2004 Performance Measures Project Report

An independent audit conducted by MetaStar of 2004 performance measures produced by the Minnesota Department of Human Services

October 2005

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October 2005

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Executive Summary

Standardized performance measures are required for all state Medicaid managed care programs by federal law.[1] The Minnesota Department of Human Services (DHS) fulfilled this requirement by calculating performance measures from encounter data submitted by its contracted Managed Care Organizations (MCOs). DHS retained MetaStar to conduct an independent audit of DHS's 2004 performance measures.

MetaStar, Inc.'s (MetaStar's) audit included a review of DHS's information systems. The review was designed to collect information documenting the effect DHS's management practices had on the performance measurement process. The review was not intended to evaluate the overall effectiveness of DHS's systems. Rather, its focus was on evaluating aspects of DHS's systems that specifically impact the ability to accurately report performance measures. In essence, DHS needed to demonstrate that it has the automated systems, management practices, data control procedures, and computational procedures necessary to ensure that all performance measure information is adequately captured, translated, stored, analyzed, and reported.

DHS selected 19 performances measures for examination, all of which are based on Health Plan Employer Data and Information Set (HEDIS®)[2] 2005 Technical Specifications. DHS selected measures suited to encounter data and its limitations, internal quality improvement objectives, and other state agency requirements. The following list of measures was found by MetaStar to be compliant with measure specifications and, therefore, reportable:

- Adolescent Well-Care Visits
- Adults' Access to Preventive/Ambulatory Health Services
- Antidepressant Medication Management
- Cervical Cancer Screening
- Chemical Dependency Utilization – Inpatient Discharges and Average Length of Stay
- Childhood Immunization Status
- Children's Access to Primary Care Practitioners
- Chlamydia Screening in Women
- Colorectal Cancer Screening
- Comprehensive Diabetes Care – A1c and LDL Screening
- Follow-Up After Hospitalization for Mental Illness
- Initiation and Engagement of Alcohol and Other Drug Dependence Treatment (AOD Dependence)
- Mental Health Utilization – Inpatient Discharges and Average Length of Stay
- Mental Health Utilization – Percentage of Members Receiving Inpatient, Intermediate Care, and Ambulatory Services
- Osteoporosis Management in Women Who Had a Fracture
- Prenatal and Postpartum Care – (Postpartum care only)
- Use of Appropriate Medications for People with Asthma
- Well-Child Visits in the First 15 Months of Life
- Well-Child Visits in the Third, Fourth, Fifth, and Sixth Years of Life

[1] BBA (42 CFR 438358 [b][1]).
[2] HEDIS® is a registered trademark of the National Committee for Quality Assurance (NCQA).

2004 Performance Measures Project Report

Background

Performance measures are designed to provide data on health care processes or outcomes, such as the percent of diabetics who received appropriate screenings. Over time, performance measures are used to quantify the impact of changes and improve the quality of health care. Standardized performance measures are required for all state Medicaid managed care programs by federal law. States utilize these performance measures to direct improvements in the quality of care. States may fulfill this requirement through requiring MCOs to submit either state specific measures or measures defined by an external entity, such as the National Committee for Quality Assurance's (NCQA) HEDIS measures. States may also elect to calculate their performance measures utilizing encounter data.

There are advantages and disadvantages in using national or state developed measures. A nationally used measure (such as HEDIS) has the primary advantage of allowing for comparison with national and/or regional results due to the use of the same methodology. Some national and regional performance measures results may not indicate the desired level of performance. In this instance, comparison to a desired level of performance such as those established by *Healthy People* 2010 may be a better focus for quality improvement. The use of the same specifications further allows MCOs and state agencies to compare the success of quality improvement efforts across program types. This may identify areas where there may be access issues based on program type.

National measures such as HEDIS change technical specifications over time. Although the changes may not be large, these changes in technical specifications can greatly impact the interpretation of results. As stated by MPRO in the 2004 Annual Technical Report:

> "It is often difficult to assess improvement over the number of years it may take to achieve the desired outcomes, because performance measure specifications may change."[3]

Since the goal of performance measurement is the monitoring of improvement over time, changes in the performance measure specifications may make it difficult to identify the cause of the change.

State specific measures have the advantage of targeting non-HEDIS types of measures such as lead testing or monitoring of specific medications. They allow for comparison between state MCOs; however, they may not allow for comparison with nationally established performance goals. State specific measures (including modified HEDIS measures) allow states to set criteria that may more accurately reflect the care provided to the enrollee by the MCO's providers. A state may decide to look for health care information provided while the individual was a Medicaid enrollee in a given MCO. In addition, the measures may be stabilized so that changes in the measure(s) do not impact the ability to understand the data over time. The state must be aware that differences may also be caused by changes in the standardized coding used to identify medical services. For example, if a new chlamydia screening test is developed and the test not added to the measure, over time this may have a negative impact on the performance measure results.

[3] 2004 Annual Technical Report, Chapter 3, p. 18.

As previously noted, performance measures may be generated by MCOs or by the state. If the MCO generates measures, it may identify potential sources of data in enrollee medical records and perform a medical record review. This may identify services not billed to the MCO and thus increase the completeness of the performance measure. However, all MCOs may not perform medical record reviews, thus decreasing comparability across MCOs. For example, when reporting 2003 Prenatal and Postpartum Care results, three Minnesota MCOs (First Plan, Itasca Medical Care, and Metropolitan Health Plan) chose to use administrative data.

