EQR PROTOCOL 2 – Validation of Performance Measures Reported by the MCO

Attachment A: Performance Measure Validation Worksheets

The data tables in this Attachment are designed to assist the EQRO in conducting Protocol 2 for validation of performance measures reported by the MCO.

Worksheet 1: Performance Measures Collected by the MCO

METHOD FOR CALCULATING PERFORMANCE MEASURE	

CHIPRA Child Initial Core Set Quality Measures

SAMPLE MEASURES	Admin. Data	Medical Record Review	Hybrid	EHR	Survey	Reporting Frequency and Format
Prenatal and Postpartum Care: Timeliness of Prenatal Care						
Frequency of Ongoing Prenatal Care						
Percentage of Live Births Weighing Less Than 2,500 Grams						
Cesarean Rate for Nulliparous Singleton Vertex						
Childhood Immunization Status						
Immunization for Adolescents						
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/ Adolescents: Body Mass Index Assessment for Children/ Adolescents						
Developmental Screening In the First Three Years of Life						
Chlamydia Screening						

have comments concerning the accuracy of the time estimate(s) or suggestions for improving this form, please write to: CMS, 7500 Security Boulevard, Attn: PRA Reports Clearance Officer, Baltimore, Maryland 21244-1850

SAMPLE MEASURES	Admin. Data	Medical Record Review	Hybrid	EHR	Survey	Reporting Frequency and Format
Well-Child Visits in the First 15 Months of Life						
Well-Child Visits in the 3rd, 4th, 5th, and 6th Years of Life						
Adolescent Well-Care Visit						
Percentage of Eligibles Who Received Preventive Dental Services						
Child and Adolescent Access to Primary Care Practitioners						
Appropriate Testing for Children with Pharyngitis						
Otitis Media with Effusion (OME) – Avoidance of Inappropriate Use of Systemic Antimicrobials in Children						
Percentage of Eligibles who Received Dental Treatment Services						
Ambulatory Care: Emergency Department Visits						
Pediatric Central-line Associated Blood Stream Infections – Neonatal Intensive Care Unit and Pediatric Intensive Care Unit						
Annual Percentage of Asthma Patients 2 Through 20 Years Old with One or More Asthma-Related Emergency Room Visits						
Follow-Up Care for Children Prescribed Attention Deficit Hyperactivity Disorder (ADHD) Medication						
Annual Pediatric Hemoglobin A1C Testing						
Follow-up After Hospitalization for Mental Illness						

SAMPLE MEASURES	Admin. Data	Medical Record Review	Hybrid	EHR	Survey	Reporting Frequency and Format
CAHPS® 4.0 (Child Version Including Medicaid and Children with Chronic Conditions Supplemental Items)						

Adult Medicaid Initial Core Set Quality Measures

SAMPLE MEASURES	Admin. Data	Medical Record Review	Hybrid	EHR	Survey	Reporting Frequency and Format
Flu Shots for Adults Ages 50-64 (Collected as part of HEDIS CAHPS Supplemental Survey)						
Adult BMI Assessment						
Breast Cancer Screening						
Cervical Cancer Screening						
Medical Assistance With Smoking and Tobacco Use Cessation (Collected as part of HEDIS CAHPS Supplemental Survey)						
Screening for Clinical Depression and Follow-Up Plan						
Plan All-Cause Readmission						
PQI 01: Diabetes, Short-term Complications Admission Rate						
PQI 05: Chronic Obstructive Pulmonary Disease (COPD) Admission Rate						
PQI 08: Congestive Heart Failure Admission Rate						
PQI 15: Adult Asthma Admission Rate						
Chlamydia Screening in Women age 21-24						
Follow-Up After Hospitalization for Mental Illness						

SAMPLE MEASURES	Admin. Data	Medical Record Review	Hybrid	EHR	Survey	Reporting Frequency and Format
PC-01: Elective Delivery						
PC-03 Antenatal Steroids						
Controlling High Blood Pressure						
Comprehensive Diabetes Care: LDL-C Screening						
Annual HIV/AIDS medical visit						
Comprehensive Diabetes Care: Hemoglobin A1c Testing						
Antidepressant Medication Management						
Adherence to Antipsychotics for Individuals with Schizophrenia						
Annual Monitoring for Patients on Persistent Medications						
CAHPS Health Plan Survey v 4.0 - Adult Questionnaire with CAHPS Health Plan Survey v 4.0H - NCQA Supplemental						
Care Transition – Transition Record Transmitted to Health care Professional						
Initiation and Engagement of Alcohol and Other Drug Dependence Treatment						
Prenatal and Postpartum Care: Postpartum Care Rate						

Worksheet 2: Performance Measure Validation Worksheet Template

PERFORMANCE MEASURE {Insert name of performance measure}

(Meets Validation Requirements)

Validation Component	Audit Element	Yes	No	N/A
Documentation	Appropriate and complete measurement plans and programming specifications exist that include data sources, programming logic, and computer source code.			
Denominator	Data sources used to calculate the denominator (e.g., eligibility files, claims files, provider files, pharmacy records) were complete and accurate.			
	Calculation of the performance measure adhered to the specifications for all components of the denominator of the performance measure (e.g., member ID, age, sex, continuous enrollment calculation, clinical codes such as ICD-9 or ICD-10, CPT-4, DRGs, UB-92, member months calculation, member years calculation, and adherence to specified time parameters).			
Numerator	Data sources used to calculate the numerator (e.g., member ID, claims files, medical records, provider files, pharmacy records, including those for members who received the services outside the MCO's network) are complete and accurate.			
	Calculation of the performance measure adhered to the specifications for all components of the numerator of the performance measure (e.g., clinical codes such as ICD-9 or ICD-10, CPT-4, LOINC, DRGs, pharmacy data, relevant time parameters such as admission/discharge dates or treatment start and stop dates, adherence to specified time parameters, number or type of provider).			
	If medical record abstraction was used, documentation/tools were adequate.			
	If hybrid method was used, the integration of administrative and medical record data was adequate.			
	If hybrid method or solely medical record review was used, the results of the medical record review validation substantiate the reported numerator.			
Sampling	Sample was unbiased.			
	Sample treated all measures independently.			
	Sample size and replacement methodologies met specifications.			

