2007 Performance Measures Validation Report

An independent audit conducted by MetaStar of 2007 performance measures produced by the Minnesota Department of Human Services

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These measures are adopted from the HEDIS™ 2008 Technical Specifications published by the National Committee for Quality Assurance (NCQA). All use administrative (enrollment and claims) data only, not medical records data.	

Executive Summary

The Minnesota Department of Human Services (DHS) elects to use standardized performance measures to assess quality of care and services provided by its contracted managed care organizations (MCOs). These measures are calculated from encounter data submitted by these organizations to DHS. In order to assure that specifications for these measures are followed, and that DHS's healthcare information system is capable of supporting such measures, DHS contracts with MetaStar for a rigorous assessment each year. This assessment meets the Centers for Medicare & Medicaid Services (CMS) performance measurement validation standards.[1]

The assessment is not intended to evaluate the overall effectiveness of DHS's systems. Rather, the focus is on evaluating aspects of DHS's systems that specifically impact the ability to accurately report performance measures. In essence, DHS needs 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, transformed, stored, computed, analyzed, and reported.

DHS currently employs 25 performance measures (see preceding page). This set of measures focuses on early detection and management of chronic disease, basic preventive care, and access to care. The measures follow specifications found in the *Healthcare Effectiveness Data and Information Set (HEDIS)® 2008 Technical Specifications*.[2]

DHS uses those HEDIS measures best-suited to available encounter data and its limitations. Although HEDIS specifications are followed closely for all measures, a few require minor modifications due to state-specific requirements or data idiosyncrasies. In addition to monitoring MCO performance, this set of measures is useful in tracking progress toward internal quality improvement objectives and in meeting other state agency requirements.

To make its assessment, MetaStar examines extensive sets of system documentation and detailed computer program code, conducts interviews with DHS staff, and performs internal data consistency checks and comparative tests of measure results against benchmark data. Any identified system deficiencies or data problems are immediately corrected and reviewed again.

The assessment is performed following all processes required by the BBA (42 CFR 438.358[b][1]) and CMS Protocol Calculating Performance Measures, Validating Performance Measures, and Appendix Z (ISCAT).

The findings of MetaStar's assessment for this year are as follows:

1. Enrollment data and encounter data in DHS's healthcare information systems are complete and reliable to the degree necessary to support the performance measurement system.

[1] BBA (42 CFR 438.358 [b][1])
[2] HEDIS® is a registered trademark of the National Committee for Quality Assurance (NCQA).

2. DHS's healthcare information systems are capable of extracting, managing, and analyzing the data in ways that enable production of valid and reliable performance measures.

3. DHS's selection of standard HEDIS performance measures, and its rigor in implementing these measures, ensures validity, reliability, and comparability of results.

The assessment described in this report was conducted in 2005, 2006 and 2007 as well as in 2008. The performance measurement system continues to improve each year and to keep abreast of changes in data availability and measure specifications.

2007 Performance Measures Validation Report

The Minnesota Department of Human Services (DHS) contracts with MetaStar to conduct an independent assessment of the Department's healthcare performance measurement system. DHS's performance measurement system primarily monitors performance among DHS's contracted managed care organizations (MCOs). MetaStar conducts an annual assessment and reports on its findings.

The purpose of MetaStar's assessment is to validate the three major components of the performance measurement system:

1. The quality of the encounter data from which DHS bases its performance measures

2. The capabilities of DHS's information systems in extracting, managing, and analyzing data without introducing error

3. The adequacy of measure definitions and degree to which DHS rigorously implements these definitions

MetaStar applies a methodology that fulfills the requirements of the Centers for Medicare & Medicaid Services' (CMS) EQRO Protocol, *Validation of Performance Measures*, including the *Information Systems Capabilities Assessment* Tool (ISCAT). This methodology meets the requirements set forth in the BBA's 42 CFR 438.242 regulations. It includes an on-site visit to DHS, preceded by specified pre-on-site activities and followed by specified post-on-site activities.