Through MetaStar's experience as an External Quality Review Organization (EQRO), Quality Improvement Organization (QIO), and NCQA Licensed HEDIS Compliance organization, MCOs are developing internal registries to decrease the necessity for medical record review.[4] These registries contain information such as laboratory data submitted by the MCOs' laboratory vendors or data directly submitted by a provider group as part of a pay for performance agreement. These registries allow MCOs to calculate performance measures with significant decreases in medical record review. However, in order to fulfill its federal Medicaid requirements, a state must either pay for, or require the MCO to pay for, an audit of the internal registries, thus increasing the resources spent on performance measure generation and validation.

If MCOs calculate performance measures, a calculating and reporting process must be developed by, and validated for, each MCO. This requires the MCO to expend resources to purchase software to calculate HEDIS measures or internally develop performance measure reporting systems. In addition, MCOs need to allocate resources to comply with federal performance measure validation requirements.

Several states (Iowa, North Carolina, Ohio, Maryland, and Wisconsin) currently are calculating performance measures using encounter data.[5] One advantage to state calculated performance measures is the ability to include all encounter data regardless of enrollee changes in programs and/or MCOs. In addition, states are able to calculate the performance measures on a frequent basis to monitor quality. In order to minimize the burden on the MCO, states generally only require MCOs to report performance measures on a yearly basis. Calculation by the state also decreases expenses over time. The state will only be required to pay directly or indirectly for validation of its system and not of each MCO's system. MCOs may see savings in the financial costs of an audit and a decrease in personnel resources directed toward measure validation. Calculating the measures at the state level also increases incentives for both the state and the MCOs to improve the completeness and accuracy of the encounter data.

As the accuracy and completeness of MCO provider and encounter data increases, producing measures at the state level also increases the ease of producing provider level data. MetaStar was told by one large Wisconsin provider group, which had internally generated its own performance measures, that its providers believed the aggregated data was more useful than HEDIS reports submitted by various MCOs.[6]

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[4] This trend has been discussed by NCQA's Audit Methodology Panel (AMP). MetaStar is a participating member of the panel.

[5] See Appendix 1: Information on Other State Performance Measures for listing of all states based on state website information.

[6] Personal communication.

Another advantage to state produced measures is the ability to examine geographic locations, age, race and ethnicity, and other factors potentially impacting health care utilization and performance measure results. Although Maryland Medicaid MCOs calculate and report HEDIS data, the state also utilizes encounter data to examine the data for more discrete groupings.[7]

After careful consideration of the advantages and disadvantages of the state versus MCO calculation of performance measures, DHS elected to fulfill the federal performance measure requirement itself by calculating performance measures from the encounter data submitted to the state by its contracted MCOs. DHS also believed that in addition to the primary objective of calculating performance measures, the approach would:

- Decrease both the administrative and financial burden of MCOs since they would no longer be required to submit performance measures.
- Increase consistency of performance measures year-to-year.
- Provide DHS with the ability to examine performance measures for specific populations and subpopulations.
- Provide DHS with the opportunity to specify measurement time frames and enrollment criteria that are most useful in purchasing the highest quality healthcare services at the most economical cost.

In order to effectively accomplish the project's objectives, DHS contracted with MetaStar to provide technical consulting services to assist in the design, development, and establishment of written policies and procedures to produce annual performance measures based upon the HEDIS Technical Specifications. In addition, MetaStar rigorously tested and validated that the performance measures were consistent with federal requirements for calculating performance measures.

[7] Medicaid Managed Care Organization: "Value-Based Purchasing Activities Report." Division of HealthChoice Management and Quality Assurance. Maryland.

2004 Performance Measures Project Structure and Process

MetaStar Credentials and Experience

MetaStar is a licensed HEDIS Compliance Audit organization. The staff involved in this project included two Certified HEDIS Compliance Auditors (CHCA).

The MetaStar project staff also included a project manager, two analysts for policy and procedure development, one biostatistician for trending, and one systems analyst participating in performance measurement system requirements. In 1996, the project manager began development of MetaStar's Compliance Audit Program. MetaStar's project manager is familiar with DHS and MCO requirements through project management of the HEDIS Compliance Audit and Encounter Data Validation Study in 2000-2001.

The MetaStar staff primarily responsible for the development of the performance measures policies and procedures have extensive experience in documentation requirements, auditing, and data validation. One CHCA analyst has prior experience with Minnesota Medicaid through performance of HEDIS Compliance Audits for Minnesota Medicaid and Medicare programs. The other analyst had extensive experience in Medicaid membership and claims processing. The systems analyst involved in this project developed performance measurement systems for MetaStar and has experience with HEDIS measures. MetaStar's biostatistician trended performance measures for several of MetaStar's quality improvement projects and has been involved with HEDIS audits and analyses since 1998.

All MetaStar staff have quality improvement training and experience. In addition, staff routinely identify key processes and write policies and procedures that include supporting documentation.

As the EQRO for the state of Wisconsin Medicaid program and the QIO for Wisconsin Medicare, MetaStar strictly abides by all the federal regulations. In addition, MetaStar has performed NCQA HEDIS Compliance Audits for Medicaid and Medicare Minnesota MCOs.