Validation Component	Audit Element	Yes	No	N/A
Reporting	State specifications for reporting performance measures were followed.			

Below is an example of a completed, customized performance measure validation worksheet similar to what an EQRO would prepare prior to its onsite visit. This worksheet assumes that the State has adopted the HEDIS® methodology for this performance measure. One of the following scoring designations must be checked for each audit element:

MET: The MCO's measurement and reporting process was fully compliant with State specifications.

NOT MET: The MCO's measurement and reporting process was not compliant with State specifications. This designation should be used for any audit element that deviates from the State specifications, regardless of the impact of the deviation on the final rate. All audit elements with this designation must include explanation of the deviation in the comments section.

N/A: The audit element was not applicable to the MCO's measurement and reporting process.

PERFORMANCE MEASURE TO BE VALIDATED: CHLAMYDIA SCREENING IN WOMEN

METHODOLOGY FOR CALCULATING MEASURE: (Check one):
[ ] Administrative [ ] Medical Record Review [ ] Hybrid

AUDIT ELEMENTS	AUDIT SPECIFICATIONS	MET	NOT MET	N/A	COMMENTS
DENOMINATOR					
1. Population	• Medicaid population appropriately segregated from commercial / Medicare. • Population defined as effective Medicaid enrollment as of Dec. 31 of the measurement year.				
2. Geographic Area	• Includes only those Medicaid enrollees served in the MCO's reporting area.				
3. Age & Sex	• Members aged 16-25as of 12/31 of the measurement year • Only females selected				
4. Enrollment Calculation	• Were members of MCO on 12/31 of the measurement year • Were continuously enrolled from 1/1 to 12/31 of the measurement year with no more than one break of up to 45 days allowed. • Switches between populations (Medicaid, CHIP and commercial) were not counted as breaks.				
5. Event/Diagnosis	• Sexually active based on pharmacy and claims/encounter data				

AUDIT ELEMENTS	AUDIT SPECIFICATIONS	MET	NOT MET	N/A	COMMENTS
6. Data Quality	• Based on the information system assessment findings, are any of the data sources for this denominator inaccurate?				
7. Proper Exclusion Methodology in Administrative Data (If no exclusions were taken, check N/A)	• Only members with allowed • Exclusions were performed according to current State specifications. • Only the codes listed in specifications as defined by State were counted as exclusions.				
8. Administrative Data: Counting Clinical Events	• Standard codes listed in State specifications or properly mapped internally developed codes were used. (Intended to reference appropriate specifications as defined by State.) • Members were counted only once; double counting was prevented.				
9. Medical Record Review Documentation Standards	• NA				
10. Time Period	• Service performed between 1/1 to 2/31 of the measurement year.				

AUDIT ELEMENTS	AUDIT SPECIFICATIONS	MET	NOT MET	N/A	COMMENTS
11. Data Quality	Properly identified enrollees. Based on the information system assessment findings, were any of the data sources used for this numerator inaccurate.				

SAMPLING

IF ADMINISTRATIVE METHOD WAS USED, CHECK "N/A" FOR AUDIT ELEMENTS 11, 12, AND 13.

AUDIT ELEMENTS	AUDIT SPECIFICATIONS	MET	NOT MET	N/A	COMMENTS
12. Unbiased Sample	• As specified in State specifications, systematic sampling method was utilized.				
13. Sample Size	• After exclusions, sample size is equal to 1) 411, 2) the appropriately reduced sample size, which used the current year's administrative rate or preceding year's reported rate, or 3) the total population.				
14. Proper Substitution Methodology in Medical Record Review (If no exclusions were taken, check NA)	• Only excluded members for whom medical record review revealed 1) contraindications that correspond to the codes listed in appropriate specifications as defined by State or 2) data errors. • Substitutions were made for properly excluded records and the percentage of substituted records was documented.				

Additional Questions

QUESTIONS	YES	NO
Were members excluded for contraindications found in the administrative data?		
Were members excluded for contraindications found during the medical record review?		
Were internally developed codes used?		

What range defines the impact of data incompleteness for this measure? (Check one.)	
0 - 5 percentage points	
>5 - 10 percentage points	
>10 - 20 percentage points	
>20 - 40 percentage points	
>40 percentage points	
Unable to Determine	
What is the direction of the bias? Check one: OVER-REPORTING / UNDER-REPORTING	
Upon what documentation is the above percentage based? (e.g., internal reports, studies, comparison to medical records, etc.	

Validation Finding

The validation finding for each measure is determined by the magnitude of the errors detected for the audit elements, not by the number of audit elements determined to be "NOT MET". Consequently, it is possible that an error for a single audit element may result in a designation of "NR" because the impact of the error biased the reported performance measure by more than "x" percentage points. Conversely, it is also possible that several audit element errors may have little impact on the reported rate and, thus the measure could be given a designation of "R." The following is a list of the validation findings and their corresponding definitions:

R = Report
Measure was compliant with State specifications.