MetaStar's Credentials

MetaStar is a licensed HEDIS Compliance Audit organization with extensive experience conducting these audits.[3] The staff involved in this project included two Certified HEDIS Compliance Auditors (CHCA); a project manager; and one programmer-analyst for data integrity assessment, documentation review, and measure validation.

As the External Quality Review Organization (EQRO) for the state of Wisconsin, MetaStar strictly abides by all the EQRO regulations. In addition, MetaStar has performed NCQA HEDIS™ Compliance Audits for Medicaid and Medicare among Minnesota's MCOs.

Data Quality Validation

Method

DHS's healthcare performance measurement system relies on complete and accurate data. More specifically, DHS's performance measures are defined in terms of data that are available from DHS's enrollment and encounter databases. In order to validate the performance measurement system,

[3] Additional information on MetaStar is available at: www.metastar.com.

MetaStar must verify that the content of these databases are complete and accurate enough to support this use.

MetaStar employed four approaches to validating enrollment and encounter data:

- Document review
- Interviews
- Operational quality reports
- Measure comparisons

Each approach is capable of uncovering data integrity problems that might threaten the reliability of one or more measures.

MetaStar gathered from DHS a wide range of documentation regarding enrollment and encounter data, including special studies and periodic audits, data correction policies and procedures, issues logs, EDI specifications, staffing levels, size of databases, and uses of these data. These documents were initially collected in the first annual assessment and are updated each year as necessary. To add depth to the information available in the documentation, and to clarify where necessary, MetaStar conducts interviews with those DHS staff responsible for the data systems. MetaStar asks detailed questions to assure that enrollment data are accurately collected and securely maintained.

Enrollment data for Minnesota's publicly funded managed care programs are all maintained at the state level, so performance measurement access to this primary source is direct and relatively simple. Knowledge of its problems is readily available.

Encounter data are only as good as what are submitted by the MCO, so robust methods for error detection and correction are necessary. Operational quality reports, such as data error rates and volume discrepancies reports, provide MetaStar with quantitative information about problems with encounter submissions and resolutions to those problems.

In addition to documentation review, interviews, and data quality reports, the quality of these data can be assessed in terms of the results they produce. MetaStar has access to a range of MCO, state, and national "benchmarks" against which Minnesota's public program performance measure results are compared. Large discrepancies alert the reviewers to possible underlying data problems.

Findings

1. Enrollment Data: MetaStar finds that, although DHS's enrollment data system is mature, well-staffed, well-controlled, and fundamentally reliable, it is still subject to data error, in particular where county staff are responsible for capturing and entering data into the system. To keep enrollee data up to date and to help resolve complex and sometimes confusing eligibility requirements, county staff would benefit from more training and perhaps online tutorials and refresher courses. The HealthMatch Project, which had been under development for four years and aimed at improving the enrollment data process, was temporarily put on hold while a new contractor was found. The project was resumed in August 2008.

2. Encounter Data: As part of the *Performance Measures Validation Report for 2005*, MetaStar produced an encounter data integrity plan for DHS. This plan detailed many of the problems with encounter data quality and suggested remedies for those problems. Most of these problems still exist, including submissions of duplicate encounters by MCOs and inadequate editing procedures at DHS. Since that report was issued, DHS has created a new unit to address encounter data quality and has hired a manager for the project. The project includes formation of a State-MCO Encounter Quality Improvement Group to improve communications and to guide needed system changes at both levels. Parallel to this, DHS's Encounter Workgroup will continue to meet on specific data quality issues that can be handled at the state level.

