA**	12,257	14,584	2,858	6,666	37,085	1,318	38,403
Obstetrics	91,815	1,986	239	4,448	98,609	55	98,664
All other	43,182	51,580	1,159	23,621	121,649	3,016	124,665
Total	**147,254**	**68,150**	**4,256**	**34,735**	**257,343**	**4,389**	**261,732**

**All Medicaid includes STAR Kids visits (Beginning in November 2016)*
*** Mental health or substance abuse*

Obstetric admissions in the STAR program accounted for 35 percent of all at-risk admissions. Mental health and substance abuse (MH/SA) accounted for 15 percent of at-risk admissions overall. Even when obstetrics are excluded, MH/SA are a greater proportion of pediatric admissions than for adults. For STAR Health, more than 60 percent of the total admissions were for MH/SA, which is four times the state rate. About 15 percent of the total at-risk admissions were identified as PPAs. Statewide PPA results are summarized by program in Table 35.

Table 35. Statewide PPA Results for 2016

	STAR	STAR+PLUS	STAR Health	Fee for Service	All Medicaid*	CHIP	Medicaid & CHIP
Member Months at Risk for PPAs	31,324,584	2,825,192	350,355	4,650,720	39,464,654	4,038,710	43,503,364
Admissions at Risk of being PPAs	147,254	68,150	4,256	34,735	257,343	4,389	261,732
Total PPAs	13,851	17,657	983	5,696	38,803	1,048	39,851
Total PPA Weight	9,561.74	22,584.36	651.66	5,868.60	39,244.33	687.42	39,931.75
Total PPA Expenditure ($millions)	$62.21M	$101.24M	$6.61M	$39.78M	$214.30M	$5.56M	$219.86M
PPA Rate	0.31	7.99	1.86	1.26	0.99	0.17	0.92

**All Medicaid includes STAR Kids visits (Beginning in November 2016)*

As with PPVs, the PPA rate in STAR+PLUS was by far the highest among the Texas Medicaid programs, while CHIP had the lowest rate. The PPAs in STAR+PLUS and FFS were more resource-intensive, on average, than in other programs. The ratio of expenditures for PPVs and PPAs also differed across programs. For STAR and CHIP, PPV expenditures were more than four times that of PPAs, while in STAR Health and FFS, expenditures were greater for PPAs. Expenditures for PPV and PPA were both just greater than $100 million for STAR+PLUS.

Reasons for PPAs were grouped based on APR-DRGs. Table 36 shows the top 15 overall reasons for PPAs across Texas Medicaid and CHIP along with PPA weights and expenditures. Other pneumonia and asthma are the most common causes for PPAs overall and in CHIP and STAR. Although obstetrics account for a large percentage of the at-risk admissions for STAR, relatively few obstetric admissions result in PPAs.

The serious health issues facing Medicaid and CHIP beneficiaries differed by program. For STAR+PLUS, chronic diseases were more prominent. Heart failure is the number-one cause for PPA, followed by COPD and schizophrenia, which were also top causes for PPA in STAR Health, as was depression. Understanding the most important member health issues for members receiving care for those conditions is the first step to developing meaningful interventions.

Table 36. Top Reasons for PPAs in 2016

Description	Total PPAs	% Total PPAs	% Total PPA Weights	PPA Expenditures	% Total PPA Expenditures
Other pneumonia	4,381	10.99%	11.07%	$24,812,694	11.29%
Asthma	4,028	10.11%	6.16%	$16,343,386	7.43%
Cellulitis and other bacterial skin infections	3,390	8.51%	7.05%	$15,457,565	7.03%
Heart failure	2,666	6.69%	9.71%	$17,879,184	8.13%
Seizure	2,616	6.56%	7.01%	$17,004,831	7.73%
Kidney and urinary tract infections	2,465	6.19%	4.88%	$10,767,990	4.90%
Bipolar disorders	2,420	6.07%	3.69%	$11,583,633	5.27%
Chronic obstructive pulmonary disorders	2,218	5.57%	6.92%	$11,468,886	5.22%
Non-bacterial gastroenteritis, nausea, and vomiting	2,094	5.25%	3.21%	$8,352,146	3.80%
Major depressive disorders and other/unspecified psychoses	1,847	4.63%	2.68%	$7,299,070	3.32%
Schizophrenia	1,721	4.32%	3.25%	$8,688,329	3.95%
Infections of upper respiratory tract	1,048	2.63%	1.87%	$5,997,915	2.73%
Hypovolemia and related electrolyte disorders	926	2.32%	1.41%	$3,834,903	1.74%
Diabetes	873	2.19%	1.72%	$4,178,907	1.90%
Septicemia and disseminated infections	590	1.48%	4.44%	$6,709,859	3.05%

Potentially Preventable Readmissions

Hospital readmissions may reflect poor clinical care or poor coordination of services during hospitalization or during the post-discharge period. A major shortcoming of all-cause readmission measures is that they fail to distinguish between readmissions that could not be prevented (e.g., a car crash or acute illness unrelated to previous conditions) and those that are clinically related to the initial hospitalization (e.g., a recurrence of the initial problem, or a post-surgical infection) (57).

The 3M Potentially Preventable Readmissions (PPR) measure classifies readmissions, which are determined likely to have resulted from deficiencies in care rather than from unrelated events. In developing the algorithm for this measure, 3M worked with a panel of clinicians to determine whether each possible admission/readmission pair represents a PPR by considering characteristics of the admission, readmission, and the patient. The conditions of the initial admissions are also important in evaluating PPRs. For example, mental health or substance abuse-related initial admissions are more likely to be followed by a PPR, while obstetrical admissions rarely are. For this reason, comparisons of PPR rates are made on the actual-to-expected ratio of PPR rates based on the case mix (by APR-DRG) of initial admissions.

To be considered as a PPR, the readmission must be clinically related to the initial admission. These can fall into the following categories:

- Recurrence — A continuation or recurrence of the reason for the initial admission, or a closely related condition.
- Unrelated ambulatory care sensitive condition (ACSC) or chronic problem — A problem that was not the reason for the initial admission, but may have resulted from inadequate care during the initial admission or outpatient follow-up. For example, an admission for asthma, followed by an admission for pneumonia.
- Acute medical condition related to care — An acute medical condition or complication. For example, an admission for asthma, followed by an admission for a pulmonary embolism.
- Mental health — Mental health or substance abuse readmissions following a mental health or non-mental health admission.
- Surgical recurrence — A continuation or recurrence of the problem that required surgery from the initial admission, or a closely related problem.
- Surgical complication — A complication that may be related to or may have resulted from care during the initial admission for surgery.

A patient could have multiple related readmissions, creating a PPR chain related to an initial admission. Readmissions can become part of a PPR chain when they follow the previous discharge within the readmission interval and are clinically- related to the initial admission in the chain. A PPR chain is categorized by the APR-DRG of the initial admission.

The readmission interval is the maximum number of days between a discharge and a subsequent admission during which the subsequent admission is considered for being a PPR. The greatest numbers of PPRs occur on the second and third day after the initial discharge, after which the likelihood declines over time. Admissions occurring sooner after discharge could be related to care received during the initial stay, while later PPRs could more often be the result of poor follow-up care (57). PPR rates calculated for evaluating program or health plan performance use a 30-day interval. However, when evaluating hospital performance, a 15-day readmission interval is used to maintain a focus on the hospital care received.

About five percent of admissions are PPRs. STAR+PLUS and STAR Health had the highest rates of PPRs. $180 million was spent on PPRs in 2016.

The proportion of candidate admissions that were followed by one or more PPRs provides a raw rate measure for PPRs. As with PPVs and PPAs, the reported rates are weighted based on the relative resource cost of the PPE. For PPRs, the total weight of PPRs in the PPR chain is used. Although both steps involve the APR-DRG for admissions, the weighting process applies to the identified PPRs, while the risk adjustment calculations use the APR-DRG of the candidate admission pool (initial admissions in PPR chains, and at-risk admissions not part of a PPR chain).

Nearly half a million paid admissions for non-dual-eligible, non-undocumented-alien enrollees were considered at risk (within a 30-day readmission interval) for being initial admissions or PPRs in Texas Medicaid and CHIP in 2016. Because case mix for PPR calculation is based on the at-risk admission classification rather than the medical history of the population, the prior-year enrollment requirements for PPAs do not apply. New members and newborns accounted for the substantial difference in the at-risk

admission pool for PPRs. A majority of the new-member admissions were for obstetrics. Overall, 37 percent of at-risk admissions were for newborns and 31 percent were for obstetrics. These percentages were highest in FFS for newborns (more than half of all admissions) and STAR for obstetrics (44 percent). About four percent of the total at-risk admissions were identified as initial admissions in a PPR chain, and slightly more are thus identified as PPRs; however, this rate of PPRs admissions was 21 percent in STAR+PLUS and STAR Health. The admissions considered at risk are described in Table 37.

Table 37. PPR at Risk Admissions for 2016

Admissions at Risk	STAR	STAR+PLUS	STAR Health	Fee for Service	All Medicaid*	CHIP	Medicaid & CHIP
MH/SA**	11,739	12,261	2,642	7,040	34,043	1,252	35,295
Obstetrics	138,185	1,825	228	8,188	148,484	54	148,538
Newborn	117,824	1	210	57,532	175,567	0	175,567
All other	44,336	39,983	1,053	30,837	117,067	2,631	119,698
Total	**312,084**	**54,070**	**4,133**	**103,597**	**475,161**	**3,937**	**479,098**

**All Medicaid includes STAR Kids visits (Beginning in November 2016)*
*** Mental health or substance abuse*

Total PPR expenditures included the institutional payments for all PPRs in all PPR chains (and not including the initial admission). Overall, Texas Medicaid and CHIP expenditures for PPRs totaled more than $180 million for 2016. The PPR rate in STAR+PLUS was more than four times the overall state rate. While the complexity of health care needs within this population may affect readmission needs, this complexity also calls for a great degree of emphasis on care coordination. The rate for STAR Health was twice the state rate. Statewide PPR results are summarized by program in Table 38.

Table 38. Statewide PPR Results for 2016

	STAR	STAR+PLUS	STAR Health	Fee for Service	All Medicaid *	CHIP	Medicaid & CHIP
Admissions At Risk for PPRs	312,084	54,070	4,133	103,597	475,161	3,937	479,098
Admissions Identified as PPRs	6,203	11,165	865	5,961	24,365	323	24,688
Total PPR Chains	5,059	7,521	602	4,379	17,699	238	17,937
Total PPR Weight	5,658.25	14,557.44	626.37	7,982.26	29,058.91	284.97	29,343.87
Total PPR Expenditure($ millions)**	$47.25M	$64.48M	$7.22M	$56.15M	$178.09M	$2.97M	$181.07M
PPR Rate (Total PPR weight per 1,000 admissions)	18.13	269.23	151.55	77.05	6	72.38	61.25

**All Medicaid includes STAR Kids visits (Beginning in November 2016)*
***Institutional total paid for all PPR in a chain (and excluding the initial admission).*

Readmissions for mental health issues were usually considered preventable, regardless of the reason for the initial admission. The preponderance of MH/SA admissions in STAR Health contributed to the higher PPR rate. Reasons for PPRs were grouped based on APR-DRG of the initial admission. Table 39 shows the top 15 overall reasons for PPRs across Texas Medicaid and CHIP, along with PPR weights and expenditures. Mental health issues account for the top three reasons, followed by neonatal readmissions. While Obstetrics and Newborns make up a substantial amount of admissions considered at-risk (Table 37), they are not among the most common reasons for PPRs.

Table 39. Top Reasons for PPRs in 2016

Description	Total PPR Chains	% Total PPR Chains	% Total PPR Weights	PPR Expenditures	% Total PPR Expenditures
Bipolar disorders	2,074	11.6%	6.9%	$16,757,257	9.3%
Schizophrenia	1,448	8.1%	6.3%	$11,542,312	6.4%
Major depressive disorders and other/unspecified psychoses	1,396	7.8%	4.5%	$9,579,747	5.3%
Neonate birthweight >2499g, normal newborn/neonate with other problem(s)	1,008	5.6%	0.6%	$1,320,785	0.7%
Cesarean delivery	555	3.1%	1.7%	$2,090,216	1.2%
Septicemia and disseminated infections	554	3.1%	5.1%	$7,605,558	4.2%
Heart failure	467	2.6%	3.7%	$6,445,008	3.6%
Vaginal delivery	450	2.5%	1.3%	$1,545,748	0.9%
Diabetes	355	2.0%	2.0%	$2,713,509	1.5%
Pulmonary edema and respiratory failure	301	1.7%	2.5%	$4,887,776	2.7%
Chronic obstructive pulmonary disease	285	1.6%	3.0%	$2,718,635	1.5%
Sickle cell anemia crisis	279	1.6%	1.7%	$3,033,304	1.7%
Other pneumonia	247	1.4%	1.6%	$2,736,174	1.5%
Renal failure	227	1.3%	1.7%	$2,293,906	1.3%
Poisoning of medicinal agents	222	1.2%	0.8%	$1,259,950	0.7%

The top three reasons for admissions that were followed by PPRs were mental health issues (bipolar, schizophrenia, depression, and psychoses), accounting for more than one-quarter of all PPR chains and more than 20 percent of total PPR expenditures. Septicemia and heart failure accounted for more than five percent of PPR chains, but the higher costs associated with these conditions means that they accounted for eight percent of the total PPR expenditures. The overall number of deliveries covered by Medicaid resulted in a

Mental health issues were the most common reasons for admission followed by PPRs. They accounted for 30 percent of all readmissions and 20 percent of PPR costs.

substantial impact on the reported PPR rate (deliveries account for more than five percent of PPR chains). Even with relatively lower costs, they accounted for more than two percent of overall PPR expenditures.

Potentially Preventable Complications (PPCs)

Hospital complications can result from poor clinical care or poor coordination of services. They result in significant health costs to patients and lead to hundreds of thousands of deaths each year. One estimate would put medical errors as the third leading cause of death in America (58). Significant monetary cost is also associated with hospital complications, running to billions of dollars annually.

Medicare payment initiatives are linked to AHRQ Patient Safety Indicators (PSIs) and the eight Hospital Acquired Condition Measures (HACs) defined by CMS. The PPC algorithm developed by 3M includes these broad categories, but expands on them by grouping admissions into a total of 65 PPC categories based on similarities in clinical presentation and clinical impact, using diagnoses and present on admission coding. These 65 types fall into eight major groups, as shown in Table 40. The complete list of PPC categories by group is found in Appendix E: PPC Groups and Categories.

Table 40. PPC Groups and Group Descriptions

PPC Group	Group Description
1	Extreme Complications
2	Cardiovascular-Respiratory Complications
3	Gastrointestinal Complications
4	Perioperative Complications
5	Infectious Complications
6	Malfunctions, Reactions, etc.
7	Obstetrical Complications
8	Other Medical and Surgical Complications

Admissions may be at risk for some PPC categories but not others, and each admission can have multiple complications. To account for differences in resource costs, Healthcare Cost and Utilization Project (HCUP)-relative PPC weights were assigned to each PPC category. The PPC rate represented the total PPC weights per 1,000 at-risk admissions. When adjusting for case mix, based on the APR-DRG of at-risk admissions, expected PPC weights were calculated for each PPC type within the APR-DRG groups.

The POA diagnosis indicators were crucial for the identification of PPCs. Where POA = 'Y', the secondary diagnoses (condition) was present on admission; if POA = 'N', the condition was assumed to have been acquired during the stay. However, the quality and consistency of this indicator still varied greatly among hospitals. For example, certain conditions should almost never be coded as 'acquired during a hospital stay' (POA = 'N'), so a hospital having more than 7.5 percent of these secondary diagnoses coded as hospital-acquired would be highly questionable. Alternatively, a usually reasonable number of hospital-acquired conditions are expected based on admission data from many hospitals. Hospitals with more than 96 percent of secondary diagnoses (excluding some specifically identified diagnoses), coded as POA=Y, are not considered reliable. A set of data quality screenings was developed by 3M to ensure that data used in PPC calculations was not biased by providers with questionable data. A discussion of the specific screenings used is found in the section on data certification, but it is important to note that a

substantial number of providers did not pass data quality checks, resulting in approximately 40 percent of hospital admissions data being unusable for PPC evaluation.

For 2016, almost 300,000 paid admissions for non-dual-eligible enrollees were considered at risk for PPCs. About 20 percent of otherwise eligible admissions are not at risk for any PPC based on the reason for admission and thus are excluded from the at-risk pool. Table 41 shows the summary of at-risk admissions by program. Almost half of the at-risk admissions were obstetric while only five percent are for newborns.

Table 41. Admissions at Risk for Having PPCs in 2016

Admissions at Risk	STAR	STAR+PLUS	STAR Health	Fee for Service	All Medicaid*	CHIP	Medicaid & CHIP
MH/SA**	6,407	7,947	1,784	4,397	20,995	605	21,600
Obstetrics	101,584	1,319	165	34,972	138,132	35	138,167
Newborn	9,994	10	35	4,203	14,242	0	14,242
All other	38,096	37,972	969	37,815	116,287	2,241	118,528
Total	**156,081**	**47,248**	**2,953**	**81,387**	**289,656**	**2,881**	**292,537**

**All Medicaid includes STAR Kids visits (Beginning in November 2016)*
*** Mental health or substance abuse*

Overall, about 10,000 admissions resulted in at least one PPC, which was about three-and-a-half percent of the admissions at risk. Children in STAR Health and CHIP experienced PPCs in less than half a percent of admissions, while in STAR+PLUS complications occurred almost five percent of the time, as shown in Table 42. The PPC rate was 26.61 overall and was highest for STAR+PLUS and lowest for STAR Health.