In 2000, while under contract with DHS, MetaStar conducted a study that evaluated the concordance of eight Medicaid MCOs' reported HEDIS 2000 measures with their submitted encounter data.[8] The study consisted of two components: first, HEDIS Compliance Audits™ of three previously unaudited plans; and second, validation of the accuracy and consistency of each plan's HEDIS measures with encounter data submitted to the state.[9] This study familiarized MetaStar's staff with the Minnesota MCO encounter submission process and DHS's information systems.

As the EQRO for the Wisconsin Medicaid program for the past 30 years, MetaStar has worked with changing data systems and processes in fee-for-service and managed care. Staff have experience with validating the encounter data submitted by the MCOs. As the EQRO for Wisconsin's Family Care Program, staff members gained direct experience with recipients while administering The Council on Quality and Leadership's Personal Outcome Measures interview tool. Through our work as a licensed HEDIS Compliance Audit firm, we have extensive experience with managed care delivery systems, organizations and financing. MetaStar has been Wisconsin's QIO for the Medicare program since 1973. In this role, we research, design, conduct and analyze the results of quality

[8] HEDIS Compliance Audit and Encounter Validation – EQR Report, April 2001.
[9] NCQA HEDIS Compliance Audit™ is a trademark of the National Committee for Quality Assurance (NCQA).

improvement projects. Working with providers in all healthcare settings, we use quality assessment and improvement techniques to focus on specific topics to benefit the *Institute of Medicine's* aims of safety, effectiveness, patient-centeredness, timeliness, efficiency, and equity of healthcare.

Highlights from Project Work Plan

MetaStar began the project by producing a comprehensive project Work Plan that described the tasks to be completed. The project Work Plan was finalized with a Kickoff Conference that discussed key aspects of the project and the associated time frames.[10] MetaStar staff met with DHS staff and presented the Performance Measure Validation Work Plan to the MCOs.

Policies and Procedures

In order to assure accurate, comparable, and reproducible performance measures, policies and procedures must be operationalized. Policies and procedures provide consistency across time and individuals and decrease the effort required to update a performance measure. Therefore, the specific objectives of this task were to analyze current processes and develop necessary policies, procedures, and supporting documentation that would protect the integrity of the data, assure complete and accurate performance measure computations, and incorporate processes for updating performance measure specifications.

The first step was to understand how encounter data flows within DHS and within MCOs and identify any encounter data issues. MetaStar reviewed the Encounter Data Validation Study Final Encounter Analysis Report and drew upon experience working as a HEDIS Auditor with Minnesota MCOs. Areas of concern were discussed with DHS throughout the process.

With MetaStar's guidance, DHS staff translated the HEDIS Technical Specifications to DHS-specific programming specifications. These programming specifications identified data sources and data fields necessary to produce each measure. This ensured that DHS included all critical components necessary to generate performance measures. By performing this step at the beginning of the process, DHS decreased the potential for revisions based on incorrect interpretation of the technical specifications. Programming specifications also allowed MetaStar to ascertain that DHS's analyst correctly interpreted performance measure technical specifications prior to the development of the source code.[11]

Policy and procedures were created to guide the source code development process. DHS initiated policies and procedures for testing each new and updated measure, as documented in an Internal Quality Control (IQC) plan. The IQC plan included comparison of the performance measure rate to rates reported by MCOs and review of individual enrollees to determine if they were appropriately included or excluded from the numerators and denominators.

[10] See: Performance Measure Validation Project Work Plan.

[11] See Appendix 2: Measure Production Process (HEDIS Asthma Medications) for an example of a measure specification.

The project resulted in the following thirteen SOPs:[12]

Load Measure Data into Access Database SOP
Validate Content of HDR SOP
Implement New Measures SOP
Review and Implement Changes to Measure Specifications SOP
Validate SAS Programs SOP
Produce Performance Measures SOP
Create COL Database SOP
Determine Readiness of DW SOP
Update NDC Codes Database SOP
Document Measure Programs SOP
Create HDR SOP
Update Child Immunization Data Supplement SOP
Master Control Sequence SOP

In addition, technical specifications were developed for the following measures:

Adolescent Well-Care Visits
Adults' Access to Preventive/Ambulatory Health Services
Antidepressant Medication Management
Cervical Cancer Screening
Chemical Dependency Utilization – Inpatient Discharges and Average Length of Stay
Childhood Immunization Status
Children's Access to Primary Care Practitioners
Chlamydia Screening in Women
Colorectal Cancer Screening
Comprehensive Diabetes Care – A1c and LDL Screening
Follow-Up After Hospitalization for Mental Illness
Initiation and Engagement of Alcohol and Other Drug Dependence Treatment (AOD Dependence)
Mental Health Utilization – Inpatient Discharges and Average Length of Stay
Mental Health Utilization – Percentage of Members Receiving Inpatient, Intermediate Care, and Ambulatory Services
Osteoporosis Management in Women Who Had a Fracture
Prenatal and Postpartum Care – (Postpartum care only)
Use of Appropriate Medications for People with Asthma
Well-Child Visits in the First 15 Months of Life
Well-Child Visits in the Third, Fourth, Fifth, and Sixth Years of Life

DHS has excellent documentation of performance measure production. Appropriate procedures are written for each critical production step. Performance Measurement and Quality Improvement's (PMQI's) documentation allows reproduction of the process and protects PMQI in the event of personnel changes. MetaStar was impressed with the PMQI analyst's understanding of documentation requirements, his ability to analyze the specification requirements, and document processes while producing the performance measures.