   Operational data quality reports reveal that key data elements, such as diagnoses, procedure codes, enrollee identifiers, pay-to-provider identifiers, revenue codes, and service dates, maintain acceptably low error rates in 2007 encounter submissions. Error rates for these elements are in the zero- to three percent range. On the other hand, the duplication of encounters occurs much more frequently as a result of erroneous resubmissions or failures by the MCO's staff to correctly execute the encounter data replacement process. To maintain performance measure integrity, DHS analysts have developed deduplication algorithms that run prior to performance measure encounters being placed into the data repository to maintain performance measure integrity. Code within the individual measure programs also works to deduplicate members or claims as appropriate.

   The accuracy and currency of encounter data remain troublesome in specific instances, such as inaccurate treating provider identifiers and missing place-of-service codes; however, for the selected 28 performance measures these problems are either irrelevant or only minor in their effects. They do not preclude computation of the measures. Further, there is no evidence that the processes of data extraction from DHS's mainframe databases into the DHS data warehouse and performance measurement data repositories introduces error that is not already present in the encounters as submitted.

Information System Validation

Method

MetaStar applies CMS's ISCAT in its assessment of DHS's information system capabilities in supporting performance reporting. The tool is modified slightly for use at a state agency rather than at an MCO. The modified tool is available in Appendix A of this report.

The ISCAT process includes the following steps:

1. DHS prepares a written response to each question on the ISCAT and sends these responses to MetaStar.

2. MetaStar reviews DHS's ISCAT responses in light of the other documentation MetaStar has collected about the system.

3. MetaStar conducts an on-site visit at DHS to clarify responses or to obtain additional responses to the ISCAT question set.

4. MetaStar reassesses responses during the post-on-site period and obtains from DHS any further needed information.

5. MetaStar issues its report on the capability and reliability of the DHS system as a data source for performance measurement.

The information system capabilities assessment process is intended to validate that DHS's information system can:

- Track individual enrollees and their enrollment spans
- Link services to enrollees
- Ensure accuracy and currency of data
- Avoid error in data transfer processes
- Permit encounter replacement
- Assess completeness and accuracy of processes for submission of encounters
- Provide a reliable performance measurement data repository that acts as a direct source for data measure production
- Archive and control versions of the data repository as needed
- Provide detailed standard operating procedures (SOPs) that direct the production of measures from the extraction point to reporting
- Adapt to needed changes

Where standard operating procedures are implemented by computer programs (SAS programs), MetaStar carefully examines and tests these programs. An example is the set of programs that extract data from DHS's data warehouse and load it into the performance measurement data repository.

Findings

MetaStar finds that DHS's healthcare data systems capably extract, manage, and analyze the available data and provide a sound platform for production of MCO-level performance measures.

1. Enrollment Data: DHS operates the enrollment system for public healthcare programs so it is in a position to directly impact the quality of these data. Its unique enrollee identifier is used throughout the system, allowing enrollment spans, encounters, and fee-for-service claims to be easily tracked by individual enrollee.

2. Encounter Data: MCOs are required to use the encounter replacement process to replace inaccurate encounters previously submitted. The MCOs have struggled to make this process work. In most cases where mass replacement is necessary, the process has been effective. In cases where only a few encounters require replacement, such replacement often does not occur. In part this is due to the difficulty the MCOs have in identifying those encounters that need replacing. DHS sends remittance advices to each MCO, but the HIPAA codes describing the data error are inadequate in some cases to guide correction. Also, the volume of remittance advices can be so large that the MCOs find it difficult to sort through them to find the replaceable encounters. DHS continues to work on this problem, studying the feasibility of

designing remittance advice formats and codes better suited to encounters. A project is underway to provide special electronic files to the MCOs that are better suited to guiding encounter data correction.

3. Documentation: One of the strengths of the DHS performance measurement system is its use of detailed SOPs that guide production of the measures. These SOPs begin with extraction of data from mainframe enrollment and claims systems to the performance measurement data repository, and they end with procedures for reporting of measures and for continuous improvement in procedures over time. Included are procedures for demonstrating the readiness of the mainframe data for loading into the repository. Volume comparisons and error rate comparisons indicate when encounter data are complete and reliable enough for extraction. Once data are loaded into the repository, similar tests are done on data especially critical to production of performance measures. No measures are produced until the repository passes these tests.