Table 42. Statewide PPC Results for 2016

Description	STAR	STAR+PLUS	STAR Health	Fee for Service	All Medicaid	CHIP	Medicaid & CHIP
Admissions At Risk For PPCs	156,081	47,248	2,953	81,387	289,656	2,881	292,537
Admissions with PPCs	4,026	2,267	12	3,560	9,878	11	9,889
Total PPCs	4,434	3,121	14	4,619	12,202	12	12,214
Total PPC Weight	1,056.39	3,353.23	10.98	3,271.47	7,708.84	11.66	7,720.50
PPC Rate (Total PPC weight per 1000 admissions)	6.77	70.97	3.72	40.2	26.61	4.05	26.39

**All Medicaid includes STAR Kids visits (Beginning in November 2016)*

The most common PPC complications were obstetrical, accounting for nearly half of all PPCs. This is not surprising given the percentage of obstetrical at-risk admissions. However, these PPC accounted for only six percent of total PPC weights. Renal failure, severe infections, respiratory or heart failure, and shock together accounted for about one-third of all PPCs, and more than half of total PPC weight. Table 43 shows the top 15 overall reasons for PPCs across Texas Medicaid and CHIP along with PPC weights. The PPC reports provide specific identification of the complications that are most likely to be preventable

given the circumstance of the admission. This provides valuable information on what types of admissions could be targeted for interventions aimed at reducing PPCs.

Table 43. Top Reasons for PPCs in 2016

Description	Total PPCs	% Total PPCs	% Total PPA Weights
Obstetrical hemorrhage without transfusion	2,269	18.6%	1.6%
Obstetric lacerations and other trauma without instrumentation	1,231	10.1%	0.5%
Renal failure without dialysis	1,036	8.5%	8.1%
Medical and anesthesia obstetric complications	728	6.0%	1.0%
Urinary tract infections	499	4.1%	5.2%
Acute pulmonary edema and respiratory failure without ventilator	498	4.1%	5.1%
Obstetrical hemorrhage with transfusion	485	4.0%	1.9%
Shock	420	3.4%	8.2%
Septicemia and severe infection	405	3.3%	7.2%
Obstetric lacerations and other trauma with instrumentation	395	3.2%	0.3%
Delivery with placental complications	312	2.6%	0.2%
Ventricular fibrillation/cardiac arrest	268	2.2%	4.4%
Acute pulmonary edema and respiratory failure with ventilator	244	2.0%	8.7%
Pneumonia and other lung infections	236	1.9%	4.1%
Major puerperal infections and other major obstetric complications	211	1.7%	0.5%

Protocol 8: Focus Studies

The following quality assessment studies and activities are performed at the request of HHS. This section provides background, methods, and results for:

1. The MCO Report Cards;
2. The quality assessment study of appointment availability;
3. The second phase of the primary care provider specialty referral study;
4. The service validation study of the STAR+PLUS Home- and Community-Based Services (HCBS) Waiver program;
5. The pre-implementation phase of the STAR Kids focus study; and
6. The National Core Indicators-Aging and Disabilities Study.

MCO Report Cards

The EQRO began producing annual MCO report cards in 2013 to support the state's ongoing efforts to improve consumer choice in Texas Medicaid and CHIP. Texas is one of several states including California, Maryland, and Ohio that use report cards to assist Medicaid enrollees with making health care decisions. The MCO report cards in Texas are designed to assist Medicaid and CHIP enrollees and their caregivers in choosing a health plan while meeting federal requirements for the provision of accessible information on health care quality for Medicaid consumers.

The EQRO made significant changes to the methods for rating health plans and the presentation of consumer information on the 2017 MCO report cards. In 2017, the EQRO produced 50 unique report cards (differentiated by service area/plan) and instruction sheets in English and Spanish for print and online publication. Enrollment packets for new members include the MCO report cards with ratings on health plan performance for their service area, an information sheet about how to evaluate scores on the report cards, as well as other information pertinent to enrollees' health plan options. The MCO report cards are also available on the HHS website.

Quick Findings from MCO Report Cards

- *STAR Adult performed the best overall among the programs with 58 percent of plans having a four-star or five-star rating.*
- *Overall ratings for STAR+PLUS were lowest among the programs with 57 percent of the plans ranked one-star or two-star.*

Significance

- *A high rating suggests broad-based quality of care. Variations in scores between programs may reflect the specific needs of different groups.*

Recommendation

- *The EQRO should continue to work with HHS and the MCOs to help improve report card scores and associated quality of care for members.*
- *The EQRO recommends focusing on improving communication between providers and members, improving access to behavioral health services and medication for ADHD among children and adolescents. Lower scores in the Staying Healthy can be improved by improving compliance with the CIS Combo 10 measure, including increasing access to flu shots.*

Methods

The MCO Report Cards rely on two primary sources of information:

1. CAHPS Surveys conducted by the Texas EQRO with information on member perspectives of health plan and provider quality; and
2. Administrative/hybrid data on select HEDIS measures on health plan performance.

The report cards rely on CAHPS member survey data collected by the EQRO following recommendations to HHS by the S.B. 894, 85th Legislature, regular session, on using EQRO-produced surveys to monitor MCO performance. The CAHPS member survey data provide information on member experiences with the health plan.

Measures for report cards are selected based on HHS priorities, the prevalence of the measure, CMS/NCQA recommendations, and feedback from enrollees. Final recommendations on specific measures and methods for ratings on the MCO report cards are based on balancing NCQA and CMS standards for evaluating quality of care with the needs of multilevel stakeholders. In 2017, the EQRO recommended several significant changes to MCO Report Cards to improve readability and help enrollees more accurately differentiate health plan performance. The proposed changes to the rating and structure of the 2017 report cards were discussed in-depth with HHS and health plans to address any stakeholder concerns about the changes.

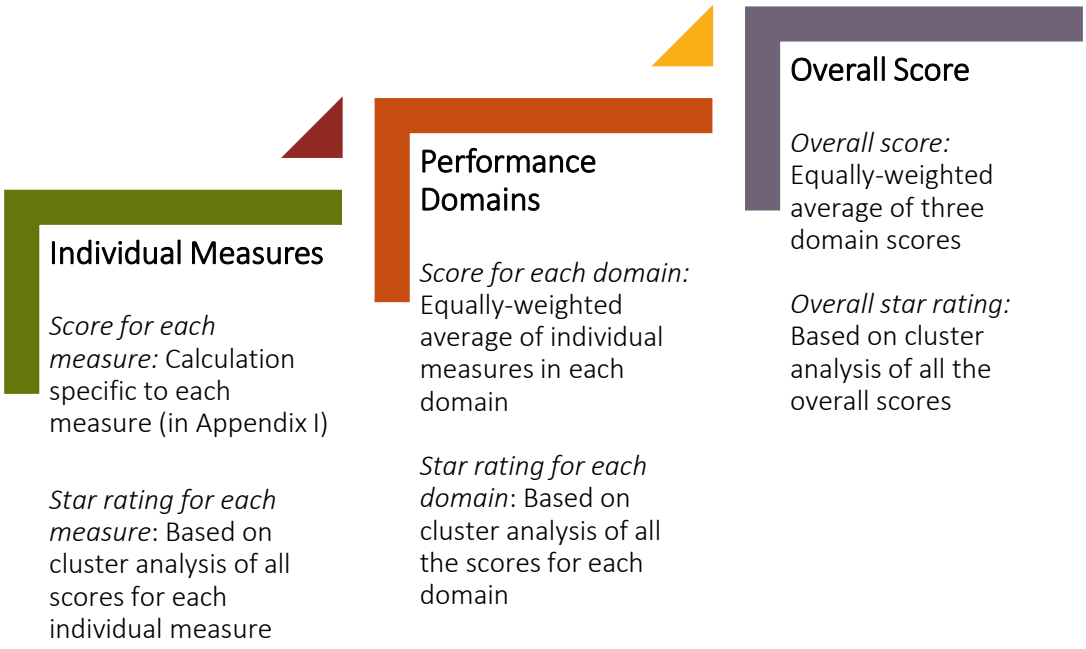
The major changes to the report cards for 2017 included:

- Moving from the former three-star percentile-based rating system to a five-star cluster-based rating system;
- Using a tiered structure for ratings on report cards with ratings on individual items;
- Ratings on health care domains (based on equally weighted averages for groups of individual items); and
- An overall health plan rating (based on equally weighted scores for the domains).

The tiered structure of the report cards is designed to help organize the information about plan performance in a clear way so new enrollees and their caregivers can compare plans and make an informed choice. The MCO report cards begin with an overall composite summary of relative health plan performance that weights each of the three domains (*Experience with Doctors and the Health Plan*, *Staying Healthy*, and *Controlling Chronic Disease*) equally. A good overall rating suggests broad-based quality of care. Listed below the overall score are subsections with the scores for each of the three performance domains and scores for the individual measures that are used to calculate each domain score. The domain *Experience with Doctors and the Health Plan* summarizes patient experience and satisfaction measures from a subset of the CAHPS member surveys and provides information on what members think about the quality of each plan.

The second domain, *Staying Healthy*, summarizes preventive health care measures of particular importance to each population (e.g., well-care visits for CHIP or prenatal visits for STAR Adult), which can help enrollees and caregivers select plans that best meet their preventive health needs. The third and final domain, *Controlling Chronic Disease,* summarizes measures relating to managing chronic conditions among adults and children (e.g., asthma for STAR Child or diabetes for STAR+PLUS). The diagram below illustrates the tiered structure of the report cards and includes a description of how scores are calculated.

Diagram of the 2017 MCO Report Card Structure



The *k*-means clustering approach is a technique for organizing data that categorizes observations based on mean similarity (grouping observations with similar means into clusters together). The mean clustering approach enhances the measureable variation between groups (or "clusters") and uses it to group observations based on meaningful differences, instead of randomly breaking up observations based on set percentiles (20 percent, 40 percent, 60 percent, etc.). The EQRO used *k*-means clustering to assign star ratings to plans based on similarities in mean performance, creating ratings that correspond to meaningful differences in performance that can help enrollees and caregivers distinguish between plans. The MCO report cards produced by the EQRO for 2017 will be available to new enrollees in both printed and online versions in early 2018. Table 44 lists the report cards produced for each service area.

Star ratings are assigned to the health plans as follows:

- **5 stars:** Excellent (cluster with the highest mean ratings for the measure);
- **4 stars:** Above average (cluster with second highest mean ratings);
- **3 stars:** Average (cluster with the third highest mean ratings);
- **2 stars:** Below average (cluster with the second lowest mean ratings); and
- **1 star:** Poor (cluster with lowest mean ratings for the measure).

Table 44. Programs and Service Areas with Report Cards

Service Area	CHIP	STAR Child	STAR Adult	STAR+ PLUS
Bexar	✓	✓	✓	✓
Dallas	✓	✓	✓	✓
El Paso	✓	✓	✓	✓
Harris	✓	✓	✓	✓
Hidalgo	-	✓	✓	✓
Jefferson	✓	✓	✓	✓
Lubbock	✓	✓	✓	✓
MRSA Central	-	✓	✓	✓
MRSA Northeast	-	✓	✓	✓
MRSA West	-	✓	✓	✓
Nueces	✓	✓	✓	✓
Statewide RSA	✓	-	-	-
Tarrant	✓	✓	✓	✓
Travis	✓	✓	✓	✓
Total Number of Report Cards	**10**	**13**	**13**	**13**

Results

STAR Adult had the highest ratings overall with 58 percent of plans having a four-star or five-star rating while most of the plans in CHIP and STAR Child had an overall three-star rating (27 percent and 36 percent respectively). The overall ratings for STAR+PLUS plans were the lowest among the programs with most plans (57 percent) ranked one-star or two-star.

STAR Adult and STAR+PLUS plans had the highest ratings for the domain *Experience with Doctors and the Health Plan* with 40 percent and 46 percent of the plans rated four-star or five-star respectively. STAR Child plans performed the worst among the programs with 40 percent of the plans ranked one-star or two-star. Health plans within STAR Adult had the highest ratings in the *Staying Healthy* domain with 31% of the plans ranked four-stars or five-stars. CHIP had the lowest ranking for this domain with 51% of plans ranked one-star or two-stars.

STAR Child health plans had the highest ratings in the *Controlling Chronic Disease* domain, with 42 percent of plans ranked four-stars or five-stars. CHIP had the lowest ratings with 48 percent of plans achieving only a one-star or two-stars rating. The full distribution of ratings by program is outlined in Table 45. Appendix F also provides more detailed information on the ratings.

The EQRO should continue to work with HHS and the MCOs to help improve report card scores and associated quality of care for members. Lower scores seem to be driven by low ratings in Experience measures for STAR Child, Staying Healthy in all programs except STAR Adult, and Controlling Chronic Disease in CHIP. The EQRO recommends focusing on improving communication between providers and members, improving access to behavioral health services and medication for ADHD among children and

adolescents. Lower scores for Staying Healthy can be improved by improving compliance with the CIS Combo 10 measure, including increasing access to flu shots.

Table 45. Statewide Distribution of Report Card Star Ratings by Program, 2017

Program	Ratings					
Overall Plan Rating	**1 star**	**2 stars**	**3 stars**	**4 stars**	**5 stars**	**No rating**
CHIP	9%	24%	27%	24%	6%	9%
STAR Child	11%	33%	36%	13%	7%	-%
STAR Adult	2%	13%	16%	38%	20%	11%
STAR+PLUS	17%	40%	23%	17%	3%	-%
Experience with Doctors and the Plan	**1 star**	**2 stars**	**3 stars**	**4 stars**	**5 stars**	**No rating**
CHIP	12%	18%	36%	21%	3%	9%
STAR Child	13%	27%	31%	18%	11%	-%
STAR Adult	11%	13%	20%	33%	7%	16%
STAR+PLUS	3%	13%	37%	33%	13%	-%
Staying Healthy	**1 star**	**2 stars**	**3 stars**	**4 stars**	**5 stars**	**No rating**
CHIP	21%	30%	18%	15%	9%	6%
STAR Child	11%	36%	27%	22%	4%	-%
STAR Adult	7%	16%	47%	24%	7%	-%
STAR+PLUS	17%	30%	33%	13%	7%	-%
Controlling Chronic Disease	**1 star**	**2 stars**	**3 stars**	**4 stars**	**5 stars**	**No rating**
CHIP	15%	33%	12%	3%	3%	33%
STAR Child	2%	13%	40%	29%	13%	2%
STAR Adult	4%	9%	36%	27%	13%	11%
STAR+PLUS	13%	27%	27%	30%	3%	-%

Appointment Availability

According to Section 8.1.3 of the Texas Uniform Managed Care Contract (UMCC), MCOs that participate in Medicaid and CHIP must assure that all members have access to all covered services on a timely basis. The timeliness-to-care is consistent with guidelines for medical appropriateness and accepted practice parameters, which specify maximum wait times for several levels and types of care. Table 46 presents the UMCC standards established by HHS for prenatal, vision, primary, and behavioral health care. The Appointment Availability study is important because it provides insight into the barriers that members face when trying to schedule appointments and access care. This information can be used to develop targeted programs to improve access to care.

Appointment availability was not optimal, ranging from 13.9 percent to 29.3 percent. One-third of calls were not answered or wrong numbers.

Table 46. Appointment Standards Defined in the Texas Medicaid and CHIP Uniform Managed Care Contract

Level/Type of care	Time to treatment
Urgent care (child and adult)	Within 24 hours
Routine primary care (child and adult)	Within 14 calendar days
Preventive health services for newborn members	No later than 14 calendar days after enrollment
Preventive health services for new child members	No later than 90 calendar days after enrollment
Initial outpatient behavioral health visits (child and adult)	Within 14 calendar days
Preventive health services for adults	Within 90 calendar days
Prenatal care (not high-risk)	Within 14 calendar days
Prenatal care (high risk)	Within 5 calendar days
Prenatal care (new member in 3rd trimester)	Within 5 calendar days
Vision care (ophthalmology, therapeutic optometry)	Access without PCP referral

Methods

The appointment availability study uses the "secret shopper" method to assess availability of appointments and responsiveness of staff at sampled provider offices. Various studies have found this to be a valid, reliable, effective, and efficient way to determine service accessibility (59; 60). The EQRO hired and trained staff members to pose as potential new patients telephoning provider offices to schedule an appointment. The process included development of several scripts to elicit and record data needed to assess compliance with appointment standards. No appointments were actually scheduled.

In CY 2017, the EQRO conducted studies on prenatal, vision, and primary care appointment availability. The EQRO developed telephone scripts after review of a similar study also conducted by the ICHP for the Florida Healthy Kids Corporation. Different instruments were used to collect data for the different studies. These instruments use an online entry system for convenient and reliable data collection. HHS reviewed and approved all instruments prior to the start of data collection. The EQRO requested member-facing directories for each MCO from HHS and received the directories approximately six weeks prior to calling providers.

Compliance with the UMCC standards for prenatal care was much lower (ranging from 37.6 percent to just 71.4 percent).