[12] See Appendix 3: Master Control Sequence SOP, which lists the overall process.

Process

The process of audit and data validation consisted of reviewing the general processes used by DHS, the data flow between the MCOs and DHS, review of all documentation used to calculate the performance measures, and the demonstration that DHS's system has the capacity to produce reliable, accurate performance measures. This began with a review of DHS processes and concluded with review of the final measurement results.[13]

Consistency with CMS Protocols and HEDIS Technical Specifications

This MetaStar audit assessed the extent to which DHS's information system meets the requirements set forth in BBA protocol 42 CFR 438.242. The system's ability to collect, analyze, integrate, and report data was integral to meeting this requirement, as well as ensuring accurate performance measure reporting. Because DHS's system uses MCO encounter data, the assessment included examinations of DHS's ability to monitor the data for accuracy and completeness.

Validation consisted of a review of DHS's data management processes, evaluation of the algorithmic compliance with specifications, and verification of the final performance measures selected for review. To accurately assess DHS's performance measures, MetaStar adopted a three-phase validation process approach: pre-on-site, on-site, and post-on-site activities.

Critical Findings – Encounter Data

DHS has adequate processes for accepting encounter data from MCOs and transferring encounter data to the MMIS and DHS's data warehouse. Although encounter volume reports are generated and reviewed by DHS, DHS does not have a formal process to notify an MCO when encounter submissions are less than expected. Because of this, the PMQI analyst must perform additional analyses to assess the completeness of the data warehouse prior to the computation of performance measure rates. If deficiencies are identified by the PMQI analyst and not corrected by the MCO, the performance measure rates may be under reported. If the MCO is allowed to provide additional encounters, the performance measure rate production may be delayed. The auditors recommend that DHS monitor encounter submission to ensure that MCOs submit data in a timely fashion.

The auditors reviewed the Data Warehouse Readiness Report on May 15, 2005. This report demonstrated large variances in encounter submission volume by quarter and indicated that some MCOs' 2004 encounter data was incomplete. The MCOs submitted additional encounter data, thus assuring complete data for performance measure calculation. However, it is important that staff responsible for receipt of encounter data monitor submission volumes to assure that MCOs meet contractual submission requirements.

DHS does not have a process in place to monitor an MCO's resubmission of rejected encounters. Not monitoring resubmission of rejected encounters also places the data at risk. The MCO has no incentive to correct and resubmit the data on a timely basis. As a result, the PMQI analyst must perform additional analyses to determine the completeness of the data. Review of the 2004 rates, however, does not demonstrate a significant negative impact from this source of error.

[13] See: 2004 Performance Measure Validation Report

PMQI's analysts perform several encounter data assessments. PMQI's process to assess encounter data completeness and accuracy was formally documented, and all potential performance measure concerns were investigated. Analytic staff in other departments must also perform completeness and accuracy assessments to assure the validity of calculations. Although there was no negative impact on performance measure rates, the lack of a formal assessment process at the point of encounter receipt results in a duplication of effort within DHS.

Critical Findings – Enrollee

The system electronically verifies the social security number and the Medicare number with the appropriate federal agency. DHS's enrollment system has edits for specific fields to aid in the prevention of data errors. Although the enrollee data was appropriate for performance measure calculation, there is no formal oversight of data entry as required under this standard.

Critical Findings – Data Integration

DHS has formal processes for populating the performance measure data repository. These processes identified all data requirements, included extensive quality assurance procedures, and contained a procedure for updating the performance measure data repository in the event repository requirements change. Review of the documentation for the performance measure repository and the repository itself showed that it contained all required elements.

Critical Findings – Data Integrity

DHS has processes in place to determine its measure production timeline and to monitor adherence to the timeline. Delays in the initial timeline were caused by MCOs not submitting data in a timely fashion and difficulties in contracting with NCQA for the data submission process. There were no delays caused by DHS.

Critical Findings – Measures
Initial review of the programs used to calculate performance measures showed some deviations from specifications. These deviations were communicated to PMQI staff who revised the program, retested, and resubmitted to MetaStar for another review. Final calculations for all measures included in the study met all performance measure specifications. There were no measures excluded from the study due to PMQI programming concerns.

Designation of Measures

The audit presents two alternative audit designations for each performance measure: "Report" and "Not Report."

- "Report" (R) indicates that the measure is compliant or substantially compliant with the measure specifications and there were no IS issues to substantially bias the performance report. Any concerns with the implementation of the specifications or data availability did not result in a significant bias in the final rate for the measure.

- "Not Report" (NR) indicates that the measure was not compliant with the performance measure specifications. Concerns regarding the implementation of the performance measure specifications or concerns regarding data availability created significant bias in the rate.

2004 Performance Measures Outcomes

DHS selected 19 performances measures for examination. All performance measure specifications were based on HEDIS 2005 Technical Specifications. DHS selected measures based on their understanding of encounter data and its limitations, internal quality improvement objectives, and other state agency requirements. MetaStar validated the measures as described in this report. The following table lists the measures and the validation findings.