4. IQC: DHS follows detailed policies and procedures for testing each new and updated measure. This is documented in an Internal Quality Control (IQC) plan. The IQC plan includes comparison of the performance measure rate to rates reported by MCOs and review of individual enrollees to determine if they are appropriately included or excluded from the numerators and denominators. DHS also performs IQC to determine that the system backup procedures perform appropriately, thus assuring that the data can be reproduced.

5. Recommendations: Of several system changes previously identified as needed, MetaStar and DHS determined that these changes are either now implemented or are in planning for implementation.

Appendix B: Detailed Assessment of DHS's Information System Capabilities describes MetaStar's findings based on the ISCAT.

Validation of Measures

Method

DHS recognizes the importance of employing valid and reliable performance measures. Furthermore, these measures must be well-suited to available data — i.e., the enrollment and encounter data in the DHS healthcare data system. MetaStar's role is to assess the validity and reliability of the chosen measures and to verify that the manner in which these measures are implemented satisfies these definitions.

DHS employs a set of HEDIS measures developed by the National Committee for Quality Assurance (NCQA). The advantage to DHS in using these measures is that they have "passed the test" for validity and reliability. Their definitions are precise in terms of the available data. They are widely employed in the healthcare field and offer many opportunities for comparison. MetaStar's task is to verify that DHS has implemented the chosen measures correctly.

DHS chose to utilize MCO-submitted encounter data to calculate its performance measures. It is important to understand the steps that occur as medical information is translated into encounter data.

Once an enrollee receives medical services, the provider places the information onto a claim form. Providers submit the claim form to an MCO for payment. The MCO processes the claim and then submits the data to DHS. DHS requires that the MCO report data in a standard format and follow a standard process for data submission. The data submitted by the MCOs is considered encounter data and contains the record of the encounter between the enrollee and a provider. If the MCO provides all required elements (e.g., procedure and diagnosis codes, dates of service, enrollee identifiers, etc.) to DHS, DHS's encounter data should accurately reflect the MCO's claims data for the submitted elements. However, if an MCO obtains additional service information (such as test results or service information from external entities) that are maintained separately from claims, the information would not be submitted to DHS, and the DHS encounter database would not contain all the data from a given service.

The exclusive use of encounter data to calculate performance measures is known as the administrative method. HEDIS Technical Specifications allows for some measures (e.g., Prenatal and Postpartum Care) to be calculated using a combination of administrative (claims or encounters) and medical chart review data; this is considered a "hybrid" method. The hybrid method is used when a significant portion of the data is found only in the medical record (e.g., laboratory results) or when the care was provided but fails to record in a claim.

To use the hybrid method, a statistically appropriate sample size is determined. Enrollees meeting measure denominator criteria (e.g., a live birth in 2007) are identified, and a randomly selected sample of those enrollees is drawn. Medical charts are then reviewed for all enrollees included in the sample who did not meet numerator criteria via administrative data. Final rates, then, include both administrative and medical record data in the numerator for the measure.

The hybrid method requires development of medical record review tools, training and oversight processes, skilled medical record reviewers, identification of potential providers of the services, coordination with provider sites, and medical record review. It can be a time consuming, resource intensive, provider-burdensome process. *Because of the additional resources involved with hybrid data collection, DHS elected to calculate its performance measures with administrative data only.*

Although the hybrid method may produce higher and more accurate rates for some measures, they are not necessary for comparing baseline measurements to subsequent changes to assess MCO performance on the measures chosen for this project. Thus, using administrative data is an appropriate mechanism for the production of performance measurements. Utilizing the administrative only method, MCOs and programs may be equitably compared by DHS over time. When MCOs report performance measures themselves and are given the option of using administrative or hybrid methods, results may not be comparable between MCOs and across programs.