NR = Not Reported
This designation is assigned to measures for which: 1) MCO rate was materially biased or 3) the MCO was not required to report.

NB = No Benefit
Measure was not reported because the MCO did not offer the benefit required by the measure.

AUDIT DESIGNATION	

Worksheet 3: Potential Documents and Processes for Review

In order to assess the MCO's information system and the validity of reported performance measures, the EQRO will need to review a number of data sources and processes. The EQRO should ask the MCO to make available the following documents, data, and procedures to the EQRO for observation; the EQRO will use its discretion in selecting which ones to review.

Integration and Control of Data

- Procedures and standards for all aspects of the data repository(ies) used in the production of performance measures, including building, maintaining, managing, testing, and production of performance measures.
- Manuals covering application system development methodology, database development, and design and decision support system utilization.
- Control system documentation including flow charts and codes for backups, recovery, archiving, and other control functions.
- Procedures to consolidate information from disparate transaction files.
- Record and file formats and descriptions, for entry, intermediate, and repository files.
- Electronic formats and protocols.
- Electronic transmission procedures documentation.
- Processes to extract information from the repository(ies).
- Source code data entry, data transfer, and data manipulation programs and processes.
- Descriptive documentation for data entry, transfer, and manipulation programs and processes.
- If applicable, procedures for coordinating vendor activities to safeguard the integrity of the performance measurement data.
- Samples of data from repository and transaction files to assess accuracy and completeness of the transfer process.
- Comparison of actual results from file consolidation and data abstracts to those which should have resulted according to documented algorithms.
- Documentation of data flow among vendors to assess the extent to which there has been proper implementation of procedures to safeguard the integrity of the performance measure data.
- Documentation of data cutoff dates.
- Documentation of proper run controls and of staff review of report runs.
- Copies of files and databases used for performance measure calculation and reporting.
- Procedures governing production process for MCO performance measures, including standards and schedules.

Collection, Calculation, and Documentation of Performance Measurements

- Policies for the documentation of data requirements, issues, validation efforts, and results.
- A project or measurement plan for each performance measure.
- Documentation of programming specifications, including work flow, data sources, and uses which include diagrammatic or narrative descriptions.

- Documentation of the original universe of data that includes record-level patient identifiers that can be used to validate entire programming logic for creating denominators, numerators, and samples.
- Documentation of computer queries, programming logic, or source code used to create final denominators, numerators, and interim data files.
- Documentation that includes dated job log or computer run for denominators and numerators, with record counts for each programming step and iteration.
- Documentation of medical record review including: qualifications of medical record review supervisor and staff; reviewer training materials; audit tools used, including completed copies of each record-level reviewer determination; all case-level critical performance measure data elements used to determine a positive or negative event or exclude a case from same; and inter-rater reliability testing procedures and results.
- Documentation of results of statistical tests and any corrections or adjustments to data along with justification for such changes.
- Documentation of sources of any supporting external data or prior years' data used in reporting.
- Policies to assign unique membership ID that allows all services to be properly related to the specific appropriate enrollee, despite changes in status, periods of enrollment or disenrollment, or changes across product lines (e.g., CHIP and Medicaid).
- Procedures to identify, track, and link member enrollment by product line, product, geographic area, age, sex, member months, and member years.
- Procedures to track individual members through enrollment, disenrollment, and possible re-enrollment.
- Procedures to track members through changes in family status, changes in benefits or managed care type (if they switch between Medicaid coverage and another product within the same MCO).
- Methods to define start and cessation of coverage.
- Procedures to link member months to member age.
- Description of software or programming languages used to query each database.
- Description of software used to execute sampling sort of population files when sampling (systematic) is used.
- Member database.
- Provider data (including facilities, labs, pharmacies, physicians, etc.).
- Database record layout and data dictionary.
- Survey data used for performance measures (See Protocol 5) Policies to maintain files from which the samples are drawn in order to keep population intact in the event that a sample must be re-drawn, or replacements made.
- Computer source code or logic identifying specified sampling techniques, and documentation that the logic matches the specifications set forth for each performance measure, including sample size and exclusion methodology.
- Methods used for sampling for measures calling for medical record or hybrid data.
- Documentation assuring that sampling methodology treats all measures independently and that there is no correlation between drawn samples.
- Observation or documentation of procedures in which a biased sample was identified and corrected.

- Documentation of “frozen” or archived files from which the samples were drawn, and if applicable, documentation of the MCO’s process to re-draw a sample or obtain necessary replacements.
- For performance measures which are easily under-reported, procedures to capture data that may reside outside the MCO’s data sets.
- Procedures for mapping non-standard codes to standard coding.
- Policies, procedures, and materials that evidence proper training, supervision, and adequate tools for medical record abstraction tasks. (May include medical record abstraction tools, training material, checks of inter-rater reliability, etc.)
- Procedures for assuring that combinations of record-review data with administratively determined data are consistent and verifiable.
- Evidence that MCO’s use of codes to identify medical events were correctly evaluated when classifying members for inclusion or exclusion in the numerator.
- Evidence that MCO has counted each member and/or event only once.
- Programming logic or demonstration that confirms that any non-standard codes used in determining the numerator have been mapped to a standard coding scheme in a manner that is consistent, complete, and reproducible.
- Programming logic or source code that identifies the process for integrating administrative and medical record data for numerator.
- Procedures for properly executing complex medical algorithms, such as claim-dependent events; events that require matching claims and pharmacy data; events that require matching visit codes; and events that require accurately identifying and computing multiple numerator events.
- Procedures for displaying denominator counts, numerator counts, precision levels, sums and cross-totals.
- Procedures for reporting small sample sizes (to be consistent with required methodology established by State).
- Programming logic and/or source code for arithmetic calculation of each measure.
- Review of reported measures to assess consistency of common elements (e.g., membership counts, number of pregnancies and births, etc.).
- Programming logic and/or source code for measures with complex algorithms, to ensure adequate matching and linkage among different types of data.
- Documentation showing confidence intervals of calculations when sampling methodology used.
- Documentation showing calculation of levels of significance of changes.
- Procedures for submitting reports that meet State requirements (e.g., specified electronic format, supporting documentation, and timing).
- Documentation that procedures for properly submitting required reports to State were implemented appropriately.