Because of Hurricane Harvey, calls to behavioral health care providers in hurricane-affected counties were suspended from August 25 to October 9, 2017. The delay itself does not affect the results of the study. However, damage from the hurricane could affect appointment wait times because of the impact on provider availability and migration of members from affected to unaffected areas.

Results

Approximately 15 percent of all providers did not accept Medicaid or CHIP; 5 percent to 10 percent did not accept the MCO.

The directories that MCOs give to members to select providers — also called member-facing directories need improvement. Many had incorrect or outdated information. For example, calls to STAR PCPs resulted in eight percent no answers after three attempts, 19.7 percent wrong numbers, 21.4 percent stated that they were specialists, and 15.9 percent stated that they did not accept Medicaid. The percentage of appointments that were available from all calls ranged from 15.2 to 29.3 percent for prenatal care calls (Table 47), 19.2 to 23.0 percent for vision care calls (Table 48), and 13.9 to 22.5 percent for primary care calls (Table 49). Compliance was only calculated on calls when an appointment was available.

Table 47. Final Disposition Code Weighted Percentages, All Prenatal Care Provider Calls by Study Type

Final Disposition Codes	Prenatal care Low-risk	Prenatal care High-risk	Prenatal care Third trimester
Excluded providers	32.2%	30.8%	36.8%
Specialist	6.6%	9.5%	7.9%
Only does glasses fitting	1.9%	3.7%	5.4%
Not accepting child/adult patients	11.8%	13.2%	10.2%
Not accepting Medicaid/CHIP	5.8%	3.9%	4.7%
Not accepting plan	2.0%	1.6%	4.6%
Not accepting new patients	1.1%	0.2%	0.1%
Needs referral	9.4%	18.3%	15.2%
Needs additional information	29.3%	18.8%	15.2%

"Excluded providers" includes records with final disposition codes of "Wrong number" and "No contact after three attempts."

Table 48. Final Disposition Code Weighted Percentages, All Vision Care Provider Calls by Program

Final Disposition Codes	STAR Child	CHIP	STAR+PLUS
Excluded providers	12.5%	11.5%	14.5%
Specialist	16.7%	13.4%	18.9%
Only does glasses fitting	19.5%	27.3%	12.8%
Not accepting child/adult patients	5.1%	3.1%	0.8%
Not accepting Medicaid/CHIP	12.2%	16.7%	14.1%
Not accepting plan	4.6%	3.8%	9.3%
Not accepting new patients	0.9%	0.6%	1.1%
Needs referral	2.1%	1.5%	1.1%
Needs additional information	3.6%	3.0%	5.3%
Appointment available	23.0%	19.1%	22.1%

"Excluded providers" includes records with final disposition codes of "Wrong number" and "No contact after three attempts."

Table 49. Final Disposition Code Weighted Percentages, All Primary Care Provider Calls by Program

Final Disposition Codes	STAR	CHIP	STAR+PLUS
Excluded providers	27.8%	31.3%	32.6%
Specialist	21.4%	22.8%	26.8%
Not accepting Medicaid/CHIP	15.9%	15.2%	15.3%
Not accepting plan	2.1%	1.4%	1.4%
Not accepting new patients	3.8%	2.3%	3.6%
Needs additional information	6.5%	5.7%	6.4%
Appointment available	22.5%	21.3%	13.9%

"Excluded providers" includes records with final disposition codes of "Wrong number" and "No contact after three attempts."

As shown in Table 50, the overall weighted percentages of providers who met UMCC standards varied greatly by type and program for the prenatal care study (compliance ranged from 37.6 percent to 71.4 percent). Results varied only slightly for the vision care study (compliance ranged from 92.7 percent to 96.1 percent), and near-universal compliance is acknowledged for preventive and urgent care standards (compliance ranged from 97.0 percent for STAR+PLUS preventive care to 99.6 percent for STAR Child preventive and urgent care standards). Results for the behavioral health care studies will be presented in the CY 2018 SOA report.

Sampled providers, available and reachable for appointment requests, had near universal compliance with UMCC standards (at least 97 percent) for the Preventive and Urgent Care standards.

Table 50. Weighted Percentage of Providers in Each Plan That Meet the UMCC Appointment Standard

Provider Type	CHIP	STAR		STAR+PLUS
		STAR Child	STAR Adult	
Vision care	93.8	92.7	-	96.1
Low-risk prenatal care	-	-	71.4	-
High-risk prenatal care	-	-	44.2	-
Third-trimester prenatal care	-	-	37.6	-
Preventive care	98.6	99.6	97.6	97
Routine care	87.4	89.6	93.5	87.8
Urgent care	98.5	99.6	98.9	99.1

Table 51 shows the percentage of providers with a weekend appointment option. This question was only asked of providers who had any appointments available. Less than five percent of all prenatal care providers who had an appointment available offered weekend appointments. Approximately one-third of all primary care providers who had an appointment available offered weekend appointments. The compliance standard for vision care is based on not requiring a referral, and therefore, having a weekend appointment will not affect UMCC compliance. However, less than half of all vision care providers who had an appointment available had weekend appointment options.

Approximately one-third of all primary care providers and less than five percent of prenatal care providers who had an appointment available offered weekend appointments.

Table 51. Weighted Percentage of Providers with Weekend Appointment Options

Provider Type	STAR	CHIP	STAR+PLUS
Vision care	46.1%	43.0%	39.2%
Low-risk prenatal care	1.8%	-	-
High-risk prenatal care	3.5%	-	-
Third trimester prenatal care	5.0%	-	-
Primary care	37.4%	34.2%	35.2%

Primary Care Provider Specialty Referral Study

The primary care provider (PCP) specialty referral study is an ongoing, statewide pilot study developed to examine PCP experiences when making referrals for specialty care for adults and children in Texas Medicaid managed care (STAR, STAR Health, STAR+PLUS) and children in CHIP. This study is important because it helps identify key barriers that physicians face when making specialty referrals. Further understanding of these referral barriers can be used to develop targeted strategies for improving access to care for Medicaid and CHIP beneficiaries.

The PCP study involves two iterative phases. The first phase, completed in April 2016, focused on gathering statewide data on specialty referrals among Texas Medicaid and CHIP providers that could be used to develop a sample for a more in-depth study of barriers and challenges to making specialty referrals. Phase 2 began in May 2017 and focuses on augmenting the information from Phase 1, by identifying specific specialties and barriers to referral that would benefit the most from a more focused study.

The PCP referral study has several aims that are being addressed across both phases of the project; these include:

- Identifying which pediatric and adult specialty referrals in STAR/CHIP are the most difficult to obtain;
- Identifying the barriers that STAR and CHIP PCPs experience in obtaining specialty referrals for their Medicaid patients; and
- Identifying how the ease or difficulty of obtaining specialty referrals varies by provider density.

Methods

Sampling for the first phase was based on PCP density, calculated as number of PCPs per 1,000 STAR members. The EQRO defined PCPs as individuals or facilities listed in member-facing STAR directories as family medicine, internal medicine, pediatrics, or obstetrics/gynecology providers. The sampling frame for the survey in the first phase divided all the Texas counties where the STAR program operated into three PCP density categories (low, medium, and high) based on the number of PCPs per 1,000 STAR enrollees and randomly selected PCPs from each density category to participate. Survey data were collected through mail-based surveys using the Dillman Method to establish multiple points of contact with participants and help improve the response rate (61). The response rate in the first phase was low (149 responses/1,560 mailed surveys; 9.5 percent), thereby limiting the EQRO's ability to extrapolate to the rest of the STAR population. However, the first phase provided some insight into the broad challenges that providers face when making referrals that could be examined in more depth during the second phase.

Resources should be directed to improve the accuracy of the information in provider directories, thus improving access to care for members.

The second phase of the PCP Referral study follows the sampling methods established in Phase 1 and employs a stratified sampling approach based on the previously established provider densities categories. Sampling was targeted toward getting 200 respondents for each program (CHIP, STAR, STAR Health, and STAR+PLUS) by density level (low, mid, high density) for a total of 2,400 participants. The EQRO requested provider directories for the samples from the MCOs near the end of CY 2016. In CY 2017, the individual MCO directories were compiled into a single directory. The EQRO removed duplicate records and providers who were included in the first phase of the study. The remaining providers were divided into sub-samples based on provider density and program participation.

To address the low response rate during Phase 1 of the study, the EQRO and HHS used a vendor to verify provider addresses for the second phase of the study. The EQRO contracted with UFSRC to call and verify addresses and provider willingness to participate for 14,824 providers. During the verification, most of the incomplete calls were due to lack of an eligible respondent (15.2 percent). However, seven percent of calls could not be verified because of incorrect directory information and an additional 4.7 percent of calls could not be completed because the provider did not accept Medicaid. Dispositions from all verification calls are shown in Table 52.

Table 52. Call Dispositions for Phase 2 Address Verifications

Disposition	Calls	Percent of calls
Complete	2,862	18.1%
No eligible respondent	2,399	15.2%
Answering machine	3,723	23.6%
No answer	3,016	19.1%
Incorrect/busy number	1,118	7.1%
Refused	803	5.1%
Not a Medicaid provider	735	4.7%
Callback/partial complete	1,126	7.1%
Other	21	0.1%
Total	15,803	100%

The EQRO and HHS shifted the research design for phase 2 from a focus study to a broad survey that augmented data collected in Phase 1. As with Phase 1, the EQRO used the Dillman survey design method. In phase 2, the points of contact for each PCP included:

- An advanced notification letter with a two-dollars incentive;
- An initial survey and follow-up with a reminder postcard; and
- A second survey for PCPs that did not respond to the initial survey and a second reminder postcard.

The survey tool used for Phase 2 collected basic information about the provider's practice as well as difficulties in making referrals based on condition and specialist. It also asked about the difficulties providers encountered with the respective MCOs. In order to produce data more specific to patients, the survey was customized for adults and children by program. STAR+PLUS providers received questions about adult patients and conditions while all other programs received questions on children.

Results

Data collection and analysis for Phase 2 will be complete in February 2018. Data from the second phase will be reported in the CY 2018 Summary of Activities report.

STAR+PLUS HCBS Program – Service Validation Study

The STAR+PLUS HCBS program operates under the authority of the Texas Healthcare Transformation Quality Improvement program (62). This 1115 Medicaid Demonstration Waiver provides HCBS as an alternative to institutional care in Medicaid-certified nursing facilities, following requirements mandated by CMS. Service coordinators from the STAR+PLUS MCOs work with beneficiaries to develop a person-centered individual service plan (ISP), which identifies, allocates, and authorizes services in accordance with individual preferences and needs.

Ensuring that STAR+PLUS HCBS program services are delivered in accordance with members' ISPs is an important objective for quality assurance outlined by HHS and the EQRO. In 2017, the EQRO completed a validation study of services authorized in STAR+PLUS HCBS ISPs submitted by the STAR+PLUS MCOs, using claims and encounter data to assess:

1. Whether services authorized on HCBS participants' ISPs were rendered; and
2. The extent to which service units specified on the ISPs matched those reported in claims for the same service period.

Quick Findings from the STAR+PLUS HCBS Service Validation Study

- *Overall, the validation findings suggest that HCBS providers contracted with STAR+PLUS MCOs may not be meeting members' needs for the most common types of HCBS.*

Recommendations

- *STAR+PLUS MCOs should establish or monitor existing efforts to assess HCBS network adequacy, conduct root cause analyses to determine the reasons for low rates of rendered services, and develop PIPs to improve access to and quality of HCBS as warranted.*
- *HHS and the EQRO should work together to define meaning thresholds for the most common types of HCBS in STAR+PLUS.*
- *STAR+PLUS MCOs should also continue to monitor and improve the quality of ISP data to meet the data quality standards required for more complete and meaningful service validation studies.*

Methods

The EQRO used electronic ISP data with service start dates ranging from January through December 2014. The EQRO data analytics team performed an initial quality review of the data to ensure the ISP data met standards for completeness and validity of critical fields. Prior to the service validation analysis, the EQRO research and evaluation team conducted a secondary quality check on the electronic ISP service records. The team excluded records with characteristics that could reduce the reliability of results, such as records from members who died, were institutionalized, or changed plans during their service period. Also excluded were records with implausible service unit and cost values. The resulting dataset for analysis included 22,124 ISP records.

The analysis focused on the seven most common types of HCBS across all ISPs:

- Personal assistance services;
- In-home respite care;
- Dental services;
- Home-delivered meals;
- Emergency response services (ERS);
- ERS Services installation; and
- Protective supervision.

The most common service type was personal assistance services, accounting for approximately one-third of all ISP records included in the analysis. In-home respite care and dental services each accounted for less than one-fifth of all ISP records, while the remaining service types each accounted for less than 10 percent of ISP records. Due to record exclusions made during data cleaning, not all STAR+PLUS MCOs were included in every analysis.

For each service type, the EQRO calculated two rates of rendered services:

1. A simple rate of rendered services showing the percentage of records for which any matching claim was present in the administrative data; and

2. A rate of sufficiently rendered services representing the percentage of records that had claims in an amount of service units equal to or greater than approved on the ISP.

Results

As shown in Table 53 and Table 54, service validation findings could be calculated for all services in United Healthcare and all services in Amerigroup except for ERS and ERS installation. The EQRO could not conduct validation analyses for certain services in Cigna-HealthSpring, Molina, or Superior. For these MCOs, personal assistance services and protective supervision could not be validated due to issues with invalid, missing, or mismatched service codes. Additionally, the EQRO did not calculate rates of sufficiently rendered services for dental services or ERS installation in any MCO because of inconsistencies in how the service unit field for these services was populated on ISPs.

Overall, the validation findings suggest that HCBS providers contracted with STAR+PLUS MCOs may not be meeting members' needs for the most common types of HCBS. A summary of rendered services that have concerning rates is listed below:

- Personal assistance services were rendered in one-third or less of ISP records in Amerigroup (28 percent) and UnitedHealthcare (33 percent).
- Protective supervision services had particularly low rendering rates in Amerigroup (eight percent) and UnitedHealthcare (five percent).
- In-home respite care had considerable variation in rates of rendered services across MCOs, from two percent in Cigna-HealthSpring to 39 percent in Molina.
- Home-delivered meals had low rendering rates for most MCOs, ranging from six percent in Amerigroup to 15 percent in Superior. A single exception was Molina, for which 71 percent of ISP-approved meals were sufficiently rendered.
- Emergency response services were rendered for more than one-quarter of records in Cigna-HealthSpring (29 percent) and nearly half of all records in UnitedHealthcare (47 percent).

This study did not assess the reasons for the observed low rates of rendered HCBS in STAR+PLUS. While these findings pointed toward deficiencies in the delivery of care, including possible issues with providers, network adequacy, or access to care, low rates of rendered services can also occur if service coordinators overestimate (whether intentionally or not) the amount of services required to meet members' needs. Poor quality or missing data may have contributed to low rates, although the EQRO took several measures to ensure the data included in this study were valid and comparable.

Based on these findings, the EQRO made the following recommendations for improving the delivery of HCBS for STAR+PLUS members and enhancing the rigor and usefulness of future service-validation studies:

- STAR+PLUS MCOs should establish or monitor existing efforts and programs to assess HCBS network adequacy, conduct root cause analyses to determine the primary reasons for low rates of rendered services, and develop performance improvement projects to improve access to and quality of HCBS as warranted.
- For future service validation studies of the STAR+PLUS HCBS program, HHS and the EQRO should work together to define meaningful service-specific thresholds for the most common types of HCBS in STAR+PLUS.

- STAR+PLUS MCOs should continue to monitor and improve the quality of ISP data to meet the data quality standards presented in this report. To assist the MCOs in improving ISP data quality, HHS should consider authorizing the EQRO to produce reports for each MCO that detail the specific data quality issues observed in this study.

Table 53. STAR+PLUS HCBS Program Service Validation – Percentage of Services Rendered in Any Amount, by STAR+PLUS MCO

Criteria*	Amerigroup	Cigna-HealthSpring	Molina	Superior	United Healthcare
Personal assistance services	94.0%	-	-	-	92.2%
Respite in-home	26.3%	14.0%	40.1%	60.0%	44.2%
Dental services	20.1%	-	31.7%	-	29.0%
Meals	80.4%	80.6%	76.3%	82.5%	80.9%
Emergency response services	-	67.2%	-	-	82.6%
ERS installation	-	19.6%	-	-	37.8%
Protective supervision	48.6%	-	-	-	58.5%

**An entry of "-" indicates the analysis for the specified service was not calculated for the MCO due to issues with invalid, missing, or mismatched service codes.*

Table 54. STAR+PLUS HCBS Program Service Validation – Percentage of Sufficiently-Rendered Services, by STAR+PLUS MCO

Criteria* **	Amerigroup	Cigna-HealthSpring	Molina	Superior	United Healthcare
Personal assistance services	28.3%	-	-	-	33.4%
Respite in-home	4.4%	1.8%	39.2%	28.2%	7.1%
Meals	6.3%	7.3%	70.6%	15.0%	9.5%
Emergency response services	-	28.8%	-	-	46.8%
Protective supervision	7.6%	-	-	-	4.5%

**An entry of "-" indicates the analysis for the specified service was not calculated for the MCO due to issues with invalid, missing, or mismatched service codes.*
***The EQRO did not calculate rates of sufficiently rendered services for dental services or ERS installation due to inconsistencies in how the service unit field for these services is populated on ISPs.*

STAR Kids Pre-implementation Focus Study

Implemented on November 1, 2016, the STAR Kids program provides managed care services to Medicaid members 20 years of age or younger who receive SSI benefits or benefits through any of several Medicaid programs for children with disabilities, including members living in long-term care facilities or enrolled in a waiver program for HCBS.