Once DHS has drafted or revised computer programs to calculate performance measure rates, MetaStar performs thorough code review of all measures. DHS computer programmers and MetaStar analysts examine in detail the SAS programs written by DHS and compare the operations in the code to the operations specified in the HEDIS specifications. MetaStar's familiarity with the HEDIS specifications, with the DHS performance measurement platform, and with the SAS programming language, are important ingredients in this process.

Once any programming problems found via code review are fixed by DHS, MetaStar begins the process of comparing the results of those programs to MCO, state, and national benchmarks. In this instance, the process can uncover implementation problems not readily identifiable in the SAS code.

In cases where DHS-to-benchmark discrepancies cannot be explained on the basis of enrolled population differences or service system differences, MetaStar obtains raw data from DHS and runs test programs to identify the source of discrepancies. Both MetaStar and DHS compare results of the current year (2007) to previous years and to results reported to NCQA by individual MCOs through the formal HEDIS reporting system.

Findings

1. MetaStar finds that DHS correctly implements all necessary critical components of measure specifications to generate valid, reliable, and useful performance measures. This includes documentation within the SAS program code and in adjunct procedural descriptions to facilitate understanding of program logic. Any discrepancies between code and specifications were found to be insignificant and did not affect final reported rates.

2. For each of the twenty-five measures, MetaStar adopts the NCQA reporting format that has two formal validation findings – "Report" or "Not Report". *As of November 2008, MetaStar designated all twenty-five performance measures with Report status.*

Final Thoughts

This is the fourth year that DHS has calculated HEDIS measures using encounter data. The system developed during the 2004 Performance Measure project allowed DHS to efficiently and effectively update the measures. The process used by DHS demonstrates that the system is easily maintained and adapted. Throughout the process, DHS staff remains committed to meeting rigorous standards and thoroughly documenting its methods. DHS maintains a solid foundation for producing valid and reportable performance measures.

Appendix A: Modified ISCAT for 2007

Information Systems Capabilities Assessment Tool (ISCA)

The Information Systems Capabilities Assessment Tool (ISCA) collects information about the effect of information management practices on performance measure reporting. It is *not* intended to evaluate the effectiveness of your information systems. It also requests information concerning the procedures employed to produce the performance measures.

The ISCA was based on the CMS ISCA for managed care organizations (MCOs). Questions pertaining only to MCOs were omitted, and questions specific to DHS were added.

ISCA Format

The ISCA contains the following sections:

Section I: General Information
Section II: Enrollment Information
Section III: Encounter Data
Section IV: Performance Measures
Section V: System Security
Section VI: Provider Information

Completing the ISCA

Completing the ISCA is a required component for CMS performance measure validation. The questions and tables in this document provide auditors' background information on the mechanisms used to calculate performance measures. The information requested in the ISCA is the minimum necessary to complete the audit process. In order to increase the efficiency and effectiveness of this process, please assure that every question is answered accurately and completely.

SECTION I. GENERAL INFORMATION

1. In Table I.A., please provide information for your primary and secondary contacts for the performance measurement data validation.

Table I.A.: Contact Information

	Primary Contact	Secondary Contact
Name:	Jeffrey W. Tenney	Robert Lloyd
Title:	Strategic Planner	Manager, Health Program Quality
Company:	Minnesota Dept. of Human Services	Department of Human Services
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Telephone:	651-431-2638	(651) 431-2613
Fax:	651-431-7422	(651) 431-7422
E-mail Address:	jeff.tenney@state.mn.us	robert.lloyd@state.mn.us

2 Has your organization ever undergone a formal IS capability assessment? If yes, who performed the assessment?

DHS's claims processing systems undergo periodic assessment by federal agencies. DHS's health care performance measurement system was validated by MetaStar in CY 2005, 2006, and 2007.

When was the assessment completed?

See: Attachment I.1 (*Performance Measures Validation Report*)

3. In Table 1.B., indicate performance measure calculation for *each program* undergoing an audit for the measurement year.