Worksheet 4: Data Integration and Control – Documentation Review Worksheet

Documentation	Reviewed	Not Reviewed	Comments
Procedures and standards for all aspects of the data repository(ies), including building, maintaining, managing, testing, and production of performance measures			
Manuals covering application system development methodology, database development and design, and decision support system utilization			
Control system documentation including flow charts and codes for backups, recovery, archiving, and other control functions			
Procedures to consolidate information from disparate transaction files to support performance measurement			
Record and file formats and descriptions, for entry, intermediate, and repository files			
Electronic formats and protocols			
Electronic transmission procedures documentation			
Processes to extract information from the repository to produce intended result			
Source code data entry, data transfer, and data manipulation programs and processes			
Descriptive documentation for data entry, data transfer, data manipulation programs and processes			

Documentation	Reviewed	Not Reviewed	Comments
If applicable, procedures for coordinating activities of multiple subcontractors in a way that safeguards the integrity of the performance measure data			
Samples of data from repository and transaction files to assess accuracy and completeness of the transfer process			
Comparison of actual results from file consolidation and data abstracts to those which should have resulted according to documented algorithms			
Documentation of data flow among vendors to assess the extent to which there has been proper implementation of procedures for coordinating activities to safeguard the integrity of the performance measure data			
Documentation of data cutoff dates			
Documentation of proper run controls and of staff review of report runs			
Copies of files and databases used for performance measure calculation and reporting			
Procedures governing production process of plan-level performance measures, including standards and schedules			

In the comments section, be sure to address the following:

- Compare samples of data in the repository to transaction files. Are any members, providers, or services lost in the process?

- Is the required level of coding detail maintained (e.g., all significant digits, primary and secondary diagnoses remain)?

- If the MCO uses a performance measure repository, review the repository structure. Does it contain all the key information necessary for performance measure reporting?

- How does the MCO test the process used to create the performance measure reports?

- Does the MCO use any algorithms to check the reasonableness of data integrated to report the MCO-level performance measures?

- Examine report production logs and run controls. Is there adequate documentation of the performance measure report generation process? How are report generation programs documented? Is there version control in place?

Worksheet 5: Interview Guide for Data Integration and Control MCO Personnel

Background Information

Name of MCO:

Date:

Location:

Year of First Medicaid Enrollment:

Year of First CHIP Enrollment:

Year of First MCO Performance Report (any product line):

EQRO Reviewers:

Names and Titles of Individuals Interviewed:

Has the MCO previously undergone validation of its State performance measure reporting process? If so, when did the validation take place and who conducted it?

Other general issues:

Interview Questions

1. How is performance measure data collection accomplished:

    - By querying the applicable information system on-line?
    - By using extract files created for analytical purposes? If so, how frequently are the files updated? How do they account for claim/ encounter for accuracy?
    - By using a separate relational database or data warehouse? If so, is this the same system from which all other reporting is produced? Are reports created from an NCQA-certified vendor software product? If so, how frequently are the files updated? How are reports checked for accuracy?

2. Review the procedure(s) for consolidating claims/encounter, member, provider, and other data necessary for performance reporting (whether it be into a relational database or file extracts on a measure-by-measure basis).

    - How many different sources of data are merged together to create reports?
    - What control processes are in place to ensure that this merger is accurate and complete?

3. How does the MCO test the process used to create the performance measure reports?

4. Does the MCO use any algorithms to check the reasonableness of data integrated to report the MCO performance measures

5. Are performance measurement reporting programs reviewed by supervisory staff?

6. Is there an internal backup for performance measure programmers - do others know the programming language and the structure of the actual programs? Is there documentation?

7. How does the MCO prevent loss of claim and encounter data when systems fail?

8. What administrative data backup systems are in place?

9. What types of authorization are required to be able to access claims/encounter, provider, membership, and performance measure repository data?

10. Describe documentation review and demonstrations provided:

Worksheet 6: Data Integration and Control Findings Worksheet

Accuracy of data transfers to assigned performance measure repository

Data Integration and Control Element	Met	Not Met	N/A	Comments
• MCO processes accurately and completely transfer data from the transaction files (e.g., membership, provider, encounter/claims) into the repository used to keep the data until the calculations of the performance measures have been completed and validated				
• Samples of data from repository are complete and accurate				

Accuracy of file consolidations, extracts, and derivations

Data Integration and Control Element	Met	Not Met	N/A	Comments
• MCO's processes to consolidate diversified files and to extract required information from the performance measure repository are appropriate				
• Actual results of file consolidations or extracts were consistent with those which should have resulted according to documented algorithms or specifications.				
• Procedures for coordinating the activities of vendors ensure the accurate, timely, and complete integration of data into the performance measure database				
• Computer program reports or documentation reflect vendor coordination activities, and no data necessary to performance measure reporting are lost or inappropriately modified during transfer				

If the MCO uses one, the structure and format of the performance measure data repository facilitates any required programming necessary to calculate and report required performance measures.