To assist Texas HHS in assessing implementation of STAR Kids, the EQRO is conducting a multi-year focus study with two primary aims:

1. Identify utilization and quality-of-care measures appropriate to the STAR Kids population; and
2. Compare findings on selected survey and administrative measures in the population of members eligible for STAR Kids before and after program implementation.

In 2017, the EQRO completed the pre-implementation phase of the STAR Kids focus study. Using administrative and survey data, the study provides baseline results on utilization, access, and satisfaction measures for Medicaid beneficiaries with disabilities who were eligible for STAR Kids prior to program implementation.

Quick Findings from the STAR Kids Pre-implementation Focus Study

- *STAR Kids-eligible members differed on demographics, health status, and service needs across service groups.*
- *Caregivers of children in MDCP and IDD waivers reported lower access to needed routine services, specialized services, and prescription medications compared to CAHPS national standards.*
- *Findings showed need for continued monitoring on several measures of preventive and behavioral health care.*
- *Members in MDCP had the highest rates of potentially preventable events.*

Significance

- *Understanding member needs and caregiver satisfaction at baseline in this population is critical for quality improvement efforts in STAR Kids.*
- *Understanding access to and effectiveness of care at baseline in this population is critical for quality improvement efforts and ensuring positive health outcomes in STAR Kids.*

Recommendations

- *Tailor outreach and quality improvement to the needs of each service group.*
- *Expand provider education programs to improve antipsychotic prescribing practices.*
- *Conduct root cause analyses to determine reasons for low rates on preventive and behavioral health measures.*
- *Efforts to reduce PPEs should focus on conditions commonly associated with PPEs among STAR Kids-eligible members, including seizures, pneumonia, bipolar disorder, and upper respiratory infections.*

Methods

The STAR Kids Pre-implementation Focus Study included a telephone survey of caregivers of individuals who were eligible for STAR Kids in the year prior to implementation as well as a summary of results on administrative measures for individuals eligible for STAR Kids, using claims and encounter data from CY 2014 and 2015.To assist in identifying eligible members for this study, HHS provided the EQRO with a list of those enrolled in one or more of the following four service groups in fiscal year 2014:

1. MDCP;
2. HCBS programs for children with IDDs[4];
3. FFS SSI; and
4. STAR+PLUS SSI.

For the telephone survey, the EQRO randomly sampled members 20 years of age and younger as of November 1, 2016, representing one sample of STAR Kids-eligible members for each of the four service groups. For each service group, the EQRO set a target of 250 completed telephone interviews to be collected over a 10-week fielding period. The caregiver survey incorporated items from the CAHPS Health Plan Survey for Children with Chronic Conditions (Version 5.0) and the National Survey of Children with Special Health Care Needs (NS-CSHCN). The NS-CSHCN includes items addressing domains of care especially relevant for the STAR Kids-eligible population, such as person-centered care, access to specialist referrals, care coordination, and transition to adult care. The UFSRC conducted surveys with caregivers of sampled members using CATI from August to October 2016. A total of 986 caregivers participated, representing an overall response rate of 26 percent. Tests for participation bias showed statistically significant differences in participation by racial/ethnic group, with caregivers of non-Hispanic white children and Hispanic children having higher participation rates. Survey results were therefore weighted to account for potential response bias.

Based on a review of the policy and academic literature, and with input from project stakeholders at HHS, the EQRO compiled a list of administrative measures appropriate to the STAR Kids population. The list includes measures from HEDIS, the AHRQ PDIs, and 3M that address utilization, access, and effectiveness of care in four domains:

1. Primary and preventive care;
2. Care for respiratory conditions;
3. Behavioral health care; and
4. PPEs.

The EQRO used member-level enrollment information, health care claims and encounter data, and pharmacy data from CY 2014 and 2015 to calculate administrative measures. The EQRO reported pre-implementation findings on these measures separately for each of the four service groups, excluding individuals who had third-party insurance. Claims paid through third-party insurance were not captured in the administrative data used by the EQRO to calculate administrative rates, which could result in lower rates of access, utilization, and effectiveness of services than were actually rendered.

[4] During the service period of this study, which was prior to implementation of STAR Kids, these programs were administered by DADS. With the reorganization of HHS during 2016 and 2017, programs previously administered by DADS are now administered by HHS.

Results

STAR Kids-eligible members in the different service groups differed considerably with regard to demographics, health status, and health service needs.

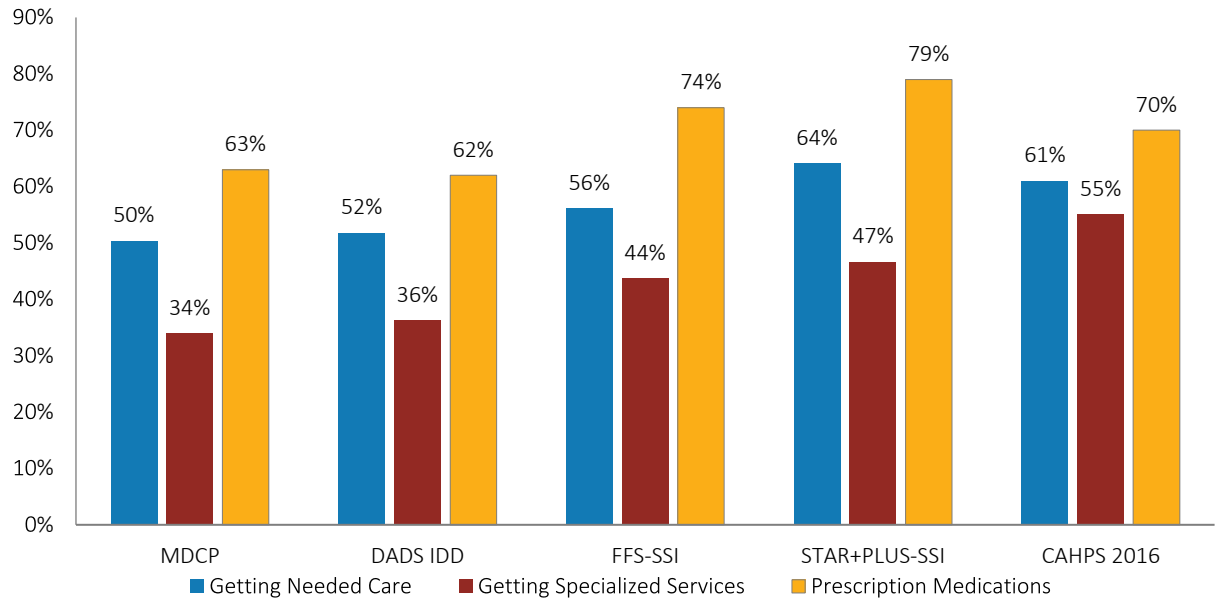
In particular:

- Members in MDCP were more likely to live in households with two married parents, and less likely to live in Spanish-speaking households. Members in IDD waivers were generally older, with the highest proportion of adolescents among all service groups. Members in FFS-SSI and STAR+PLUS-SSI were more likely to be Hispanic compared to other service groups.
- Members in all service groups had high rates of special health care needs, ranging from 88 percent in FFS-SSI to 99 percent in MDCP. Members in MDCP had higher rates of limitations to activities of daily living, while members in IDD waivers were more likely to need treatment or counseling for an emotional, behavioral, or developmental condition compared to other service groups.
- Service needs were highest in the MDCP group. In particular, members in MDCP had a disproportionately greater need for home health care and assistance, special medical equipment and devices, specialist appointments, and special therapies.

These differences in member characteristics highlight the importance of assessing each service group separately and serve as a starting point for developing approaches to quality monitoring and improvement in the STAR Kids population. The profile of special health care and service needs for each STAR Kids eligibility group can help in focusing efforts toward ensuring provider network adequacy, developing appropriate disease and care management programs, and identifying and prioritizing quality-of-care measures.

Caregivers were generally satisfied with the care from their children's personal doctors, specialist providers, and overall health care. However, several key survey measures showed need for improvement or a need to focus on specific service groups. As shown in Figure 26, caregivers of children in the highest-need groups (MDCP and IDD waivers) reported more difficulty in getting needed routine care, specialized services, and prescription medications than caregivers of children in Medicaid nationally.

Figure 26. Selected CAHPS Measures for STAR Kids-Eligible Members – Percentage of Caregivers Who "Always" Had Positive Experiences Getting Services for Their Children*



** CAHPS 2016 values represent national standards for children in Medicaid available from the 2016 CAHPS Health Plan Survey Database.*

As shown in Table 55, caregivers of STAR Kids-eligible children in all service groups reported issues with access to and satisfaction with care coordination. In particular, more than one-third of caregivers across all service groups stated they could have used extra help with care coordination for their children.

Table 55. Care Coordination Experiences among Caregivers of STAR Kids-Eligible Member

	MDCP	DADS IDD	FFS-SSI	STAR+PLUS SSI	NS-CSHCN*
Someone helps coordinate child's care	27.1%	34.6%	21.4%	23.3%	21%
Caregiver could have used extra help with care coordination	36.9%	40.5%	42.2%	38.4%	18%
Caregiver was "very satisfied" with communication among child's providers	58.3%	48.7%	67.3%	60.8%	63%

** National averages from the 2009/2010 NS-CSHCN provided for comparison.*

As shown in Table 56, findings on administrative measures revealed the need for continued monitoring for members transitioning from FFS and STAR+PLUS with regard to:

- Developmental screening for children in the first three years of life;
- Well-care visits for children in the first 15 months of life;
- Compliance with asthma medications;
- Follow-up after hospitalization for mental illness (particularly in the seven-day follow-up period);

- Alcohol and other drug dependence treatment for adolescents;
- Reductions in prescription of multiple, concurrent antipsychotics;
- Improvements in rates of metabolic screening for members on concurrent antipsychotics; and
- Improvements in rates of psychosocial care as first-line treatment for members prescribed antipsychotics.

Table 56. Selected Administrative Measures for STAR Kids-Eligible Members in FFS-SSI/STAR+PLUS-SSI, CY 2015

Measure	FFS-SSI	STAR+PLUS-SSI
Adolescent Well-Care Visit	0.438	0.584
Appropriate Testing for Children with Pharyngitis	0.587	0.607
Developmental Screening in the First Three Years of Life, 12 Months Old	0.423	0.494
Developmental Screening in the First Three Years of Life, 24 Months Old	0.507	0.562
Developmental Screening in the First Three Years of Life, 36 Months Old	0.47	0.497
Follow-Up After Hospitalization for Mental Illness (30-Day Follow-Up)	0.588	0.56
Follow-Up After Hospitalization for Mental Illness (Seven-Day Follow-Up)	0.301	0.329
Follow-Up Care for Children Prescribed ADHD Medication (Initiation)	0.449	0.457
Follow-Up Care for Children Prescribed ADHD Medication (Maintenance)	0.611	0.6
Initiation and Engagement of AOD Dependence Treatment (Initiation), 13-17 Years	0.456	0.498
Initiation and Engagement of AOD Dependence Treatment (Engagement), 13-17 Years	0.173	0.187
Medication Management for People with Asthma (75% Covered), 5-11 Years	0.233	0.222
Medication Management for People with Asthma (75% Covered), 12-18 Years	0.229	0.216
Metabolic Monitoring for Children & Adolescents on Antipsychotics, 6-11 Years	0.267	0.296
Metabolic Monitoring for Children & Adolescents on Antipsychotics, 12-17 Years	0.336	0.349
Use of First-Line Psychosocial Care for Children & Adolescents on Antipsychotics, 6-11 Years	0.304	0.373
Use of First-Line Psychosocial Care for Children & Adolescents on Antipsychotics, 12-17 Years	0.33	0.324
Use of Multiple Concurrent Antipsychotics in Children & Adolescents, 6-11 Years	0.016	0.02
Use of Multiple Concurrent Antipsychotics in Children & Adolescents, 12-17 Years	0.026	0.029
Well-Child Visits in the First 15 Months of Life, 6 Visits	0.221	0.235
Well-Child Visits in the Third, Fourth, Fifth and Sixth Years of Life	0.633	0.743

** All measures in this table are HEDIS measures, with the exception of Developmental Screening in the First Three Years of Life (OHSU).*

Continued monitoring for STAR Kids-eligible members in MDCP and IDD waivers is recommended for several measures of preventive and behavioral health care — in particular, those addressing care for children and adolescents on antipsychotic medications, as shown in Table 57.

Table 57. Selected Administrative Measures for STAR Kids-Eligible Members in MDCP and IDD Waivers, CY 2015

Measure*	MDCP	DADS IDD
Adolescent Well-Care Visit	0.562	0.542
Appropriate Testing for Children with Pharyngitis	0.648	0.645
Follow-Up After Hospitalization for Mental Illness (30-Day Follow-Up)	-	0.514
Follow-Up After Hospitalization for Mental Illness (Seven-Day Follow-Up)	-	0.339
Medication Management for People with Asthma (75% Covered), 5-11 Years	0.575	-
Medication Management for People with Asthma (75% Covered), 12-18 Years	0.589	0.537
Metabolic Monitoring for Children & Adolescents on Antipsychotics, 6-11 Years	0.221	0.283
Metabolic Monitoring for Children & Adolescents on Antipsychotics, 12-17 Years	0.29	0.455
Use of First-Line Psychosocial Care for Children and Adolescents on Antipsychotics, 12-17 Years	-	0.1
Use of Multiple Concurrent Antipsychotics in Children & Adolescents, 6-11 Years	0.035	0.093
Use of Multiple Concurrent Antipsychotics in Children & Adolescents, 12-17 Years	0.039	0.075
Well-Child Visits in the Third, Fourth, Fifth and Sixth Years of Life	0.626	-

** Measure results were not reported where the denominator was less than 30 in a particular service group ("-").*

Members in MDCP had the highest rates of PPAs, PPVs, and PPRs within 30 days. Members in all groups had generally high rates of PPVs, although PPVs were the least costly type of potentially preventable event.

With regard to reasons for PPEs:

- Seizures and pneumonia were the most common reasons for PPAs in MDCP, IDD waivers, and FFS-SSI, while bipolar disorder was the most common reason for PPAs in STAR+PLUS-SSI. Admissions for gastroenteritis, upper respiratory infections, and urinary tract infections also were common.
- Infections of the upper respiratory tract and otitis media were the most common reason for PPVs in all four service groups.

The most common reason for PPRs differed considerably across service groups. In MDCP, nearly half of all PPRs were due to medical readmissions for acute conditions that may be related to care delivered during the initial admission or in the post-discharge period. Among members in IDD waivers and FFS-SSI, approximately four in 10 PPRs resulted from mental health or substance abuse readmissions (following an initial admission for a mental health or substance abuse diagnosis). In STAR+PLUS, mental health or substance abuse readmissions accounted for more than three-quarters of PPRs.

National Core Indicators – Aging and Disabilities (NCI-AD)

The National Core Indicators – Aging and Disabilities study is an initiative designed to support states' interest in assessing the performance of their programs and delivery systems for long-term services and supports (LTSS) and improving services for older adults, individuals with physical disabilities, and caregivers. The initiative represents a collaboration among the National Association of States United for Aging and Disabilities (NASUAD), the Human Services Research Institute (HSRI), and individual state agencies. The primary aim of NCI-AD is to collect and maintain valid and reliable data that give states a

broad view of how their publicly funded LTSS programs affect the quality of life and outcomes of service participants. Texas is one of 16 states to participate in the NCI-AD study and has participated in the initiative biennially since 2015. The EQRO provides technical assistance to HHS in the design and administration of the state's NCI-AD study.

For 2017, the Texas NCI-AD study focuses on:

1. Members in the STAR+PLUS HCBS program enrolled in the same STAR+PLUS MCO continuously from April 1, 2016 through March 31, 2017; and
2. Individuals enrolled in the Program of All-Inclusive Care for the Elderly (PACE) at the time of sampling.

Methods

The study targets a total of 1,800 completed surveys, representing 300 in each of the five STAR+PLUS MCOs and 300 in PACE. The EQRO contracted with NORC to collect the NCI-AD data over a 40-week fielding period that began in July 2017. Up to 12 trained field interviewers living throughout Texas collect the data in-person using the NCI-AD Consumer Survey instrument, which includes subjective satisfaction-related questions that can only be answered by the consumer and objective questions that can be answered by the consumer or his or her proxy if needed. The survey tool is completed using an online data entry system application (ODESA), which allows data to be stored in electronic format, accessible to HHS and collaborating agencies.

The EQRO functions primarily as a liaison between HHS, NASUAD, HSRI, and NORC, providing assistance with interviewer training, development, and coordination of interview protocols, sample preparation and management, and continuous progress and quality monitoring of data collection.

Results

Fielding of the NCI-AD survey is ongoing, with an expected completion date in April 2018. The data collected through NCI-AD helps demonstrate performance in managed LTSS delivery to external parties, including state and federal stakeholders. Together, NASUAD and HSRI use the collected data to prepare state-level and national reports, which are publicly available online (9).

In-Depth Analyses

Understanding factors contributing to the receipt of recommended care is important in developing better-targeted interventions for health care quality improvement. To examine factors that may contribute to compliance on important quality measures for Texas Medicaid and CHIP, the EQRO estimated logistic regression models examining whether recommended care was received while controlling for several factors thought to influence the receipt of recommended care.