Table 1.B.: Measurement Year Performance Measures

Measure	PMAP	MnCare	MSHO	MSC	MSC+
Adolescent Well-Care Visits	X	X	NA	NA	NA
Adults' Access to Preventive/Ambulatory Health Services	X	X	X	X	X
Antidepressant Medication Management	X	X	X	X	X
~~Beta-Blocker Treatment After a Heart Attack~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~
Beta-Blocker Treatment Persistent	X	X	X	X	X
Cervical Cancer Screening	X	X	NA	NA	NA
Chemical Dependency Utilization—Inpatient Discharges and Average Length of Stay	X	X	X	X	X
Childhood Immunization Status	X	X	NA	NA	NA
Children and Adolescents' Access to Primary Care Practitioners	X	X	NA	NA	NA
Chlamydia Screening in Women	X	X	NA	NA	NA
Colorectal Cancer Screening	X	NA	X	X	X
Comprehensive Diabetes Care (Screening)	X	X	X	X	X
Follow-Up After Hospitalization for Mental	X	X	X	X	X

Measure	PMAP	MnCare	MSHO	MSC	MSC+
Illness					
Identification of Alcohol and Other Drug Services	X	X	X	X	X
Initiation and Engagement of Alcohol and Other Drug Dependence Treatment	X	X	X	X	X
Inpatient Utilization—Nonacute Care	X	X	X	X	X
Mental Health Utilization—Inpatient Discharges and Average Length of Stay	X	X	X	X	X
Mental Health Utilization—Percentage of Members Receiving Inpatient, Day/Night Care, and Ambulatory Services	X	X	X	X	X
Osteoporosis Management in Women Who Had a Fracture	X	X	X	X	X
Prenatal and Postpartum Care	X	X	NA	NA	NA
Use of Appropriate Medications for People With Asthma	X	X	NA	NA	NA
Well-Child Visits in the 3rd, 4th, 5th, and 6th Years of Life	X	X	NA	NA	NA
Well-Child Visits in the First 15 Months of Life	X	X	NA	NA	NA
Glaucoma Screening in Older Adults	X	NA	X	X	X
Use of Spirometry Testing in COPD	X	NA	X	X	X
Cardiovascular LDL	X	X	X	X	X
Annual Dental Visits	X	X	X	X	X
Breast Cancer Screening	X	X	X	X	X

SECTION II. ENROLLMENT INFORMATION

This section requests information about the general flow of enrollment data and the maintenance of the information in the MMIS data warehouse.

1. In Table II.A., provide information about the enrollment/membership data processing system described in this section.

Table II.A.: Enrollment/Membership Data Processing System

Question	Response
Name of enrollment/membership system	MMIS
Type of data processed	Eligibility
Programs affected	Medicaid (MA); General Assistance Medical Care (GAMC); MinnesotaCare; Minnesota Disability Health Options (MnDHO);Minnesota Senior Health Options (MSHO); Minnesota Senior Care (MSC); Minnesota Senior Care Plus (MSC+)
Location (city, state)	St. Paul, Minnesota

In Table II.B., indicate if the data element indicated is:

R Required: The enrollment/membership system requires the data element for all members.

O Optional: The enrollment/membership system requires the data element for some members, but not for all members.

N Not Required: The enrollment/membership system does not require or capture the data element.

NA Not Applicable: The data element does not apply to the enrollment/membership system.

2. For data elements that are Optional, Not Required, or Not Applicable, provide an explanation. If responses vary by program, please explain.