Data Integration and Control Element	Met	Not Met	N/A	Comments
• The repository's design, program flow charts, and source codes enable analyses and reports				
• Proper linkage mechanisms have been employed to join data from all necessary sources (e.g., identifying a member with a given disease/condition)				

Assurance of effective management of report production and of the reporting software.

Data Integration and Control Element	Met	Not Met	N/A	Comments
• Documentation governing the production process, including MCO production activity logs, and MCO staff review of report runs was adequate				
• Prescribed data cutoff dates were followed				
• The MCO has retained copies of files or databases used for performance measure reporting, in the event that results need to be reproduced				
• Reporting software program is properly documented with respect to every aspect of the performance measurement reporting repository, including building, maintaining, managing, testing, and report production				
• MCO's processes and documentation comply with the MCO standards associated with reporting program specifications, code review, and testing				

Worksheet 7: Data and Processes Used to Produce Performance Measures - Documentation Review Checklist

Documentation	Reviewed	Not Reviewed	Comments
Policies which stipulate and enforce documentation of data requirements, issues, validation efforts and results			
Procedures for displaying denominator counts, numerator counts, precision levels, sums, and cross-totals			
Procedures for reporting small sample sizes (consistent with State's required methodology)			
All reported measures to assess consistency of common elements (e.g., membership counts, number of pregnancies and births, etc.)			
For each measure:			
Programming logic and/or source code for arithmetic calculation			
A project or measurement plan, including work flow			
Documentation of programming specifications and data sources			
Documentation of the original universe of data including record-level patient identifiers that can be used to validate entire programming logic for creating denominators, numerators, and samples			
Documentation of computer queries, programming logic, or source code used to create denominators, numerators, and interim data files			
Documentation of medical record review for each measure, as appropriate, including: qualifications of medical record review supervisor and staff; reviewer training materials, audit tools used (including completed copies of each record-level reviewer determination), all case-level critical performance measure data elements used to determine a positive or negative event or exclude a case			

Documentation	Reviewed	Not Reviewed	Comments
from same, and inter-rater reliability testing procedures and results			
Documentation of results of statistical tests and any corrections or adjustments to data along with justification for such changes for each measure, as appropriate			
Documentation showing calculation of levels of significance of changes for each measure			
Documentation (for each performance measure, as appropriate) showing confidence intervals of calculations when sampling methodology used			
Documentation of sources of any supporting external data or prior years' data used in reporting (for each performance measure, as appropriate)			

Describe Documentation Reviewed and Demonstrations Provided:

Questions:

1. How are policies governing documentation of data requirements for performance measurement, (e.g., data file and field definitions, mapping between standard and non-standard codes) updated and enforced? Who is responsible for this?

2. How are programming specifications for MCO performance measures documented? Who is responsible for this?

3. Are the documentation processes up to date?

Worksheet 8: Data and Processes Used to Produce Performance Measures - Findings Worksheet

Measurement plans and policies which stipulate and enforce documentation of data requirements, issues, validation efforts and results. These include:

Audit Element	Met	Not Met	N/A	Comments
• Data file and field definitions used for each measure				
• Maps to standard coding if not used in original data collection				
• Statistical testing of results and any corrections or adjustments made after processing				

Documentation of programming specifications (which may be either a schematic diagram or in narrative form) for each measure includes at least the following:

Audit Element	Met	Not Met	N/A	Comments
• All data sources, including external data (whether from a vendor, public registry, or other outside source), and any prior years' data (if applicable)				

Audit Element	Met	Not Met	N/A	Comments
• Detailed medical record review methods and practices, including the qualifications of medical record review supervisor and staff, reviewer training materials, audit tools used (including completed copies of each record-level reviewer determination), all case-level critical performance measure data elements used to determine a positive or negative event or exclude a case from same, and inter-rater reliability testing procedures and results				
• Detailed computer queries, programming logic, or source code used to identify the population or sample for the denominator and/or numerator				
• If sampling used, a description of sampling techniques and documentation that assures the reviewer that samples used for baseline and repeat measurements of the performance measures were chosen using the same sampling frame and methodology				
• Documentation of calculation for changes in performance from previous periods (if applicable), including statistical tests of significance				

Audit Element	Met	Not Met	N/A	Comments
• Data that are related from measure to measure are consistent (e.g., membership counts, provider totals, number of pregnancies and births)				
• Appropriate statistical functions are used to determine confidence intervals when sampling is used in the measure				
• When determining improvement in performance between measurement periods, appropriate statistical methodology is applied to determine levels of significance of changes				

Worksheet 9: Policies, Procedures, Data and Information Used to Produce Measures: Review Checklist

Policies, Procedures, Data, Information to be reviewed	Reviewed	Not Reviewed	Comments
Policies to assign unique membership ID that allows all services to be properly related to the specific appropriate enrollee, despite changes in status, periods of enrollment or disenrollment, or changes across product lines (e.g., Medicare and Medicaid)			
Procedures to identify, track, and link member enrollment by product line, product, geographic area, age, gender, member months, member years			
Procedures to track individual members through enrollment, disenrollment, and possible re-enrollment			
Procedures to track members through changes in family status, changes in employment or benefits or managed care type (if they switch between Medicaid coverage and another product within the same MCO)			
Methods to define start and cessation of coverage			
Procedures to link member months to member age			
Description of software or programming languages used to query each database			
Programming logic and/or source code for arithmetic calculation of each measure.			
Programming logic and/or source code for measures with complex algorithms, to ensure adequate matching and linkage among different types of data			
Member database			
Provider data (including facilities, labs, pharmacies, physicians, etc.)			
Database record layout and data dictionary			