These factors included:

- Age (in years);
- Sex;
- Race/ethnicity;
- Poverty (percent of individuals in the census tract below poverty);
- Presence of physical conditions (e.g., diabetes or heart failure);
- Presence of behavioral conditions (e.g., autism or anxiety);
- Presence of both physical and behavioral health conditions; and
- MCO or MCO-Service Area combination (plan code).

The EQRO estimated logistic regressions for four HEDIS performance measures:

1. STAR+PLUS Diabetes Screening for People with Schizophrenia or Bipolar Disorder Who are Using Antipsychotics (SSD);
2. CHIP Adolescent Well-Care (AWC);
3. STAR Timeliness of Prenatal Care (PPC-Pre);and
4. STAR Postpartum Care (PPC-Post).

The statistically significant findings from these models are presented below for each of the four performance measures. Appendix G contains the complete results of these estimated models, including the variables and their values along with the distribution of the sample, raw compliance rates, and the estimated odds ratio with 95 percent confidence intervals for each variable value. Separate models using administrative and hybrid data were estimated for comparison purposes (for all measures except SSD) and are presented in the appendix.

To aid in identifying populations at high risk of not receiving recommended care, the predicted probabilities of receiving recommended care for the various combinations of the variables included the models were calculated. The EQRO then examined those combinations that represented at least 500 enrollees and sorted them from smallest to highest mean predicted probability. This allowed us to identify enrollee profiles that were both meaningful (i.e., representing enrollees with combinations of demographic and health factors common to the program) and associated with low probabilities of receiving recommended care. The remainder of this section summarizes the most important results from the estimated models and the enrollee characteristics associated with low probabilities of receiving recommended care for each of the four performance measures.

STAR+PLUS Diabetes Screening for People with Schizophrenia or Bipolar Disorder Who are Using Antipsychotics (SSD)

According to the 2017 Diabetes Standards of Care, people with severe mental illness (SMI) who are prescribed antipsychotic medications should receive annual diabetes screening (63). Studies have

shown that people with SMI, such as schizophrenia and bipolar disorder, are at an increased risk of being diagnosed with diabetes, and women with SMI have a higher prevalence of diabetes than men do. Therefore, early detection and treatment is important, especially considering the substantial net benefits of screening and early detection of diabetes.

The logistic regression model for SSD using administrative data showed that, after controlling for all factors in the model (age, sex, race, poverty, presence of physical and behavioral health condition, and plan code), the probability of receiving diabetes screening was:

- Higher for females compared to males;
- Lower for black non-Hispanics compare to white non-Hispanics; and
- Higher for enrollees with chronic physical health conditions compared to those without chronic physical health conditions.

Additionally, all plan codes except for Amerigroup Lubbock had a decreased probability of receiving a diabetes screening when compared to Hidalgo-Superior, which had the highest rate (88.4 percent). Amerigroup had some of the highest and lowest performing plan codes. These results were borne out when the examined the predicted probabilities of diabetes screening for various enrollee risk profiles. For example, the 7,705 enrollees in STAR+PLUS who qualify for this measure and lack a physical health condition had a mean predicted probability of diabetes screening of 0.676, which is considerably lower than the overall predicted probability of 0.812 for the 19,714 enrollees qualifying for the SSD measure. Individuals who have additional risk factors for lack of screening have even lower mean predicted probabilities for screening. For example:

In efforts to improve rates of SSD, MCOs in STAR+PLUS should focus on males (particularly black non-Hispanic males) who do not have a physical health condition and who live in census tracts with greater than 20 percent poverty

- The 1,731 black non-Hispanics in STAR+PLUS, who qualified for the SSD measure and who lacked a chronic physical health condition, had a mean predicted probability of receiving diabetes screening of 0.638;
- The 4,650 males, who lacked a chronic physical health condition, had a diabetes screening probability of 0.666; and
- The 3,965 enrollees, who lacked a chronic physical health condition and who lived in census tracts with greater than 20 percent poverty, had a diabetes screening probability of 0.671.

In efforts to improve rates of SSD, MCOs in STAR+PLUS should focus on males (particularly black non-Hispanic males) who do not have a physical health condition and who live in census tracts with greater than 20 percent poverty.

CHIP Adolescent Well-Care

According to CMS, adolescent well-care visits provide an opportunity to screen for the many behavioral and physical health changes adolescents experience. Behaviors that are learned during adolescence can influence behaviors in adulthood. Therefore, to facilitate early intervention, it is important to identify adolescent lifestyle behaviors that can adversely affect health and well-being (64). The HEDIS AWC measure allows health plans to identify adolescents who have not received their recommended well-care visits.

The EQRO ran logistic regression analyses on both the hybrid data and the administrative data for AWC in CHIP to determine whether the method of reporting affects findings. Findings were generally consistent across both datasets.

Controlling for all variables in the hybrid data model, the probability of getting an adolescent well-care visit was:

- Lower among members 15 to 17 years old and members 18 or 19 years old compared to adolescents younger than 15;
- Higher among adolescents with a physical health condition compared to those without a physical health condition; and
- Higher for Hispanics than for white non-Hispanics.

In addition to these findings, compared to members in El Paso Health, which had the highest rate of adolescent well-care visits among all MCOs (81.5 percent), members in all MCOs except for Texas Children's and Community Health Choice had significantly lower probability of getting an adolescent well-care visit.

The findings of the administrative-only model mirror what was found using hybrid data. Members in older age groups had a lower probability than younger age groups of getting an adolescent well-care visit, while those lacking a physical health condition had a lower probability than those with a physical health condition of getting an adolescent well-care visit. Hispanics had a lower probability of getting a well-care visit than members in the other racial/ethnic groups (Asian, black, and Hispanic).

Efforts to improve rates of adolescent well care, MCOs in CHIP should focus on adolescents older than 15, those who are White non-Hispanic, and those without a physical health condition.

The findings from the models coincided with what is reported in the literature. Younger members were more likely to get their adolescent well-care visits. CMS suggests increasing rapport with adolescents, offering confidential appointments, and using sports physicals and acute care visits as opportunities to complete an adolescent well-care visit (65). In Texas CHIP, the increased probability of adolescents with physical health conditions getting an adolescent well-care visit may be due to providers performing adolescent well-care during acute care visits.

In examining the predicted probabilities of receiving a well-care visit, the 739 white non-Hispanic adolescents in CHIP had a mean predicted probability of 0.627, considerably lower than the overall mean predicted probability of 0.727 for the 5,156 CHIP enrollees who qualified for this measure. Similarly, the 1,159 enrollees ages 18 to 19 had a mean predicted probability of 0.644.

In efforts to improve rates of adolescent well care, MCOs in CHIP should focus on adolescents older than 15, those who are White non-Hispanic, and those without a physical health condition.

STAR Timeliness of Prenatal Care

Increasing the timeliness of prenatal care is important for the health of the mother and child. Understanding how to stay healthy is important for preventing complications that affect the health of both mother and baby before, during, and after pregnancy.

The EQRO ran logistic regression analyses on both the hybrid data and the administrative data for the HEDIS Timeliness of Prenatal Care measure (PPC-Pre) to see if and how the methods of data reporting affected the findings. In general, the model using administrative data found more statistically significant effects than did the model using hybrid data. Consequently, we only report on results that are consistent between the two models.

Controlling for all variables in the model, the probability of getting timely prenatal care was:

- Higher for members older than 20 years;
- Higher for Hispanic members compared to white non-Hispanic members; and
- Lower for enrollees in FirstCare, PCHP, CHRISTUS, Dell Children's Health Plan, Community Health Choice, Amerigroup, and Cook CHP compared to El Paso Health, which had the highest rate (92.9 percent).

In efforts to improve rates of prenatal care, MCOs in STAR should focus on younger white, non-Hispanic members.

The findings for race/ethnicity varied when compared to the scientific literature. A study that examined racial differences in timeliness of prenatal care noted that black non-Hispanics were less likely than Hispanic women to initiate prenatal care, and Hispanics had increased odds of frequency of prenatal care (66). A possible explanation may what Abraido-Lanza et al. (2006) refer to as the "Hispanic Paradox." In one study, Hispanic mothers emphasized the importance of having early prenatal care and the importance of having families as a motivation to make and keep prenatal care appointments (67; 68). In order to address disparities in the timely receipt of prenatal care, CMS is assessing the feasibility of four new, evidence-based prenatal initiatives. They focus on peer-to-peer interaction, an integrated health care professional team, and improving care coordination.

In examining the predicted probabilities of receiving timely prenatal care, the 649 STAR enrollees below age 20 in the PPC-Pre hybrid data had the lowest mean predicted probability of receiving timely prenatal care (0.790), and considerably lower than the overall mean predicted probability of 0.844 for the 6,559 enrollees in the hybrid sample. In efforts to improve rates of prenatal care, MCOs in STAR should focus on members younger than 20 who are white non-Hispanic.

STAR Postpartum Care

The postpartum care visit is important for both the mother and child in terms of encouraging breastfeeding, identifying and treating conditions, and family planning. Understanding factors associated with postpartum care visits is important to increasing the rate of postpartum care.

The EQRO ran logistic regression analyses on both the hybrid data and the administrative data for the HEDIS Postpartum Care measure (PPC-Post) to see if the data collection format affected the findings. The results from both datasets were broadly consistent, with some exceptions noted below.

Controlling for all variables in the model, the probability of getting a postpartum care visit was:

- Lower for black non-Hispanic members than white non-Hispanic members;
- Lower for members who lived in a census tract with poverty greater than 20 percent, compared to those who lived in a census tract with poverty less than 10 percent;

- Lower for members having a physical health condition than those without a physical health condition; and
- Lower for members having a behavioral health condition than those without a behavioral health condition.

Among MCOs, BlueCross BlueShield of Texas had the highest postpartum care rate, with all other plans except Texas Children's having statistically significantly lower rates. Most of the findings of the administrative-only model mirror what was found using hybrid data.

Unlike the model using hybrid data, the model using administrative data showed:

1. Members over 20 years of age were more likely to get a postpartum visit than members below 20 years of age; and
2. Hispanic members were less likely than white non-Hispanic members to get a postpartum care visit.

In efforts to improve rates of postpartum care, MCOs in STAR should focus on members who are black non-Hispanic, who live in census tracts with more than 20 percent poverty, and who have a behavioral or physical health condition.

The findings from the models were consistent with what has been found in other academic studies where black, non-Hispanics have been found less likely to receive postpartum care than Hispanic women (68; 66). Delays in or lack of postpartum care can contribute to missed opportunities to address issues such as the development of depression, difficulties in breastfeeding, and family planning. The predicted probabilities reveal that the 656 STAR enrollees with a behavioral health condition had a mean predicted probability of receiving postpartum care of 0.602, considerably lower than the overall mean predicted probability of 0.664. The 3,112 STAR enrollees who lived in census tracts with greater than 20 percent poverty had a mean predicted probability of 0.637.In efforts to improve rates of postpartum care, MCOs in STAR should focus on members who are black non-Hispanic, who live in census tracts with more than 20 percent poverty, and who have a behavioral or physical health condition.

Overall, the in-depth analysis showed that each measure studied distinct member profiles that represent populations MCOs should focus on for quality improvement. With regard to diabetes screening for STAR+PLUS members taking antipsychotic medications, MCOs should focus improvement efforts on black, non-Hispanic members without chronic physical health conditions. The analysis of adolescent well-care visits among CHIP members showed that MCOs should focus improvement for this measure on white, non-Hispanic adolescents. Lastly, with regard to prenatal and postpartum care, STAR MCOs should focus on women younger than 20 years old in efforts to improve rates of prenatal care, and members with behavioral health conditions in efforts to improve postpartum care.

SECTION 4: References

Nationally-Recognized Quality

The EQRO maintains business relationships with leading governmental bodies and experts within the industry, and in so doing is able to leverage the purpose and power behind associated documents. This body of references is reflective of Texas HHS's and the EQRO's commitment to staying abreast of the policy, academic research, and innovation that defines health care today.

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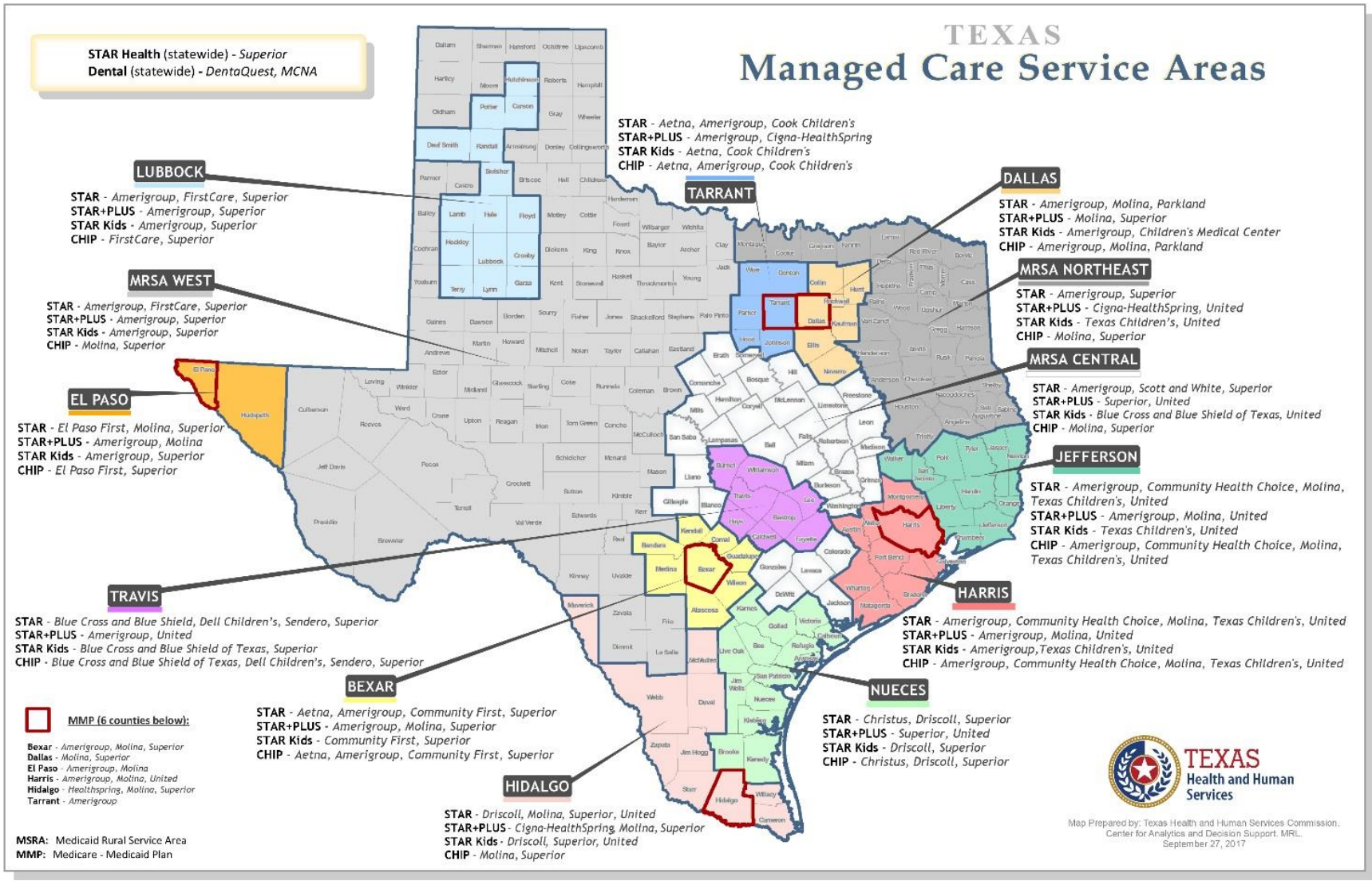
SECTION 5: Appendices

Supportive Materials

Items in the appendices are included for reference to material described and labeled throughout the report. The appendices listed in this section reflect the order in which they appear in the text. The final appendix is a list of all the recommendations made in the report.

Appendix A: Texas Managed Care Service Areas Map



Appendix B: Summary of Quality Measures Calculated and Reported by the EQRO for the 2016 Measurement Year by Program

A Calculated using administrative data
H Calculated using HEDIS hybrid methodology
S Survey methodology
Measure is included on the HHS performance dashboard.
Measure is included on the HHS performance dashboard *and* is part of the 2018 P4Q initiative.
Measure is part of 2018 P4Q initiative and to be added to the HHS performance dashboard.