Performance Measure	Report Status
Adolescent Well-Care Visits	Report
Adults' Access to Preventive/Ambulatory Health Services	Report
Antidepressant Medication Management	Report
Cervical Cancer Screening	Report
Chemical Dependency Utilization – Inpatient Discharges and Average Length of Stay	Report
Childhood Immunization Status	Report
Children's Access to Primary Care Practitioners	Report
Chlamydia Screening in Women	Report
Colorectal Cancer Screening	Report
Comprehensive Diabetes Care – A1c Screening and LDL Screening	Report
Follow-Up After Hospitalization for Mental Illness	Report
Initiation and Engagement of Alcohol and Other Drug Dependence Treatment (AOD Dependence)	Report
Mental Health Utilization – Inpatient Discharges and Average Length of Stay	Report
Mental Health Utilization – Percentage of Members Receiving Inpatient, Intermediate Care, and Ambulatory Services	Report
Osteoporosis Management in Women Who Had a Fracture	Report
Prenatal and Postpartum Care	Report Postpartum Care Not Report Prenatal Care
Use of Appropriate Medications for People with Asthma	Report
Well-Child Visits in the First 15 Months of Life	Report
Well-Child Visits in the Third, Fourth, Fifth, and Sixth Years of Life	Report

Conclusions and Summary

PMQI staff built an accurate and easily maintainable system for performance measurement. It offers DHS the opportunity to internally produce and examine performance measures for specific populations and subpopulations. An internal system allows PMQI staff to review performance measure results more frequently than the previous MCO annual submission.

PMQI staff constructed the performance measurement system to allow for integration of data from other registries. This allowed PMQI staff to utilize immunization registry data to further enhance the Childhood Immunization Status reporting. Other registry data could successfully be added to the system. This provided DHS with the ability to produce more accurate measures utilizing all available data and not just encounter data.

In order to meet CMS requirements, DHS had the performance measures validated. DHS's PMQI staff desired a process as rigorous as the NCQA HEDIS Compliance Audits that MCOs undergo. PMQI staff approached NCQA to explain DHS's project and purpose and requested NCQA approval and certification. DHS staff understood that the measures produced using MCO submitted encounter data would not be identical to measures produced by MCOs using a combination of medical record and administrative data. However, administrative data would be adequate to evaluate trends in performance over time. *Despite DHS's diligent and cooperative efforts, NCQA decided not to certify measures produced by a state. If more states produced performance measures internally, perhaps NCQA would revisit its decision and develop a process to assure that states meet the same standards required of MCOs.*

The 2004 Performance Measure Validation Report contains the details on the performance measure validation. DHS was required to meet the same standards as MCOs for the measures included in this report. As demonstrated by the report status of the measures, DHS produced accurate performance measures. Without an audit and review of details for selected measures, programming errors may occur or small process changes could have an adverse affect on measure results. *If these were not identified through the audit process, the performance measure reports would be less accurate, and business decisions would be made on inaccurate data. It is for those reasons MetaStar believes DHS should continue to undergo an annual validation of its performance measures.*

Prior to adding new measures, PMQI may wish to examine the current measures for differences between MCOs. Several of the 19 measures show a large difference in performance between the highest and lowest rates. This could be caused by coding errors, data not submitted to the MCO and/or DHS, or services not being provided.

Appendix 1
Information on Other State Performance Measures
2004 Performance Measure Project Report

State Medicaid websites were researched for the information listed in the table below. MetaStar searched the sites for HEDIS and Performance Measures. Twenty-eight states (including Minnesota) include HEDIS or HEDIS-like performance measure requirements on their websites, 50% of the states utilize HEDIS measures only, and 18% utilize HEDIS-like and/or state determined measures. (Note some states utilize HEDIS and state determined measures.) Eight states (16%) calculate performance measures internally using encounter data. Twelve states (24%) require MCOs to pay for HEDIS compliance audits while 4 states (8%) contract with an external agency to perform performance measure validation and/or compliance audits.

State	Uses HEDIS measures	Uses other measure source	Data calculated by health plans	Data calculated by State	Data is publicly reported	Health plans have data audited	State Contracts for Compliance Audit	No information on State Website
Alabama								X
Alaska								X
Arizona	X		X	X	X	X		
Arkansas								X
California	X	State	X				X	
Colorado	X		X		X	X		
Connecticut								X
Delaware								X
District of Columbia								X
Florida	X	State	X		X	X		
Georgia	X	HEDIS-like	X					
Hawaii								X
Idaho								X
Illinois	X							
Indiana	X		X		X	X		
Iowa	X	HEDIS-like		X				
Kansas	X		X			X		
Kentucky								X
Louisiana								X
Maine				X				
Maryland	X		X	X	X			
Massachusetts	X		X					
Michigan	X		X		X	X		
Minnesota	X	X	X	X	X		X	
Mississippi								X
Missouri	X		X			X		
Montana		CAHPS						
Nebraska		HEDIS-like		X				
Nevada								X
New								X

State	Uses HEDIS measures	Uses other measure source	Data calculated by health plans	Data calculated by State	Data is publicly reported	Health plans have data audited	State Contracts for Compliance Audit	No information on State Website
Hampshire								
New Jersey	X							
New Mexico	X		X		X			
New York	X	State	X		X	X		
No. Carolina	X			X				
No. Dakota								X
Ohio	X			X				
Oklahoma	X		X			X		
Oregon	X		X		X			
Pennsylvania	X		X		X	X		
Rhode Island	X		X					
So. Carolina								X
So. Dakota								X
Tennessee	X		X			X		
Texas	X		X			X		
Utah	X		X		X	X		
Vermont								X
Virginia	X		X		X			
Washington	X	CAHPS	X		X		X	
West Virginia	X		X		X		X	
Wisconsin		State		X	X			
Wyoming								X

Appendix 2 – Measure Production Process

Measure Name / Description:	**HEDIS Asthma Medications**
Prepared By:	J.T.
Last Updated:	12/10/04

Four rates are calculated for this measure: three age groups and all ages.