Policies, Procedures, Data, Information to be reviewed	Reviewed	Not Reviewed	Comments
Survey data			
For performance measures which are easily under-reported, procedures to capture data that may reside outside the MCO's data sets			
Procedures for mapping non-standard codes to standard coding to ensure consistency, completeness, and reproducibility			
Policies, procedures, and materials that evidence proper training, supervision, and adequate tools for medical record abstraction tasks (may include medical record abstraction tools, training material, checks of inter-rater reliability, etc.)			
Procedures for assuring that combinations of record-review data with administratively determined data are consistent and verifiable			
MCO's use of codes to identify medical events were correctly evaluated when classifying members for inclusion or exclusion in the numerator			
Evidence that MCO has counted each member and/or event only once.			
Programming logic or demonstration that confirms that any non-standard codes used in determining the numerator have been mapped to a standard coding scheme in a manner that is consistent, complete, and reproducible			
Programming logic or source code that identifies process for integrating administrative and medical record data for numerator			
Programming logic and/or source code for arithmetic calculation of each measure.			
Programming logic and/or source code for measures with complex algorithms, to ensure adequate matching and linkage among different types of data			

Describe documentation review and any demonstrations provided.

Worksheet 10: Interview Guide for Assessing Processes Used to Produce Denominators and Numerators

1. If any part of your network/data/membership was excluded from a performance measure, how and why did you decide to exclude it?

2. Why did you select the reporting methodology (e.g., administrative, or hybrid) used to create each of the measures (where there was an option)?

3. Did you use the State technical specifications as the specifications for the programmers, or did your MCO write its own instructions/translations for the programmers?

4. Are there any manual processes used for calculating denominators and/or numerators? Are manual processes used for sampling?

5. Are any measures calculated by vendors? If yes, are they checked for accuracy? Please describe.

6. Do you have any concerns about the integrity of the information used to create any of the measures? Please describe.

7. Do you know of any deviations from performance measure specifications that were necessary because of data available or because of your MCO's information system capabilities?

8. Other issues.

9. Names and titles of persons interviewed:

Worksheet 11: Measure Validation Findings Worksheet

For each of the performance measures, all members of the relevant populations identified in the performance measure specifications are included in the population from which the denominator is produced.

Audit Element	Met	Not Met	N/A	Comments
All members who were eligible to receive the specified services were included in the initial population from which the final denominator was produced. This "at risk" population included both members who received the services, as well as those who did not. This same standard applies to provider groups or other relevant populations identified in the specifications of each performance measure.				

Adequate programming logic or source code exists to appropriately identify all "relevant" members of the specified denominator population for each of the performance measures.

Audit Element	Met	Not Met	N/A	Comments
For each measure, programming logic or source code which identifies, tracks, and links member enrollment within and across product lines (e.g., Medicare and Medicaid), by age and sex, as well as through possible periods of enrollment and disenrollment, has been appropriately applied according to the specifications of each performance measure.				
Calculations of continuous enrollment criteria were correctly carried out and applied to each measure (if applicable).				
Proper mathematical operations were used to determine patient age or range.				

Audit Element	Met	Not Met	N/A	Comments
The MCO can identify the variable(s) that define the member's sex in every file or algorithm needed to calculate the performance measure denominator, and the MCO can explain what classification is carried out if neither of the required codes is present.				
The MCO has correctly calculated member months and member years, if applicable to the performance measure.				

Completeness and accuracy of the codes used to identify medical events has been identified and the codes have been appropriately applied.

Audit Element	Met	Not Met	N/A	Comments
The MCO has properly evaluated the completeness and accuracy of any codes used to identify medical events, such as diagnoses, procedures, or prescriptions, and these codes have been appropriately identified and applied as specified in each performance measure.				

Specified time parameters are followed.

Audit Element	Met	Not Met	N/A	Comments
Any time parameters required by the specifications of the performance measure are followed (e.g., cut off dates for data collection, counting 30 calendar days after discharge from a hospital, etc.).				

Exclusion criteria included in the performance measure specifications have been followed.

Audit Element	Met	Not Met	N/A	Comments
Performance measure specifications or definitions that exclude members from a denominator were followed. For example, if a measure relates to receipt of a specific service, the denominator may need to be adjusted to reflect instances in which the patient refuses the service or the service is contraindicated.				

Systems to estimate populations, which cannot be accurately counted, exist and are utilized when appropriate.

Audit Element	Met	Not Met	N/A	Comments
Systems or methods used by the MCO to estimate populations when they cannot be accurately or completely counted (e.g., newborns) are valid.				

All appropriate data are used to identify the entire at-risk population.

Audit Element	Met	Not Met	N/A	Comments
The MCO has used the appropriate data, including linked data from separate data sets, to identify the entire at-risk population.				
The MCO has in place and utilizes procedures to capture data for those performance indicators that could be easily under-reported due to the availability of services outside the MCO.				

Qualifying medical events (such as diagnoses, procedures, prescriptions, etc.) are properly identified and confirmed for inclusion in terms of time and services

Audit Element	Met	Not Met	N/A	Comments
The MCO's use of codes used to identify medical events are complete, accurate, and specific in correctly describing what has transpired and when.				
The MCO correctly evaluated medical event codes when classifying members for inclusion or exclusion in the numerator.				
The MCO has avoided or eliminated all double-counted members or numerator events.				
Any non-standard codes used in determining the numerator have been mapped to a standard coding scheme in a manner that is consistent, complete, and reproducible as evidenced by a review of the programming logic or a demonstration of the program.				
Any time parameters required by the specifications of the performance measure are adhered to (i.e., that the measured event occurred during the time period specified or defined in the performance measure).				
Medical record data extracted for inclusion in the numerator are properly collected.				
Audit Element	Met	Not Met	N/A	Comments
Medical record reviews and abstractions have been carried out in a manner that facilitates the collection of complete, accurate, and valid data.				
Record review staff have been properly trained and supervised for the task.				