		CHIP	STAR	STAR +PLUS	STAR Health	North STAR	FFS
HEDIS Effectiveness of Care							
Prevention and Screening							
ABA	Adult BMI Assessment			H			
WCC	Weight Assessment and Counseling for Nutrition and Physical Activity for Children and Adolescents						
	BMI Percentile	H	H		A		A
	Counseling for Nutrition	H	H		A		A
	Counseling for Physical Activity	H	H		A		A
CIS	Childhood Immunization Status	H	H	A	A		A
IMA	Immunizations for Adolescents	A	A	A	A		A
BCS	Breast Cancer Screening		A	A			A
CCS	Cervical Cancer Screening		A	A			A
CHL	Chlamydia Screening in Women	A	A	A	A		A
Respiratory Conditions							
CWP	Appropriate Testing for Children With Pharyngitis	A	A	A	A		A
SPR	Use of Spirometry Testing in the Assessment and Diagnosis of COPD			A			
PCE	Pharmacotherapy Management of COPD Exacerbation			A			
MMA	Medication Management for People With Asthma	A	A	A	A		A
AMR	Asthma Medication Ratio	A	A	A	A		A
Cardiovascular Conditions							
CBP	Controlling High Blood Pressure		H	H			
SPC	Statin Therapy for Patients With Cardiovascular Disease		A	A			A
Diabetes							
CDC	Comprehensive Diabetes Care						
	Hemoglobin A1c (HbA1c) Testing		H	H			
	HbA1c Control (<8.0%)		H	H			
	Eye Exam		A	A			A
	Medical Attention for Nephropathy		A	A			A
SPD	Statin Therapy for Patients With Diabetes		A	A			A
Behavioral Health							
AMM	Antidepressant Medication Management		A	A	A	A	A
ADD	Follow-Up Care for Children Prescribed ADHD Medication	A	A	A	A	A	A
FUH	Follow-Up After Hospitalization for Mental Illness	A	A	A	A	A	A
FUM	Follow-Up After Emergency Department Visits for Mental Illness	A	A	A	A	A	A
FUA	Follow-Up After Emergency Department Visits for Alcohol and Other Drug Dependence	A	A	A	A	A	A
APM	Metabolic Monitoring for Children and Adolescents on Antipsychotics	A	A		A	A	A
SSD	Diabetes Screening for People With Schizophrenia or Bipolar Disorder Who Are Using Antipsychotic Medications		A	A		A	A

		CHIP	STAR	STAR +PLUS	STAR Health	North STAR	FFS
Behavioral Health (cont.)							
SMD	Diabetes Monitoring for People With Diabetes and Schizophrenia		A	A		A	A
SMC	Cardiovascular Monitoring for People With Cardiovascular Disease and Schizophrenia		A	A		A	A
SAA	Adherence to Antipsychotic Medications for Individuals With Schizophrenia		A	A		A	A
Medication Management							
MPM	Annual Monitoring for Patients on Persistent Medications			A			
Overuse/Appropriateness							
URI	Appropriate Treatment for Children With Upper Respiratory Infection	A	A		A		A
AAB	Avoidance of Antibiotic Therapy for Adults With Acute Bronchitis		A	A			A
APC	Use of Multiple Concurrent Antipsychotics in Children and Adolescents	A	A		A	A	A
HEDIS Access/Availability of Care							
AAP	Adults' Access to Preventive/Ambulatory Health Services		A	A			A
CAP	Children and Adolescents' Access to Primary Care Practitioners	A	A		A		A
IET	Initiation and Engagement of Alcohol and Other Drug Dependence Treatment	A	A	A	A	A	A
PPC	Prenatal and Postpartum Care	A	H	A	A		A
APP	Use of First-Line Psychosocial Care for Children and Adolescents on Antipsychotics	A	A	A	A	A	A
HEDIS Utilization and Risk Adjusted Utilization							
Utilization							
FPC	Frequency of Ongoing Prenatal Care	A	A	A	A		A
W15	Well-Child Visits in the First 15 Months of Life	A	H	A	A		A
W34	Well-Child Visits in the Third, Fourth, Fifth and Sixth Years of Life	H	H		A		A
AWC	Adolescent Well-Care Visits	H	H	A	A		A
AMB	Ambulatory Care	A	A	A	A		A
IPU	Inpatient Utilization–General Hospital/Acute Care	A	A	A			A
IAD	Identification of Alcohol and Other Drug Services	A	A	A		A	A
MPT	Mental Health Utilization	A	A	A	A	A	A
Risk Adjusted Utilization							
HPC	Hospitalization for Potentially Preventable Complications			A			
Measures Collected Through CAHPS Health Plan Survey							
MSC	Medical Assistance With Smoking Cessation and Tobacco Use		S		S		
FVA	Flu Vaccinations for Adults Ages 18-64		S		S		
Experience of Care							
CPA	CAHPS Health Plan Survey 5.0H, Adult Version		S	S			
CPC	CAHPS Health Plan Survey 5.0H, Child Version	*	*				S
CCC	CAHPS Health Plan Survey 5.0H, Child Version With Children With Chronic Conditions				S		
CHIPRA Measures							
DVS	Developmental Screening in the First 3 Years of Life	A	A	A	A		A

Appendix C: Quality Assessment and Performance Improvement Recommendations

Activity	Example Recommendation
Required Documentation	Complete all sections of the Quality Assessment and Performance Improvement evaluation tool.
Role of Governing Body	Describe actions taken by the governing body to modify the quality improvement program. Indicate if no actions taken.
Structure of Quality Improvement Committee(s)	Specify which committee members have clinical and non-clinical voting rights.
Adequate Resources	Provide greater detail about human resources available to operate and oversee the quality improvement program.
Opportunities for Improvement	Describe the process of how non-clinical improvements were identified.
Program Description	Develop long-term goals for overall and measure-specific quality improvement.
Overall Effectiveness	Include an evaluation of the overall effectiveness of the quality assessment and performance-improvement program.
Clinical Practice Guidelines	Detail how guidelines are relevant to member needs.
Access to Care Monitoring and Results	Evaluate and report the effectiveness of actions and provide future actions for all indicators.
Clinical Indicator Monitoring and Results	Include an analysis of the effectiveness of actions such as the percentage change in measurement from the previous year.
Service Indicator Monitoring	Report change in rates from the previous year.
Credentialing and Re-credentialing	Report number of facilities credentialed during the measurement period. Indicate if none.
Delegation of Activities	Describe identified improvements or corrective actions for all delegated functions as needed.
Corrective Action Plans	Provide the completion date or targeted date for completion.
Previous Year's Recommendations	Address all previous year's recommendations, describe how each was incorporated into the QAPI program, and describe actions to meet the recommendation.

Appendix D: 3M Clinical Risk Group Definitions

1. Healthy - A healthy status is identified by the absence of any primary chronic diseases (PCD) or Significant Acute Episode Diagnostic Categories (EDC) or Episode Procedure Category (EPC).
2. Significant Acute - A history of significant acute disease is identified by the presence within the most recent six-month period of one or more Significant Acute EDCs or one of a set of Significant Acute EPCs with no PCDs (i.e., identifiable chronic conditions) present.
3. Single Minor Chronic - A single minor chronic disease is identified by the presence of a single Minor Chronic PCD.
4. Multiple Minor Chronic - Minor chronic disease in multiple organ systems is identified by the presence of two or more Minor Chronic PCDs.
5. Single Dominant or Moderate Chronic Disease – Single dominant chronic disease is identified by the presence of a single dominant or moderate PCD. If a Minor Chronic PCD with a level of 1 is present, it is ignored.
6. Significant Chronic Disease in Multiple Organ Systems - Significant chronic diseases in multiple organ systems are identified by the presence of two or more PCDs, of which at least one is a Dominant or Moderate Chronic PCD. PCDs that are a severity level 1 minor chronic disease are not considered a significant chronic disease, and are not used to identify the presence of significant chronic disease in multiple organ systems. Minor Chronic PCDs that are severity level 2 minor chronic diseases are used.
7. Dominant Chronic Disease in Three or More Organ Systems - Dominant chronic disease in three or more organ systems is identified by the presence of three or more dominant chronic PCDs or two dominant chronic PCDs with a selected moderate chronic PCD.
8. Malignancies-Metastatic, Complicated or Dominant - A malignancy that dominates the medical care required (e.g., brain malignancy) or a non-dominant malignancy (e.g., prostate malignancy) that is metastatic or complicated (e.g., requiring a bone marrow transplant).
9. Catastrophic - Catastrophic conditions include long term dependency on a medical technology (e.g., dialysis, respirator, and TPN) and life-defining chronic diseases or conditions that dominate the medical care required (e.g., persistent vegetative state, cystic fibrosis, AIDS, and history of heart transplant).
10. Unassigned - the member did not meet the 3-month minimum enrollment criteria.

Appendix E: PPC Groups and Categories

PPC Groups

The 8 PPC groups are also found in Table 40.

PPC Group	Group Description
1	Extreme Complications
2	Cardiovascular-Respiratory Complications
3	Gastrointestinal Complications
4	Perioperative Complications
5	Infectious Complications
6	Malfunctions, Reactions, etc.
7	Obstetrical Complications
8	Other Medical and Surgical Complications

PPC Categories

There are 66 categories for PPC.

PPC Category	PPC Description	PPC Group
1	Stroke and Intracranial Hemorrhage	2
2	Extreme CNS Complications	1
3	Acute Pulmonary Edema and Respiratory Failure without Ventilation	2
4	Acute Pulmonary Edema and Respiratory Failure with Ventilation	1
5	Pneumonia and Other Lung Infections	2
6	Aspiration Pneumonia	2
7	Pulmonary Embolism	2
8	Other Pulmonary Complications	2
9	Shock	1
10	Congestive Heart Failure	2
11	Acute Myocardial Infarction	2
12	Cardiac Arrhythmias and Conduction Disturbances	2
13	Other Cardiac Complications	2
14	Ventricular Fibrillation/Cardiac Arrest	1
15	Peripheral Vascular Complications except Venous Thrombosis	2
16	Venous Thrombosis	2
17	Major Gastrointestinal Complications without Transfusion or Significant Bleeding	3
18	Major Gastrointestinal Complications with Transfusion or Significant Bleeding	3
19	Major Liver Complications	3

PPC Category	PPC Description	PPC Group
20	Other Gastrointestinal Complications without Transfusion or Significant Bleeding	3
21	Clostridium Difficile Colitis	5
22	This category intentionally excluded. Category 22 was retired and Categories 65 and 66 added.	x
23	GU Complications except UTI	8
24	Renal Failure without Dialysis	8
25	Renal Failure with Dialysis	1
26	Diabetic Ketoacidosis and Coma	8
27	Post-Hemorrhagic and Other Acute Anemia with Transfusion	8
28	In-Hospital Trauma and Fractures	8
29	Poisonings except from Anesthesia	6
30	Poisonings due to Anesthesia	6
31	Decubitus Ulcer	8
32	Transfusion Incompatibility Reaction	6
33	Cellulitis	5
34	Moderate Infections	5
35	Septicemia and Severe Infections	5
36	Acute Mental Health Changes	8
37	Post-Operative Infection and Deep Wound Disruption without Procedure	4
38	Post-Operative Wound Infection and Deep Wound Disruption with Procedure	4
39	Reopening Surgical Site	4
40	Post-Operative Hemorrhage and Hematoma without Hemorrhage Control Procedure or I and D Procedure	4
41	Post-Operative Hemorrhage and Hematoma with Hemorrhage Control Procedure or I and D Procedure	4
42	Accidental Puncture/Laceration during Invasive Procedure	4
43	Accidental Cut or Hemorrhage during Other Medical Care	8
44	Other Surgical Complication - Moderate	8
45	Post-procedure Foreign Bodies	4
46	Post-Operative Substance Reaction and Non-O.R. Procedure for Foreign Body	4
47	Encephalopathy	8
48	Other Complications of Medical Care	8
49	Iatrogenic Pneumothorax	6
50	Mechanical Complication of Device, Implant and Graft	6
51	Gastrointestinal Ostomy Complications	6
52	Inflammation and Other Complications of Devices, Implants or Grafts except Vascular Infection	6
53	Infection, Inflammation and Clotting Complications of Peripheral Vascular Catheters and Infusions	6
54	Infections due to Central Venous Catheters	6

PPC Category	PPC Description	PPC Group
55	Obstetrical Hemorrhage without Transfusion	7
56	Obstetrical Hemorrhage with Transfusion	7
57	Obstetric Lacerations and Other Trauma Without Instrumentation	7
58	Obstetric Lacerations and Other Trauma With Instrumentation	7
59	Medical and Anesthesia Obstetric Complications	7
60	Major Puerperal Infection and Other Major Obstetric Complications	7
61	Other Complications of Obstetrical Surgical and Perineal Wounds	7
62	Delivery with Placental Complications	7
63	Post-Operative Respiratory Failure with Tracheostomy	1
64	Other In-Hospital Adverse Events	8
65	Urinary Tract Infection	5
66	Catheter-Related Urinary Tract Infection	5

Appendix F: Individual Measures Included in Rating Calculations

The following table identifies the measures included in the calculation of overall plan ratings, performance domains, and individual measures. As noted previously, the choice of items on the report card is informed by the 2016 report card evaluation survey and previous focus groups, HHS priorities, comparable state and national comparative rating projects, and published research. Each report card presents items in three levels: selected individual items, grouped into three broad performance domain composites, which are then composited to form the overall health plan rating. The description of calculations at each level below is followed by lists of specific measures for each category of report card (CHIP, STAR Child, STAR Adult, and STAR+PLUS) in ratings calculations

Overall health plan: The overall plan quality rating is calculated as the average of the three performance domain composite items identified below. These measures are weighted equally and standardized on a scale from 0-1. The cluster associated with the average of the three composite scores is reported as the overall health plan star rating. If two or more domains are identified as, “no rating” due to low denominators, then the overall health plan score will also be identified as “no rating” due to insufficient information. Following this approach ensures that the overall quality score is calculated in a systematic and fair way.

Performance Domains: Ratings on performance domain items are calculated as the average of individual rankings from the CAHPS or HEDIS measures for each domain. See the table on the following page for a specific list of measures in each domain for each report card category. Individual rankings are weighted equally and standardized on a 0-1 scale. The cluster associated with the average of the individual scores for each domain is reported as the star rating for that domain. If more than half of the individual measures in the composite are low denominator, then the domain is categorized as, “no rating.” The three performance domains are: 1) Experience with doctors and the health plan; 2) Staying healthy; and 3) Controlling chronic disease.

Individual measures: Individual measures vary to account for the differing needs of the four populations served by the report cards. Ratings on these items are based on the scores on individual CAHPS or HEDIS measures. The cluster associated with the individual score is reported as the star rating for that measure.

Plan	Performance Domain	Individual measures	Measures	Data Source	Data specification
CHIP	*Experience with Doctors and the Health Plan*	Children get appointments soon and emergency care right away	CAHPS *Getting Care Quickly*	2017 CHIP Caregiver and Annual Report Card (ARC) Survey	AHRQ specification, plan code level
		Doctors listen carefully, explain clearly and spend enough time with children and parents	CAHPS *How Well Doctors Communicate*	2017 CHIP Caregiver and Annual Report Card (ARC) Survey	AHRQ specification, plan code level
		Parents give high ratings to their child's personal doctor	CAHPS *Rating of personal doctor*	2017 CHIP Caregiver and Annual Report Card (ARC) Survey	AHRQ specification, plan code level
		Parents give high ratings to the health plan	CAHPS *Rating of health plan*	2017 CHIP Caregiver and Annual Report Card (ARC) Survey	AHRQ specification, plan code level
	Staying Healthy	Children and teens get regular checkups	Composite of HEDIS *Well-Child Visits in the Third, Fourth, Fifth and Sixth Years of Life* (W34) with HEDIS *Adolescent Well-Care Visits* (AWC).	CHIP QoC Tables, 2016, HEDIS 2017	**W34** and **AWC:** Optional hybrid specification; hybrid by plan in QoC tables, administrative-only data by plan code used for report cards
		Children and teens get their vaccines	Composite of HEDIS *Childhood Immunization Status* (CIS), *Combo 10* with HEDIS *Immunizations for Adolescents* (IMA), *Combo 2*.	CHIP QoC Tables,2016, HEDIS 2017	**IMA:** Optional hybrid specification; administrative-only data used for QoC tables and report cards. **CIS:** Optional hybrid specification; hybrid by plan in QoC tables, administrative-only data by plan code used for report cards

Plan	Performance Domain	Individual measures	Measures	Data Source	Data specification
	Controlling Chronic Disease	Children get medicine for asthma	Composite of HEDIS *Asthma Medication Ratio* (AMR) with HEDIS *Medication Management for People With Asthma* (MMA), *75% of days covered*.	CHIP QoC Tables, 2016, HEDIS 2017	**AMR** and **MMA:** No hybrid specification; administrative-only data used for QoC tables and report cards
		Children see the doctor for ADHD (Attention Deficit Hyperactivity Disorder)	HEDIS *Follow-Up Care for Children Prescribed ADHD Medication* (ADD), *Initiation Phase*	CHIP QoC Tables, 2016, HEDIS 2017	**ADD:** No hybrid specification; administrative-only data used for QoC tables and report cards
STAR Child	*Experience with Doctors and the Health Plan*	Children get appointments soon and emergency care right away	CAHPS *Getting Care Quickly*	2017 STAR Child Caregiver and Annual Report Card (ARC) Survey	AHRQ specification, plan code level
		Doctors listen carefully, explain clearly and spend enough time with children and parents	CAHPS *How Well Doctors Communicate*	2017 STAR Child Caregiver and Annual Report Card (ARC) Survey	AHRQ specification, plan code level
		Parents give high ratings to their child's personal doctor	CAHPS *Rating of personal doctor*	2017 STAR Child Caregiver and Annual Report Card (ARC) Survey	AHRQ specification, plan code level
		Parents give high ratings to the health plan	CAHPS *Rating of health plan*	2017 STAR Child Caregiver and Annual Report Card (ARC) Survey	AHRQ specification, plan code level
	Staying Healthy	Babies get regular checkups	HEDIS *Well-Child Visits in the First 15 Months of Life* (W15), *six or more visits*	STAR QoC Tables, 2016, HEDIS 2017	**W15:** Optional hybrid specification; hybrid by plan in QoC tables, administrative-only data by plan code used for report cards