Changes from HEDIS 2004 - noted here so that comparisons with prior years benchmarks will not be incorrectly used)	
Identification of asthma	Added Table E15-A indicating asthma medications; modified dispensing event formula, adding logic for inhaler meds; added CPT codes 99356 and 99357, and revenue codes 72X and 80X, to Table E15-B
Exclusions	Clarified Table E15-C
Reporting	Clarified Table E15-1/2/3

Definitions

Dispensing event — A dispensing event is one prescription of an amount lasting 30 days or less. To calculate dispensing events for prescriptions longer than 30 days, the MCO should divide the days' supply by 30 **and round down to convert.** For example, a 100-day prescription is equal to three dispensing events (100/30 = 3.33, rounded down to 3). In addition, two different prescriptions dispensed on the same day are counted as two different dispensing events. However, multiple inhalers of the same medication filled on the same day should be counted as one event.

Persistent asthma — This definition is based on previous year's service and medication use rather than a clinical measure of severity. The definitional approach was chosen for logistical and feasibility reasons so that an efficient, reasonably standardized and sufficiently large population that allows unbiased MCO to MCO comparisons could be identified through administrative sources.

Primary asthma therapy — Medications that are considered appropriate for long-term control of asthma.

Inputs

Report Period:	Measurement Year = CY 2004	
Table	**Database Field**	**Description:Use**
Eligibility	DOB	Date of Birth: select desired age group
	EYear	Eligibility Year: verify continuous enrollment; verify enrolled at anchor date
	EMonth	Eligibility Month: verify continuous enrollment; verify enrolled at anchor date; produce count of elig-months
	PMI	Recipient ID: ties an eligibility record to a claim record; verify continuous enrollment
	MajProg2	Major Program: identifies a record's product affiliation
	PlanName	Plan Name: identifies a record's MCO affiliation
Claims	PMI	Recipient ID: ties a claim record to an eligibility record; serves as unique identifier for denom and numer counts
	TCN	TransactionControlNumber: identifies unique claim for linking procedures to diagnoses
	ProcCPT	CPT Code: identifies procedure code on the record; controls record selection into denom

	ProcICD9	ICD9 Procedure Code: identifies procedure code on the record; controls record selection into denom
	RevCode	Revenue Code: controls record selection into denom
	NDCCat	Drug Category: NCQA grouping of NDC Codes
	NDCCode	Drug code: controls record selection into denom and numer
	RxCode	Drug Category: identifies a pharmacy record as an asthma denom or an asthma numer record
	SDate	Date Service Provided: controls selection of records into denom and numer
	Diag	ICD9 Diagnosis: identifies a diagnosis associated with a claim record; controls selection of records into numer
	DiagSeq	Diagnosis Sequence: identfies primary and non-primary diagnoses
	DaysSup	Days Supply: to compute number of dispensing events

Selecting Denominator Records:

1. Select monthly eligibility records from the HEDIS Data Repository, where: a) age of recipient is 5-56 inclusive; b) Major Program is MA, MnCare, GAMC, or MSHO; d) Eligibility Year is MY or MY-1.

2. Store MY and MY-1 elig records in two separate temporary datasets, and sort by PlanName, PMI, EYear, and EMonth.

3. For each of the Step #2 datasets, count the number of eligibility months (number of records) for each member (PMI) within each MCO (PlanName), and keep only those records with 11 or twelve months.

4. Merge the two elig datasets together by PlanName and PMI, and keep only those with records in each dataset.

5. From the results of Step #4, keep only those persons who were eligible in December of the measurement year. Sort this dataset by PMI for later join to dispensing event data.

6. From HDR, select claim records for MY-1 that meet any one of the following criteria. Store the results in temp datasets as indicated:

Criteria	Keep Variables	Temp Dataset
CPT codes in (99281, 99282, 99283, 99284, 99285)	PMI, TCN	Emergency Procedures
Revenue c in (0450, 0451, 0459, 0981)	PMI, TCN	Emergency Rev Codes
CPT codes in (99221-23, 99231-33, 99238-39, 99251-55, 99261-63, 99291-92, 99356-57)	PMI, TCN	Acute Inpatient Procedures
Revenue codes in (010X, 016X, 020X-022X, 072X, 080X, 0987)	PMI, TCN	Acute Inpatient Rev Codes
CPT codes in (99201-05, 99211-15, 99217-20, 99241-45, 99271-75)	PMI, TCN, SDate	Outpatient Procedures
Revenue codes in (0456, 0510, 0515-17, 0520, 0521, 0523, 0526, 076X, 0770, 0779, 0982, 0983, 0988)	PMI, TCN, SDate	Outpatient Rev Codes
RxCode = 'Asthma-Den'	PMI, TCN, SDate, NDCCode, NDCCat, DaysSup	Pharmacy
Diagnosis code = 493	PMI, TCN	Outpatient Diagnoses
Diagnosis code = 493 and DiagSeq = 0001	PMI, TCN	Primary Diagnosis

7. Remove duplication by TCN from all nine Step #6 datasets. Only one record per TCN should result, keeping only those variables listed in the table above.