Audit Element	Met	Not Met	N/A	Comments
Record abstraction tools require the appropriate notation that the measured event occurred.				
Record abstraction tools require notation of the results or findings of the measured event (if applicable).				
Data included in the record extract files are consistent with data found in the medical records as evidenced by a review of a sample of medical record for applicable performance measures. (From Medical Record Review Validation Tools-Table 5, ATTACHMENT XII)				
The process of integrating administrative data and medical record data for the purpose of determining the numerator is consistent and valid.				

Worksheet 12: Medical Record Review Validation Tools

The purpose of medical record review (MRR) validation is to verify the accuracy of the MRR conducted by each MCO. For each of at least two measures which included medical record review, the EQRO will validate the medical records of 30 enrollees found to meet numerator requirements. In States with CHIP programs that are separate from the Medicaid program and have their own EQR, the EQRO should review 30 enrollees for Medicaid and 30 enrollees for CHIP. Only those members included in a hybrid sample will be selected - the EQRO will not conduct medical record audits to validate administrative data.

For each measure in which medical record review was used, the EQRO will request a list of all of the members in the MCO's MRR sample. From that list, the EQRO will identify a sample of 30 members who meet numerator requirements. MCOs will then be asked to provide access to or copies of medical records so that the EQRO can verify that each member was appropriately included in the denominator and received the required numerator service(s). In cases where there are fewer than 30 numerator positives, the EQRO will review all records for that measure.

To provide sufficient time for each MCO to gather the required medical record documentation, the EQRO may direct the MCOs to submit their lists of members in their hybrid sample twice - the first list as a preliminary submission and the second list as a final submission. Submitting a first list prior to completion of the MRR process would allow an MCO additional time to retrieve medical record documentation. Soon after receipt of the first list, the EQRO will provide the MCO with the list of medical records for which documentation must be submitted. Only a portion of the 30 medical records for the validation sample will be included in the EQRO's first sample request list. The remainder of the 30 records will be selected from the final list. While the first submission of MRR findings is optional, it is recommended.

The EQRO would accept the first list submission approximately one month prior to the scheduled audit or such other time as the EQRO shall specify. If an MCO chooses to submit a first list of medical records, it must still submit a final listing sufficiently in advance of the scheduled audit as directed by the EQRO. For each submission, MCOs will need to identify all members for whom MRR has been conducted and indicate which members have been found to be numerator positives through MRR. The final list must reflect the MCO's final medical record review findings, with members for whom a medical record was never found identified as not having met the numerator requirements.

No predetermined "passing" grade will be set for the medical record audit. Rather, onsite auditors will use the MRR results to determine if the hybrid rate or solely MRR rate, as a whole, is biased, and to what extent that bias affects the final reported rate for that measure. The EQRO will identify to the State what effects bias, as well as incomplete data, will have on the MCO's calculation of the performance measure. For each of the evaluated measures auditors will determine the impact of the findings from the MRR validation process on the MCO's Final Audit Designation.

Step 1: Calculation of the Medical Record Review Error Rate

The EQRO will review up to 30 records identified by the MCO as meeting numerator requirements (as determined through MRR) for the measures audited. Records are randomly selected from the entire population of MRR numerator positives identified by the plan, as indicated on the MRR numerator listings submitted to the EQRO. If fewer than 30 medical records are found to meet numerator requirements, all records are reviewed. Administrative numerator positives are not included as part of this validation process. The EQRO will calculate a MRR error rate for each performance measure calculated by the hybrid method or solely from MRR as illustrated in Table 1, below:

TABLE 1: Summary of Medical Record Review (MRR) Reabstraction Findings:

Column A	Column B	Column C	Column D	Column E	Column F
Performanc e Measure	Number of MMR Positives Selected for Audit	Number of Medical Records Received	Number of Medical Records Found to be Compliant	Accuracy Rate (%) (D/B)	Error Rate (%) (100% - E)

Column A: Name of performance measure evaluated.

Column B: Total number of MRR numerator positive records reabstracted by EQRO as part of the medical record review validation process (i.e., 30, or the total population, if less than 30 MRR numerator positives were reported).

Column C: Total number of medical records submitted to EQRO, as part of the medical record review validation process (i.e., should be equal to Column B or less than Column B if one or more records were not submitted on time).

Column D: Total number of medical records reviewed by EQRO and identified as meeting numerator requirements.

Column E: Accuracy rate - percent of records selected for audit that were identified as meeting numerator requirements (Column D/Column B).

Column F: Error rate - percent of records selected for audit that were identified as not meeting numerator requirements (100% - Column E).

Step 2: Determining the Potential Impact of MRR Reabstraction Findings on Final Audit Designations

The next step in MRR validation is to determine whether any medical record review errors significantly biased the final reported rate for a given performance measure. To make this determination, the EQRO, as directed by the State, should develop and follow decision rules such as the following:

Sample Decision Rules:

Error Rate of 10 Percent or Less: If the error rate (Table 1, column F) is 10 percent or less, then the measure automatically passes the MRR validation. The Final Audit Designation is then determined based on the auditors' findings from the ISCA conducted as Pre-Onsite activity 3 and Onsite Activity 1. As long as no errors leading to significant bias are discovered during the other components of the audit process, the final rate is considered as having met the validation standards.