Plan	Performance Domain	Individual measures	Measures	Data Source	Data specification
		Children and teens get regular checkups	Composite of HEDIS *Well-Child Visits in the Third, Fourth, Fifth and Sixth Years of Life* (W34) with HEDIS *Adolescent Well-Care Visits* (AWC).	STAR QoC Tables, 2016, HEDIS 2017	**W34** and **AWC:** Optional hybrid specification; hybrid by plan in QoC tables, administrative-only data by plan code used for report cards
		Children and teens get their vaccines	Composite of HEDIS *Childhood Immunization Status* (CIS), *Combo 10* with HEDIS *Immunizations for Adolescents* (IMA), *Combo 2*.	STAR QoC Tables, 2016, HEDIS 2017	**CIS**: Optional hybrid specification; hybrid by plan in QoC tables, administrative-only data by plan code used for report cards. **IMA:** Optional hybrid specification; administrative-only data used for QoC tables and report cards.
	Controlling Chronic Disease	Children get medicine for asthma	Composite of HEDIS *Asthma Medication Ratio* (AMR) with HEDIS *Medication Management for People With Asthma* (MMA), *75% of days covered*.	STAR QoC Tables, 2016, HEDIS 2017	**AMR** and **MMA:** No hybrid specification; administrative-only data used for QoC tables and report cards
		Children see the doctor for ADHD (Attention Deficit Hyperactivity Disorder)	HEDIS *Follow-Up Care for Children Prescribed ADHD Medication* (ADD), *Initiation Phase*	STAR QoC Tables, 2016, HEDIS 2017	**ADD:** No hybrid specification; administrative-only data used for QoC tables and report cards.
STAR Adult	*Experience with Doctors and the Health Plan*	People get regular and specialist care easily and soon, and emergency care right away	Composite of CAHPS *Getting Care Quickly* and CAHPS *Getting Needed Care*.	2017 STAR Adult Annual Report Card (ARC) Survey	AHRQ specification, plan code level
		Doctors listen carefully, explain clearly and spend enough time with people	CAHPS *How Well Doctors Communicate*	2017 STAR Adult Annual Report Card (ARC) Survey	AHRQ specification, plan code level

Plan	Performance Domain	Individual measures	Measures	Data Source	Data specification
		People give high ratings to their personal doctor	CAHPS *Rating of personal doctor*	2017 STAR Adult Annual Report Card (ARC) Survey	AHRQ specification, plan code level
		People give high ratings to the health plan	CAHPS *Rating of health plan*	2017 STAR Adult Annual Report Card (ARC) Survey	AHRQ specification, plan code level
	Staying Healthy	Women get checkups during pregnancy	HEDIS *Prenatal and Postpartum Care* (PPC), *prenatal care*	STAR QoC Tables, 2016, HEDIS 2017	**PPC:** Optional hybrid specification; hybrid by plan in QoC tables, administrative-only data by plan code used for report cards.
		New mothers get checkups after giving birth	HEDIS *Prenatal and Postpartum Care* (PPC), *postpartum care*	STAR QoC Tables, 2016, HEDIS 2017	**PPC:** Optional hybrid specification; hybrid by plan in QoC tables, administrative-only data by plan code used for report cards.
		People get regular yearly checkups	HEDIS *Adults' Access to Preventive/Ambulatory Health Services* (AAP)	STAR QoC Tables, 2016, HEDIS 2017	**AAP:** No hybrid specification; administrative-only data used for QoC tables and report cards.
		Women get regular screenings for cervical cancer	HEDIS *Cervical Cancer Screening* (CCS)	STAR QoC Tables, 2016, HEDIS 2017	**CCS:** Optional hybrid specification; administrative-only data used for QoC tables and report cards.
	Controlling Chronic Disease	People get care for depression and constant low mood	HEDIS *Antidepressant Medication Management* (AMM), *acute phase*	STAR QoC Tables, 2016, HEDIS 2017	**AMM:** No hybrid specification; administrative-only data used for QoC tables and report cards.
		People get care for diabetes	Composite of four components of HEDIS *Comprehensive Diabetes Care* (CDC): *HbA1c testing; HbA1c control* (<8%); *Eye exam (retinal) performed*;	STAR QoC Tables, 2016, HEDIS 2017	**HbA1c control**: Non-optional hybrid specification; plan level results used for QoC tables and report cards. **HbA1c testing:** Optional hybrid specification; plan level hybrid results used for QoC tables, administrative-only data used for report cards.

Plan	Performance Domain	Individual measures	Measures	Data Source	Data specification
			and *Medical attention for nephropathy*.		**Exe exam** and **Medical attention for nephropathy:** Optional hybrid specification; administrative-only data used for QoC tables and report cards.
STAR+PLUS	*Experience with Doctors and the Health Plan*	People get regular and specialist care easily and soon, and emergency care right away	Composite of CAHPS *Getting Care Quickly* and CAHPS *Getting Needed Care*	2017 STAR+PLUS Adult Annual Report Card (ARC) Survey	AHRQ specification, plan code level
		Doctors listen carefully, explain clearly and spend enough time with people	CAHPS *How Well Doctors Communicate*	2017 STAR+PLUS Adult Annual Report Card (ARC) Survey	AHRQ specification, plan code level
		People give high ratings to their personal doctor	CAHPS *Rating of personal doctor*	2017 STAR+PLUS Adult Annual Report Card (ARC) Survey	AHRQ specification, plan code level
		People give high ratings to the health plan	CAHPS *Rating of health plan*	2017 STAR+PLUS Adult Annual Report Card (ARC) Survey	AHRQ specification, plan code level
	Staying Healthy	People get regular yearly checkups	HEDIS *Adults' Access to Preventive/Ambulatory Health Services* (AAP)	STAR+PLUS QoC Tables, 2016, HEDIS 2017	**AAP:** No hybrid specification; administrative-only data used for QoC tables and report cards.
		People get regular screening for common types of cancer	Composite of HEDIS *Breast Cancer* Screening (BCS) and HEDIS *Cervical Cancer Screening* (CCS).	STAR+PLUS QoC Tables, 2016, HEDIS 2017	**BCS:** No hybrid specification; administrative-only data used for QoC tables and report cards. **CCS:** Optional hybrid specification; administrative-only data used for QoC tables and report cards.
		Doctors test for side effects of long-term heart medicines	HEDIS *Annual Monitoring for Patients on Persistent Medications* (MPM), *combined rate*	STAR+PLUS QoC Tables, 2016, HEDIS 2017	**MPM:** No hybrid specification; administrative-only data used for QoC tables and report cards.

Plan	Performance Domain	Individual measures	Measures	Data Source	Data specification
	Controlling Chronic Disease	People get care for depression and constant low mood	HEDIS *Antidepressant Medication Management* (AMM), *acute phase*	STAR+PLUS QoC Tables, 2016, HEDIS 2017	**AMM:** No hybrid specification; administrative-only data used for QoC tables and report cards.
		People get tests and treatments for COPD (Chronic Obstructive Pulmonary Disease)	Composite of HEDIS *Pharmacotherapy Management of COPD Exacerbation* (PCE) with HEDIS *Use of Spirometry Testing in the Assessment and Diagnosis of COPD* (SPR).	STAR+PLUS QoC Tables, 2016, HEDIS 2017	**PCE** and **SPR:** No hybrid specification; administrative-only data used for QoC tables and report cards.
		People get care for diabetes	Composite of four components of HEDIS *Comprehensive Diabetes Care* (CDC): *HbA1c Testing; HbA1c control* (<8%); *Eye exam (retinal) performed*; and *Medical attention for nephropathy*.	STAR+PLUS QoC Tables, 2016, HEDIS 2017	**HbA1c control:** Non-optional hybrid specification; plan level results used for QoC tables and report cards. **HbA1c testing:** Optional hybrid specification; plan level hybrid results used for QoC tables, administrative-only data used for report cards. **Exe exam** and **Medical attention for nephropathy:** Optional hybrid specification; administrative-only data used for QoC tables and report cards.

Appendix G: Logistic Regression Results

This appendix presents the detailed logistic regression results discussed in the narrative.

Logistic Regression Odds Ratios Predicting SSD

	N	HEDIS numerator compliant	Odds Ratio	95% Confidence Interval	
Age (years)					
Less than 30	4,512	75.8%	Ref	Ref	Ref
Between 30 and 40	5,346	78.3%	1.049	0.940	1.169
Between 40 and 50	5,058	81.1%	1.029	0.917	1.156
Greater than 50	8,230	84.4%	1.100	0.985	1.228
Sex					
Male	12,046	77.3%	Ref	Ref	Ref
Female*	11,100	84.1%	1.211	1.122	1.308
Race					
White, Non-Hispanic	6,610	83.2%	Ref	Ref	Ref
Asian	382	78.8%	1.184	0.88	1.593
Black, Non-Hispanic*	5,752	78.1%	0.819	0.734	0.914
Hispanic	5,164	81.1%	1.083	0.959	1.224
Poverty (Percent of census tract below poverty)					
Less than 10%	3,104	79.2%	Ref	Ref	Ref
Between 10% and 20%	6,141	81.3%	1.024	0.941	1.189
Greater than 20%	10,674	80.3%	0.967	0.866	1.080
Physical Health Condition					
Not present	8,961	67.8%	Ref	Ref	Ref
Present*	13,962	90.0%	4.172	3.847	4.525
Plan-Code					
Hidalgo-Superior	680	88.4%	Ref	Ref	Ref
Tarrant-Amerigroup*	1,546	85.8%	0.677	0.485	0.946
MRSA Central-Superior*	738	85.0%	0.623	0.429	0.904
Lubbock-Amerigroup	161	84.5%	0.598	0.332	1.075
MRSA West-Superior*	744	85.0%	0.591	0.407	0.859
MRSA Northeast-UnitedHealthcare*	875	83.0%	0.574	0.400	0.825
MRSA Central-UnitedHealthcare*	364	83.2%	0.564	0.368	0.864
Tarrant-Cigna HealthSpring*	454	82.6%	0.537	0.360	0.802
Hidalgo-Cigna HealthSpring*	432	81.5%	0.510	0.345	0.754
Harris-Amerigroup*	1,965	81.1%	0.504	0.366	0.694
Hidalgo-Molina*	289	80.6%	0.504	0.325	0.781
Jefferson-UnitedHealthcare*	310	83.6%	0.484	0.311	0.753

	N	HEDIS numerator compliant	Odds Ratio	95% Confidence Interval	
Harris-Molina*	455	80.7%	0.477	0.322	0.706
Lubbock-Superior*	262	80.5%	0.476	0.303	0.746
Harris-UnitedHealthcare*	2,618	81.1%	0.476	0.348	0.651
Nueces-Superior*	417	82.3%	0.468	0.312	0.702
Bexar-Amerigroup*	465	81.1%	0.460	0.313	0.675
Bexar-Superior*	1,806	81.3%	0.451	0.329	0.617
MRSA Northeast-Cigna HealthSpring*	964	79.5%	0.441	0.311	0.625
El Paso-Molina*	272	78.3%	0.440	0.284	0.682
Jefferson-Molina*	279	79.9%	0.402	0.258	0.627
El Paso-Amerigroup*	492	77.6%	0.377	0.259	0.549
Nueces-UnitedHealthcare*	366	77.6%	0.358	0.240	0.535
MRSA West-Amerigroup*	371	76.0%	0.356	0.236	0.535
Jefferson-Amerigroup*	316	73.4%	0.319	0.211	0.483
Travis-Amerigroup*	695	73.1%	0.303	0.214	0.430
Travis-UnitedHealthcare*	735	74.3%	0.297	0.210	0.420
Bexar-Molina*	266	72.9%	0.281	0.186	0.424

** statistically different from reference group (p<0.05)*

Logistic Regression predicting AWC using Hybrid Data

	N	Percent Compliant	Odds Ratio	95% Confidence Interval	
Age (years)					
Less than 15	3241	70.6%	Ref	Ref	Ref
Between 15 and 17*	1869	62.9%	0.721	0.619	0.840
18 and older*	1545	53.3%	0.517	0.441	0.605
Sex					
Male	3347	62.7%	Ref	Ref	Ref
Female	3307	66.1%	0.967	0.851	1.099
Race					
White, Non-Hispanic	955	55.0%	Ref	Ref	Ref
Asian	188	61.7%	1.294	0.852	1.968
Black, Non-Hispanic	556	57.0%	0.984	0.748	1.293
Hispanic*	3514	67.1%	1.550	1.288	1.865
Poverty (Percent of census tract below poverty)					
Less than 10%	1512	62.8%	Ref	Ref	Ref
Between 10% and 20%	2013	62.8%	0.958	0.812	1.130
Greater than 20%	2303	67.1%	1.118	0.945	1.324
Physical Health Condition					
Not present	5219	72.1%	Ref	Ref	Ref
Present*	620	77.6%	1.329	1.050	1.684
Behavioral Health Condition					
Not present	5296	72.9%	Ref	Ref	Ref
Present	543	70.5%	0.913	0.723	1.153
Behavioral and Physical Health Condition					
Not present	5747	72.7%	Ref	Ref	Ref
Present	92	72.8%	1.016	0.556	1.857
Plan					
El Paso Health	411	81.5%	Ref	Ref	Ref
Texas Children's Health Plan	411	78.6%	0.935	0.601	1.453
Community Health Choice	411	74.9%	0.733	0.478	1.122
Driscoll*	411	74.2%	0.607	0.404	0.912
Parkland*	432	72.2%	0.649	0.427	0.986
Amerigroup*	432	65.7%	0.473	0.316	0.708
Dell Children's Health Plan*	432	65.7%	0.470	0.313	0.704
Superior*	398	64.8%	0.384	0.257	0.573
UnitedHealthcare*	388	64.2%	0.484	0.321	0.731
BlueCross BlueShield of Texas*	453	62.9%	0.412	0.275	0.616
Molina*	453	57.6%	0.308	0.209	0.454

	N	Percent Compliant	Odds Ratio	95% Confidence Interval	
FirstCare*	409	57.2%	0.265	0.180	0.390
CFHP*	424	57.1%	0.271	0.183	0.400
CookCHP*	395	57.0%	0.310	0.209	0.461
Aetna*	432	55.6%	0.345	0.232	0.512
Sendero*	259	44.0%	0.140	0.090	0.217
CHRISTUS*	104	26.0%	0.073	0.040	0.131

** statistically different from reference group (p<0.05)*

Logistic Regression Predicting AWC Using Administrative Data

	N	Percent Compliant	Odds Ratio	95% Confidence Interval	
Age (years)					
Less than 15	51391	64.2%	Ref	Ref	Ref
Between 15 and 17*	22635	55.1%	0.711	0.684	0.739
18 and older*	10118	45.7%	0.478	0.454	0.503
Sex					
Male	42621	60.0%	Ref	Ref	Ref
Female	41511	59.0%	0.970	0.938	1.003
Race					
White, Non-Hispanic	13593	49.1%	Ref	Ref	Ref
Asian*	2947	59.2%	1.505	1.362	1.662
Black, Non-Hispanic*	9710	53.6%	1.313	1.229	1.403
Hispanic*	51585	63.6%	1.765	1.684	1.849
Poverty (Percent of census tract below poverty)					
Less than 10%	17029	58.6%	Ref	Ref	Ref
Between 10% and 20%	25508	59.2%	0.992	0.948	1.038
Greater than 20%	31697	60.8%	1.020	0.975	1.068
Physical Health Condition					
Not present	66704	66.8%	Ref	Ref	Ref
Present*	7750	70.8%	1.199	1.129	1.274
Behavioral Health Condition					
Not present	68154	67.5%	Ref	Ref	Ref
Present*	6300	64.7%	0.91	0.853	0.971
Behavioral and Physical Health Condition					
Not present	73374	67.2%	Ref	Ref	Ref
Present	1080	69.5%	1.154	0.977	1.363
Plan					
Driscoll	1594	72.2%	Ref	Ref	Ref
Community Health Choice*	5526	71.5%	1.239	1.069	1.435
El Paso Health	2742	69.8%	0.932	0.795	1.092
Texas Children's Health Plan	13174	67.9%	0.949	0.829	1.086
Sendero	259	64.5%	0.856	0.589	1.244
Dell Children's Health Plan	1648	64.3%	0.907	0.758	1.085
Amerigroup*	14503	58.6%	0.641	0.561	0.733
CFHP*	4521	57.6%	0.539	0.467	0.623
UnitedHealthcare*	2123	56.6%	0.727	0.616	0.858
PCHP*	5402	56.3%	0.542	0.47	0.625

	N	Percent Compliant	Odds Ratio	95% Confidence Interval	
Superior*	18142	55.4%	0.514	0.45	0.586
CookCHP*	4673	54.1%	0.583	0.505	0.674
FirstCare*	937	52.0%	0.459	0.378	0.556
BlueCross BlueShield of Texas*	914	51.4%	0.465	0.379	0.57
Molina*	6311	50.2%	0.45	0.391	0.518
Aetna*	1589	50.2%	0.513	0.431	0.611
CHRISTUS*	86	48.8%	0.443	0.259	0.756