8. Join Emergency Procedures dataset with Primary Diagnosis dataset to identify those ED records with asthma diagnoses. Keep only those records in both datasets.

9. Repeat Step #8 for Emergency Rev Codes dataset.

10. Concatenate the two resulting ED datasets from Step #8 and Step #9 into a single ED dataset, combining records selected on the basis of ED procedures and those selected on the basis of ED revenue codes. Remove PMI-duplication from the resulting dataset, so that only one record per PMI is kept, and only the PMI variable is kept.

11. Repeat Steps 8-10 for the Inpatient datasets.

12. Repeat Steps 8-10 for the Outpatient datasets, except that the Outpatient Diagnosis dataset is used in place of the Primary Diagnosis dataset.

13. Sort the dataset from Step #12 by PMI and SDate, then count the number of outpatient visits by PMI. Keep only those records with 4 or more outpatient visits, and only one record per PMI.

14. In the Pharmacy dataset, count the number of events on each claim using the dispensing event definition. Then copy the resulting dataset into a new dataset in which the number of events per member (PMI) is counted. Keep only those records with more than one dispensing events during the year, and only one record per PMI.

15. Now join the resulting dataset from Step #14 to the outpatient dataset from Step #13. Keep only those records in both datasets.

16. Take the Pharmacy dataset used in Step# 14, with the number of events indicated on each record, and split it into two datasets, one for PMIs with 4 or more dispensing events, all of which are for leukotriene modifiers, and one for all other PMIs with 4 or more dispensing events.

17. Join the leukotriene-only dataset from Step #16 with a dataset comprised of the ED, Inpatient, and Outpatient datasets (see Steps 10-12) combined. Join on PMI and keep the records from the leukotriene dataset if their PMIs are also found in the combined dataset—i.e., they also had non-pharmacy services.

18. Now join the original (from Step #16) leukotriene dataset with the Outpatient Diagnosis dataset on PMI, and keep only those leukotriene records that are also found in the diagnosis dataset.

19. Concatenate the two results sets from Steps #17 and #18 into a single leukotriene dataset and remove any PMI-duplication. Keep only one record per PMI.

20. Concatenate the leukotriene dataset from Step #19 with the pharmacy dataset from Step #15, and remove any PMI-duplication.

21. Concatenate all datasets containing qualifying eligibles. These include the ED, inpatient, and outpatient datasets from Steps #10-12, and the pharmacy dataset from Step #20.

22. Once again remove any PMI-duplication from the results of Step #21.

23. Join the results from Step 22 with the eligibility data from Step #5 and keep only those records found in both datasets.

Selecting Numerator Records:

24. Select pharmacy records from the HDR that have service dates in the MY, and that have an RxCode of 'Asthma-Num'.

25. Sort the dataset from Step #4 by PMI and select only one record per PMI. These records represent "hits" for the numerator count.

26. Match this dataset to the eligibles dataset from Step #23 on basis of PMI. Tag each record as a "hit" if the PMI is found in the numerator dataset, as a "non-hit" if the PMI is not found in the numerator dataset.

Exclusions: Do not implement.

Produce Counts:

27. Sort dataset from Step #6 by Majprog2, PlanName, and PMI.

28. Produce a report table showing number of hits and non-hits by MajorProgram (product), Age Group, and PlanName. The Denominator count is in the total column for each row; the numerator count is in the hits cell.

29. Transfer counts to spreadsheet, where rates and confidence intervals are computed.

Outputs		
Worksheet	**PMP Asthma Meds.xls**	
Spreadsheet	**Column**	**Notes**
CCS *yyyy*	Measurement Year	Name spreadsheet by MY
	Product	Major Program
	Plan Name	
	Eligible Member Population	Denominator
	Numerator Events by Admin Data	Numerator (count of "hits")
	Computed Rate	Numerator / Denominator
	Lower 95% CI	Upper bound of 95% confidence interval
	Upper 95% CI	Lower bound of 95% confidence interval

Appendix 3 – Master Control Sequence SOP

Standard Operating Procedure

Project	MHCP Performance Measurement – HEDIS Measures
Name/Description	**Master Control Sequence for Production of PMP Measures**
Prepared by and Date	J.T. 04/26/05
Last Updated	04/26/05

Requirements

This procedure must result in production of the set of reportable performance measures. It is used to control the sequencing of all other SOPs involved in that process. The operator responsible for producing the measures must follow the steps outlined here. Each step is documented as a Standard Operating Procedure.

Process Overview

The operator completes each step listed below, consulting the documentation for each step. All documentation is compiled in the *PMP System Description and Operational Guide.*

Process Detail

The sequence of steps is as follows:

1) Implement New Measures {Jan}
2) Validate SAS Programs (new) {Jan}
3) Update Childhood Immunization Data Supplement {Feb}
4) Review and Implement Changes to Measure Specifications {Feb}
5) Validate SAS Programs (revised) {Feb}
6) Determine Readiness of Data Warehouse for Reporting {Apr}
7) Create HEDIS COL Database {Apr}
8) Update NDC Codes Database {Apr}
9) Create HEDIS Data Repository (HDR) {May}
10) Validate Contents of HDR {May}
11) Produce Performance Measures {May}
12) Load Measure Data into Access Database {May-Jun}
13) Load Measures Data into DST and Transmit {Jun}
14) Disseminate Reports {Jun}
15) Record Feedback on Reporting Process and Develop Improvement Plan {Jul-Dec}
16) Implement Improvement Plan {Dec}
17) Evaluate Use of Measures and Reports in Decision making {Jan-Dec}