Error Rate of Greater than 10 Percent: If the error rate (Table 1, column F) is greater than 10 percent, then the auditors determine the impact of the MRR validation findings on the final reported rate for the measure. For each of the measures under review, auditors evaluate the impact of the MCO's MRR processes on its final reported rate by extrapolating the findings from the audited medical record sample to the universe of all MRR positives. Details on this process are provided in Table 2.

The maximum amount of bias allowed for the final rate to be considered reportable is “x” percentage points (to be determined by each State).

- If the amount of error in the MCO’s MRR process (Table 2, line 8) does not cause the final reported rate to be biased by more than x percentage points, then the measure passes the MRR validation. The compliance designation is then determined based solely on the auditors’ findings from the ISCA. As long as no errors leading to significant bias are discovered during the other components of the performance measure audit process, the final rate is considered valid.
- If the amount of error in the MCO’s medical review process (Table 2, line 8) ultimately causes the final reported rate to be biased by more than x percentage points, the rate is automatically considered invalid. The performance measure is then designated as invalid.

TABLE 2: Impact of MRR Findings

Line #	Description	Measure A	Measure B	Measure C
1	Final Data Collection Method Used (e.g., MRR, hybrid, etc.)			
2	Error Rate (Percentage of records selected for audit that were identified as not meeting numerator requirements, as shown in Table 1, column F)			
3	Is error rate < 10%? (Yes or No) --If yes, MCO passes MRR validation; no further MRR calculations are necessary --If no, the rest of the spreadsheet will be completed to determine the impact on the final rate			
4	Denominator (The total number of members identified for the denominator of this measure, as identified by the MCO)			
5	Weight of Each Medical Record (Impact of each medical record on the final overall rate; determined by dividing 100% by the denominator in line 4)			
6	Total Number of MRR Numerator Positives identified by the MCO using MRR			

Line #	Description	Measure A	Measure B	Measure C
7	Expected Number of False Positives (Estimated number of medical records inappropriately counted as numerator positives; determined by multiplying the Error Rate in line 2 by line 6, the total number of MRR numerator positives reported)			
8	Estimated Bias in Final Rate (The amount of bias caused by medical record review, measured in percentage points; determined by multiplying the Expected Number of False Positives in line 7 by line 5, the Weight of Each Medical Record)			

If line 8 is <x%, then the final rate is not considered to be significantly biased by MRR alone. If the other components of the audit process did not identify any other issues that would introduce bias into the rate, the rate will be considered valid.

If line 8 is >x%, then the final rate is considered to be significantly biased. The measure will be considered invalid.

Worksheet 13: Policies, Procedures, Data, and Information Used to Implement Sampling: Review Checklist

Documents	Reviewed	Not Reviewed	Comments
Description of software used to execute sampling sort of population files when sampling (e.g., systematic) is used			
Policies to maintain files from which the samples are drawn in order to keep population intact in the event that a sample must be re-drawn or replacements made			
Computer source code or logic identifying specified sampling techniques, and documentation that the logic matches the specifications set forth for each performance measure, including sample size and exclusion methodology			
Methods used for sampling for measures calling for hybrid data or medical record review			
Documentation assuring that sampling methodology treats all measures independently, and that there is no correlation between drawn samples			
Observation of or documentation of procedures in which a biased sample was identified and corrected			
Documentation of “frozen” or archived files from which the samples were drawn, and if applicable, documentation of the MCO’s process to re-draw a sample or obtain necessary replacements			

Describe Documentation Review and Demonstrations Provided:

Worksheet 14: Sampling Validation Findings Worksheet

The MCO has followed the specified sampling method to produce an unbiased sample which is representative of the entire at-risk population.

Audit Element	Met	Not Met	N/A	Comments
• Each relevant member or provider had an equal chance of being selected; no one was systematically excluded from the sampling.				
• The MCO / PIHP followed the specifications set forth in the performance measure regarding the treatment of sample exclusions and replacements, and if any activity took place involving replacements of or exclusions from the sample, the MCO kept adequate documentation of that activity.				
• Each provider serving a given number of enrollees had the same probability of being selected as any other provider serving the same number of enrollees.				
• The MCO examined its sampled files for bias, and if any bias was detected, the MCO is able to provide documentation that describes any efforts taken to correct it.				
• The sampling methodology employed treated all measures independently, and there is no correlation between drawn samples.				
• Relevant members or providers who were not included in the sample for the baseline measurement had the same chance of being selected for the follow-up measurement as providers who were included				

Audit Element	Met	Not Met	N/A	Comments
in the baseline.				

The MCO maintains its performance measurement population files/ data sets in a manner which allows a sample to be re-drawn, or used as a source for replacement.

Audit Element	Met	Not Met	N/A	Comments
• The MCO has policies and procedures to maintain files from which the samples are drawn in order to keep the population intact in the event that a sample must be re-drawn, or replacements made, and documentation that the original population is intact.				

Sample sizes collected conform to the methodology set forth in the performance measure specifications, and the sample is representative of the entire population.

Audit Element	Met	Not Met	N/A	Comments
• Sample sizes meet the requirements of the performance measure specifications.				
• The MCO has appropriately handled the documentation and reporting of the measure if the requested sample size exceeds the population size.				
• The MCO properly oversampled in order to accommodate potential exclusions.				

For performance measures which include medical record reviews (e.g., hybrid data collections methodology), proper substitution methodology was followed.

Audit Element	Met	Not Met	N/A	Comments
• Substitution applied only to those members who met the exclusion criteria specified in the performance measure definitions or requirements.				
• Substitutions were made for properly excluded records and				

Audit Element	Met	Not Met	N/A	Comments
the percentage of substituted records was documented.				

END OF ATTACHMENT