** statistically different from reference group*

Logistic Regression predicting PPC Timeliness of Prenatal Care using Hybrid Data

	N	Percent Compliant	Odds Ratio	95% Confidence Interval	
Age (years)					
Less than 20	731	78.8%	Ref	Ref	Ref
Between 20 and 25*	2608	84.3%	1.599	1.274	2.008
Between 25 and 30*	2197	84.7%	1.617	1.279	2.043
Between 30 and 35*	1222	84.6%	1.581	1.217	2.054
Greater than 35*	635	83.9%	1.499	1.105	2.034
Race					
White, Non-Hispanic	1787	81.6%	Ref	Ref	Ref
Black, Non-Hispanic	1158	81.3%	0.881	0.710	1.094
Hispanic*	4064	85.8%	1.299	1.089	1.550
Poverty (Percent of census tract below poverty)					
Less than 10%	1393	83.6%	Ref	Ref	Ref
Between 10% and 20%	2192	83.5%	0.884	0.728	1.073
Greater than 20%	3222	84.6%	0.860	0.710	1.041
Physical Health Condition					
Not present	5259	84.2%	Ref	Ref	Ref
Present	1863	84.2%	1.011	0.853	1.199
Behavioral Health Condition					
Not present	6417	84.5%	Ref	Ref	Ref
Present	705	81.6%	0.813	0.612	1.081
Behavioral and Physical Health Condition					
Not present	6809	84.3%	Ref	Ref	Ref
Present	313	81.8%	0.911	0.589	1.410
Plan					
El Paso Health	411	92.9%	Ref	Ref	Ref
Scott and White Health Plan	412	91.3%	1.293	0.730	2.288
CFHP	432	89.6%	0.772	0.462	1.293
Superior	410	89.0%	0.654	0.393	1.087
Aetna	432	88.9%	0.708	0.426	1.177
Molina	453	88.5%	0.724	0.436	1.201
Driscoll	418	88.0%	0.622	0.372	1.040
UnitedHealthcare	405	87.7%	0.627	0.377	1.041
Texas Children's Health Plan	413	86.4%	0.717	0.428	1.199
Community Health Choice*	410	84.6%	0.552	0.336	0.905
Amerigroup*	432	84.0%	0.522	0.320	0.852
PCHP*	432	82.6%	0.472	0.291	0.764
FirstCare*	411	81.3%	0.384	0.238	0.621

	N	Percent Compliant	Odds Ratio	95% Confidence Interval	
Dell Children's Health Plan*	432	79.2%	0.348	0.217	0.556
CookCHP*	376	77.7%	0.336	0.209	0.541
Sendero*	411	73.5%	0.271	0.170	0.431
BlueCross BlueShield of Texas*	453	72.2%	0.234	0.148	0.369
CHRISTUS*	250	65.6%	0.177	0.108	0.290

** statistically different from reference group*

Logistic Regression predicting PPC Timeliness of Prenatal Care using Administrative Data

	N	Percent Compliant	Odds Ratio	95% Confidence Interval	
Age (years)					
Less than 20	21537	57.9%	Ref	Ref	Ref
Between 20 and 25*	49854	59.2%	1.088	1.051	1.127
Between 25 and 30*	38144	59.5%	1.111	1.071	1.152
Between 30 and 35*	19315	58.0%	1.049	1.006	1.095
Greater than 35*	8742	58.5%	1.082	1.025	1.143
Race					
White, Non-Hispanic	33567	57.0%	Ref	Ref	Ref
Black, Non-Hispanic*	23567	54.3%	0.889	0.857	0.923
Hispanic*	73627	61.6%	1.073	1.042	1.106
Poverty (Percent of census tract below poverty)					
Less than 10%	23443	54.8%	Ref	Ref	Ref
Between 10% and 20%*	40972	57.5%	1.072	1.037	1.109
Greater than 20%*	62589	61.1%	1.200	1.162	1.239
Physical Health Condition					
Not present	95598	58.5%	Ref	Ref	Ref
Present*	36943	61.1%	1.142	1.110	1.174
Behavioral Health Condition					
Not present	122502	59.0%	Ref	Ref	Ref
Present*	12019	61.0%	1.073	1.016	1.132
Behavioral and Physical Health Condition					
Not present	126983	59.0%	Ref	Ref	Ref
Present	5558	62.9%	1.050	0.967	1.140
Plan					
El Paso Health	8986	69.5%	Ref	Ref	Ref
FirstCare*	2878	65.2%	0.771	0.699	0.851
CFHP	4515	65.1%	1.019	0.918	1.132
BlueCross BlueShield of Texas	1699	63.2%	0.993	0.869	1.135
Sendero	36128	62.4%	0.985	0.790	1.229
Scott and White Health Plan*	443	62.1%	0.567	0.504	0.639
PCHP*	3798	61.5%	0.636	0.578	0.701
CHRISTUS*	15019	59.0%	0.708	0.528	0.948
UnitedHealthcare*	6056	58.7%	0.770	0.698	0.851
Molina*	6584	57.8%	0.845	0.758	0.941
Dell Children's Health Plan*	9536	56.4%	0.735	0.604	0.894

	N	Percent Compliant	Odds Ratio	95% Confidence Interval	
Driscoll*	544	55.0%	1.187	1.078	1.306
Community Health Choice*	239	54.4%	0.816	0.746	0.893
Amerigroup*	22005	54.0%	0.670	0.613	0.732
CookCHP*	3732	53.0%	0.641	0.576	0.714
Superior*	7462	53.0%	0.910	0.836	0.992
Texas Children's Health Plan*	2465	50.3%	0.733	0.667	0.805
Aetna*	5503	47.9%	0.518	0.468	0.572

** statistically different from reference group*

Logistic Regression Predicting PPC Postpartum Care Using Hybrid Data

	N	Percent Compliant	Odds Ratio	95% Confidence Interval	
Age (years)					
Less than 20	725	64.7%	Ref	Ref	Ref
Between 20 and 25	2608	64.5%	1.005	0.834	1.211
Between 25 and 30	2197	66.4%	1.058	0.874	1.281
Between 30 and 35	1222	64.1%	0.954	0.773	1.177
Greater than 35	635	68.5%	1.211	0.944	1.554
Race					
White, Non-Hispanic	1789	67.0%	Ref	Ref	Ref
Black, Non-Hispanic*	1158	61.6%	0.810	0.681	0.963
Hispanic	4056	65.3%	1.011	0.879	1.161
Poverty (Percent of census tract below poverty)					
Less than 10%	1393	68.6%	Ref	Ref	Ref
Between 10% and 20%	2188	67.1%	0.949	0.815	1.105
Greater than 20%*	3222	62.8%	0.788	0.680	0.914
Physical Health Condition					
Not present	5259	67.3%	Ref	Ref	Ref
Present*	1857	63.4%	0.869	0.765	0.988
Behavioral Health Condition					
Not present	6409	66.9%	Ref	Ref	Ref
Present*	707	60.3%	0.738	0.589	0.924
Behavioral and Physical Health Condition					
Not present	6805	66.6%	Ref	Ref	Ref
Present	311	58.5%	1.019	0.723	1.437
Plan					
Scott and White Health Plan	412	73.5%	Ref	Ref	Ref
BCBSTX	453	73.3%	0.904	0.648	1.263
Texas Children's Health Plan	411	68.9%	0.765	0.549	1.066
Amerigroup	432	68.5%	0.763	0.551	1.057
Dell Children's Health Plan*	432	68.3%	0.646	0.467	0.893
Superior*	404	68.1%	0.685	0.491	0.956
Aetna*	432	68.1%	0.675	0.489	0.932
Community Health Choice*	412	68.0%	0.693	0.500	0.960
CFHP*	432	67.1%	0.698	0.503	0.968
Driscoll*	418	66.5%	0.654	0.467	0.918
El Paso Health*	411	65.9%	0.559	0.401	0.779
CookCHP*	376	65.4%	0.614	0.442	0.853

	N	Percent Compliant	Odds Ratio	95% Confidence Interval	
PCHP*	432	62.7%	0.573	0.417	0.788
FirstCare*	409	61.9%	0.504	0.364	0.699
UnitedHealthcare*	405	61.7%	0.497	0.359	0.687
Molina*	453	57.2%	0.438	0.319	0.601
Sendero*	411	56.9%	0.415	0.302	0.571
CHRISTUS*	252	46.8%	0.304	0.210	0.438

** statistically different from reference group*

Logistic Regression Predicting PPC Postpartum Care Using Administrative Data

	N	Percent Compliant	Odds Ratio	95% Confidence Interval	
Age (years)					
Less than 20	21537	54.5%	Ref	Ref	Ref
Between 20 and 25*	49854	55.4%	1.059	1.023	1.095
Between 25 and 30*	38144	57.8%	1.153	1.112	1.195
Between 30 and 35*	19315	57.5%	1.131	1.085	1.180
Greater than 35*	8742	56.8%	1.111	1.052	1.173
Race					
White, Non-Hispanic	33567	58.0%	Ref	Ref	Ref
Black, Non-Hispanic*	23567	53.6%	0.827	0.797	0.859
Hispanic*	73627	55.9%	0.956	0.928	0.985
Poverty (Percent of census tract below poverty)					
Less than 10%	23443	58.8%	Ref	Ref	Ref
Between 10% and 20%	40972	57.6%	0.975	0.943	1.009
Greater than 20%*	62589	54.7%	0.894	0.865	0.923
Physical Health Condition					
Not present	95598	58.2%	Ref	Ref	Ref
Present*	36943	55.8%	0.925	0.900	0.950
Behavioral Health Condition					
Not present	120522	58.0%	Ref	Ref	Ref
Present*	12019	52.8%	0.772	0.732	0.814
Behavioral and Physical Health Condition					
Not present	126983	57.7%	Ref	Ref	Ref
Present	5558	52.5%	1.081	0.998	1.171
Plan					
BCBSTX	1699	64.6%	Ref	Ref	Ref
Community Health Choice	15019	61.5%	0.904	0.808	1.011
Texas Children's Health Plan	9536	61.3%	0.918	0.819	1.030
CookCHP*	3732	60.0%	0.833	0.734	0.946
Aetna*	5503	58.1%	0.775	0.688	0.875
Amerigroup*	22005	57.7%	0.779	0.697	0.869
Sendero*	443	57.3%	0.734	0.586	0.920
CFHP*	4515	57.0%	0.737	0.652	0.834
Superior*	36128	56.6%	0.731	0.656	0.815
El Paso Health*	2878	55.7%	0.718	0.628	0.820
Driscoll*	8986	55.1%	0.700	0.623	0.786
Dell Children's Health Plan*	544	53.1%	0.614	0.499	0.755
Scott and White Health Plan *	2465	50.8%	0.581	0.507	0.665

	N	Percent Compliant	Odds Ratio	95% Confidence Interval	
PCHP*	7462	50.7%	0.593	0.528	0.667
FirstCare*	6584	50.2%	0.552	0.491	0.622
UnitedHealthcare*	6056	49.7%	0.560	0.497	0.631
CHRISTUS*	239	43.1%	0.466	0.346	0.628
Molina*	3798	40.5%	0.403	0.355	0.457

** statistically different from reference group (p<0.05)*

Appendix H: Overall Findings and Recommendations

This section lists the general findings and recommendations in this report. Findings and recommendations are organized by the protocols provided in the CMS EQR toolkit. Additional information can be found by following the links to each protocol in the body of the report.

Protocol	Recommendation
Protocol 1: Assessment of Compliance with Medicaid Managed Care Regulations	
Findings	• Overall, the DMO and MCOs had scores of 90% or higher in all AI categories. • While all components had strong scores, two areas where the DMO and MCOs were non-compliant or partially compliant included members' rights and protections and the grievance system. • During the on-site interviews, MCOs provided additional documentation or indicated that documentation would be updated to ensure compliance with all state and federal regulations. • MCO compliance with state and federal regulations increased from 2016 to 2017.
Recommendation	MCOs should ensure that all policy and procedures pertinent to the state and federal regulations are updated and submitted to HHS and the EQRO.
Finding	Most DM programs have low active participation rates, especially the obesity DM programs.
Recommendation	MCOs should identify the reason for low active participation rates and develop an approach to increase active participation in DM programs for high-risk members.
Protocol 3: Validation of Performance Improvement Projects (PIPs)	
Findings	• The area with the greatest opportunity for improvement was in the activity that assesses health plans' root cause analysis, interventions, and implementation strategy. This was mainly due to the plans not providing adequate details of proposed interventions. • Several health plans achieved statistically significant improvement in at least one study measure. However, few health plans achieved sustained improvement in the study measures. • PIP Progress Report scores were lower for reports 1 and 2, but improved for progress report 3. This was mainly due MCOs improving their reporting of the interventions, tracking and monitoring efforts, and implementing the interventions.
Recommendations	• Health plans should describe, in sufficient detail, the chosen intervention and how it addresses barriers identified in the root cause analysis. They should also describe how the intervention will be implemented and how the plan will communicate with both members and providers. • Health plans should ensure interventions are implemented as planned and subsequently tracked and monitored.
Protocol 4: Validation of Encounter Data Reported by MCOs	
Finding	Distribution of institutional vs. professional claims differed by SA in the STAR+PLUS program.
Recommendation	Investigate further to determine reasons for the differences.
Finding	POA for secondary diagnoses screening shows deficiencies.
Recommendation	Provide information to MCOs and encourage them to work with providers in their networks to improve quality.

Protocol	Recommendation
Finding	Rendering provider and specialty are not consistently identified for professional services.
Recommendation	The EQRO has been working with HHS and TMHP to require taxonomy information. This issue should continue to be monitored for improvement.
Finding	Dental coding for Caries Risk Assessment is poor.
Recommendation	DMOs should work with their providers to improve coding for this fundamental procedure.
Protocol 6: Calculation of Performance Measures	
Finding	Many CHIP MCOs performed below the national average on nutrition and physical activity counseling.
Recommendation	The state should work with high-performing MCOs to develop statewide intervention strategies.
Findings	• Eight MCOs in CHIP performed above the 75th percentile nationally. • Vaccination rates for Rotavirus and Influenza lagged behind other immunizations.
Recommendation	Although other immunization rates are good, providers need to improve compliance for Rotavirus and influenza, which are two important recommended vaccines.
Finding	Women in STAR+PLUS received screening for cervical cancer less frequently than the national average.
Recommendations	The state should work with MCOs to: • Identify barriers to receipt of recommended screening; and • Align performance improvement project topics with areas of greatest need for improvement, such as cervical cancer screening rates.
Finding	Diagnoses and acute treatment patterns for COPD differed by region. The Hidalgo SA had positive performance for measures related to COPD.
Recommendation	Investigate differences in COPD care and identify the best practices or community context that contribute to better care performance in the outcomes in the Hidalgo SA.
Finding	Performance on diabetes control measures was below the national average.
Recommendation	Work with MCOs to identify barriers to better disease management by patients and providers.
Findings	• Follow-up care after a hospitalization for a mental illness differed by MCO and geographic service area. • Some SAs had rates of individuals receiving follow-up care after a hospitalization for a mental illness that was above the 75th national percentile. • Both geographic differences and MCO differences influenced the rates of follow-up care.
Recommendations	• Identify root causes for differences in care and outcomes and use results to increase the effectiveness of improvement strategies. • Identify best practices and local factors that contribute to improved rates of follow-up care.
Protocol 8: Focus Studies	
Finding	The EQRO changed the methods for rating health plans and the presentation of consumer information on the report cards.
Recommendation	Suggest a follow-up survey with Medicaid enrollees to evaluate the effectiveness of the 2017 changes for improving accessibility of health information.

Protocol	Recommendation
Findings	• STAR Adult performed the best overall among the programs, with 58 percent of plans having a four-star or five-star rating. • Overall ratings for STAR+PLUS were lowest among the programs, with 57 percent of the plans ranked one-star or two-stars.
Recommendation	The EQRO should continue to work with HHS and the MCOs to help improve report card scores and associated quality of care for members.
Finding	Only 18 percent of calls to verify provider information could be completed, due in part to incorrect or outdated information in the provider directories given to members.
Recommendation	Resources should be directed to improve the accuracy of the information in provider directories, thus improving access to care for members.
Finding	Overall, the validation findings suggest that HCBS providers contracted with STAR+PLUS MCOs may not be meeting members' needs for the most common types of HCBS.
Recommendations	• STAR+PLUS MCOs should establish or monitor existing efforts to assess HCBS network adequacy, conduct root cause analyses to determine the reasons for low rates of rendered services, and develop PIPs to improve access to and quality of HCBS as warranted. • HHS and the EQRO should work together to define meaningful thresholds for the most common types of HCBS in STAR+PLUS. • STAR+PLUS MCOs should also continue to monitor and improve the quality of ISP data to meet the data quality standards required for more complete and meaningful service validation studies.
Findings	• STAR Kids-eligible members differed on demographics, health status, and service needs across service groups. • Caregivers of children in MDCP and IDD waivers reported lower access to needed routine services, specialized services, and prescription medications compared to CAHPS national standards.
Recommendation	Tailor outreach and quality improvement to the needs of each service group.
Findings	• Need for continued monitoring on several measures of preventive and behavioral health care. • Members in MDCP had the highest rates of potentially preventable events.
Recommendations	• Expand provider education programs to improve antipsychotic prescribing practices. • Conduct root cause analyses to determine reasons for low rates on preventive and behavioral health measures. • Efforts to reduce PPEs should focus on conditions commonly associated with PPEs among STAR Kids-eligible members, including seizures, pneumonia, bipolar disorder, and upper respiratory infections.