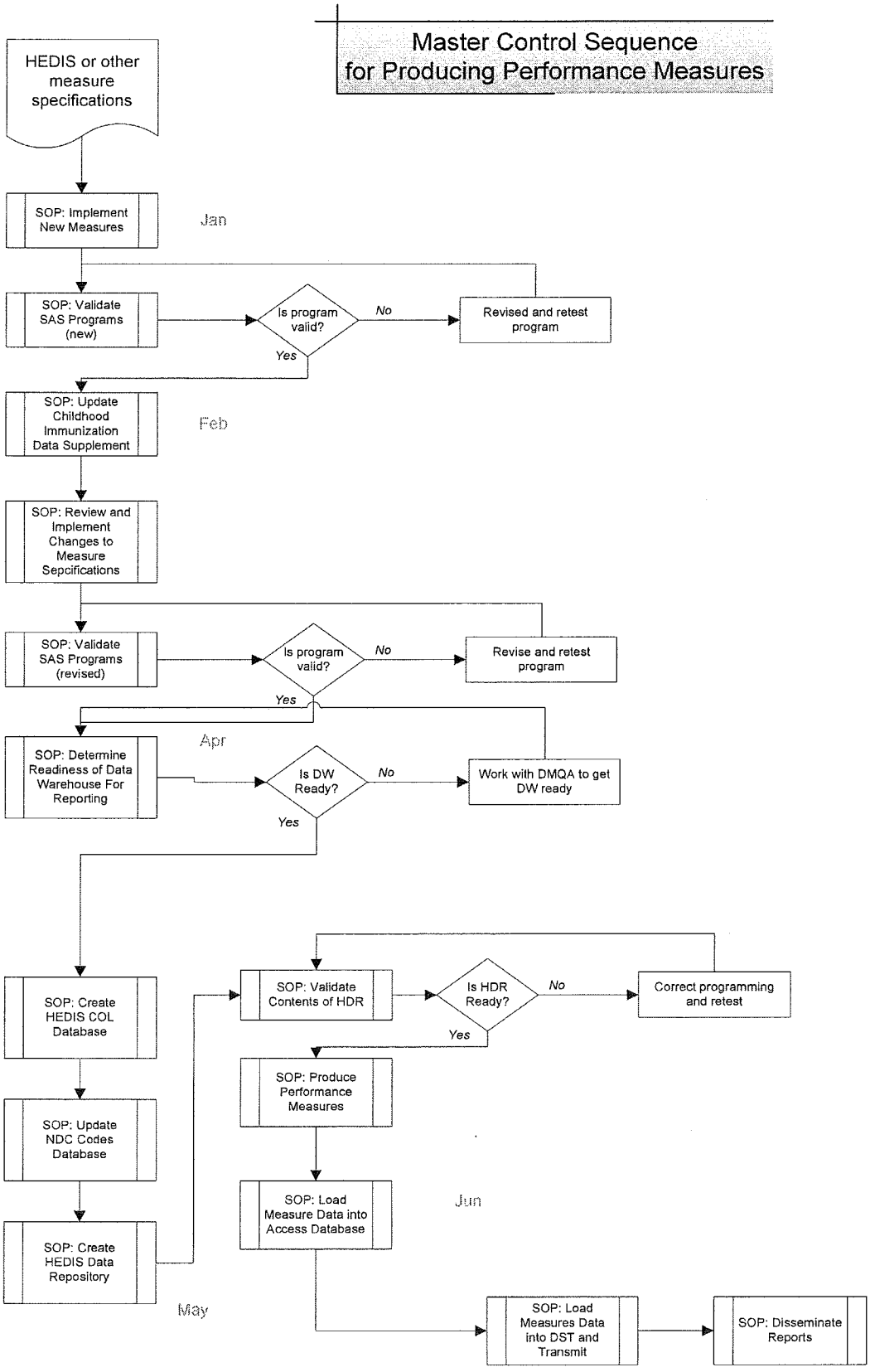
Recognize that as problems or better ideas arise it may be necessary to repeat some of these steps or vary the sequence.

Products

The product of this SOP is a set of measures and reports suitable for dissemination to users, including DHS management, contracted MCOs, and the state legislature.

Appendix

Master Control Sequence for Producing Performance Measures.


Master Control Sequence
for Producing Performance Measures
HEDIS or other measure specifications
SOP: Implement New Measures
Jan
SOP: Validate SAS Programs (new)
Is program valid?
No
Revised and retest program
Yes
SOP: Update Childhood Immunization Data Supplement
Feb
SOP: Review and Implement Changes to Measure Sepcifications
SOP: Validate SAS Programs (revised)
Is program valid?
No
Revise and retest program
Yes
Apr
SOP: Determine Readiness of Data Warehouse For Reporting
Is DW Ready?
No
Work with DMQA to get DW ready
Yes
SOP: Create HEDIS COL Database
SOP: Validate Contents of HDR
Is HDR Ready?
No
Correct programming and retest
Yes
SOP: Produce Performance Measures
SOP: Update NDC Codes Database
SOP: Load Measure Data into Access Database
Jun
SOP: Create HEDIS Data Repository
May
SOP: Load Measures Data into DST and Transmit
SOP: Disseminate Reports