Table II.B.: Enrollment/Membership Data Element Requirements

	Required? (R, O, N, NA)	Explanation
Member Identification Information		
Full name	R	
Address	R	
Date of birth	R	
Gender	R	
Social Security number	O	Optional for infants up to 1 year old
State ID #	R	System-generated PMI ("Person Master Index", also known as the "Recipient ID") number is assigned to each person
Coverage Information		
Relationship to subscriber	R	
MCO selection	O	Some persons may be excluded from managed care based on certain criteria.
Program	R	

Effective Date		
With MCO	R	If person is enrolled in managed care
By program	R	
Actual date of notification to MCO of effective date (in the event of a retro-active enrollment)	N	Managed care is not retroactive
Effective date	R	
Termination Date		
With MCO	R	If person is enrolled in managed care
By program	R	
Actual date of notification to MCO (in the event of a retro-active enrollment)	N	
Termination Date	R	

Membership Identification Number and Tracking

3. How do you uniquely identify enrollees?

   A system-generated "Person Master Index" (PMI) number is assigned to each person entered into the system. A PMI can be issued to only one person, and is never re-used.

4. Under what circumstances, if any, can an enrollee exist under more than one identification number within DHS' information management systems?

   In the event that a person provides incorrect information on their application form, or the case worker enters the data incorrectly, a person may be assigned duplicate PMI numbers.

5. Under what circumstances, if any, can an enrollee's identification number change?

   The number will never change, although a person may incorrectly be assigned multiple PMIs. When such cases are identified, the multiple PMI data are merged into one of the existing PMI numbers, and the other number retired.

6. How does DHS enroll and track newborns born to an existing enrollee?

   When a worker enters eligibility for the newborn, the worker enrolls or requests the State (Minnesota) to enroll the newborn in the mother's health plan. We do not track whether newborns have been enrolled in the mother's health plan for the birth month. The mother's PMI becomes the Applicant PMI, which is linked with the infant's PMI.

7. How does DHS track retroactive enrollments and disenrollments?

   Retroactive months of eligibility are coded as such in the enrollment data tables. All retroactive months are fee-for-service months; retro months are never assigned to a managed care plan. Disenrollment can be either enrollee-initiated or system-initiated, but this information is not recorded in the data system. When disenrollment occurs, the system stops producing monthly eligibility records for the person.

Enrollment/Membership Data Processes

8. How are data for new members obtained, processed, and entered into the enrollment/membership system?

   See: Attachment II.1 (Minnesota Health Care Programs Application)

   The data are obtained through the applicant completing and submitting an application form. The data are entered into the system, and a request for verifications of certain data items will be issued to the applicant. When the applicant submits all of the data verifications, the case worker (or other assigned staff) then makes a determination of eligibility and it is entered into the system.

9. How are changes to enrollee information obtained, processed, and entered into the enrollment/membership system?

   Changes may be reported by the enrollee to the case worker, who will then enter them into the system and determine the impact, if any, on eligibility.

10. How are data on member terminations obtained, processed, and entered into the enrollment/membership system?

    Changes may be reported by the enrollee to the case worker, who will then enter them into the system and determine the impact, if any, on eligibility. If the enrollee is no longer eligible, then the worker enters a closing code into the system and then the system sends out a notice and closes the person (and in some cases, the entire case, if the entire household becomes ineligible).

    A second way that terminations occur is when the worker has requested additional information or verifications and they are not returned within a given time period. The system will automatically send out a notice and close the person/case.

    A third way that terminations may occur is when an applicant has been approved for eligibility in MinnesotaCare but fails to send in their premium payment. If payment is not made within a given time period, the system will automatically send out a notice and close the appropriate persons and, if applicable, the case. In certain instances, such as with infants under one year, the infant may remain open on the case, but all of the rest of the family members could be closed.

11. How is data entry of enrollment/membership information verified?

    For the social security number and the Medicare number, there are verifications made electronically with other agencies. As far as the actual data entry verification, there are specific edits in place that prompt the data entry person to enter required data or to enter only approved codes.

12. What were the time-to-process standards for enrollment/membership data during the measurement year (2007)?

MinnesotaCare program: 30 days for initial processing
All other health care programs: 15 for pregnant women
30 standard
60 for blind or disabled

13. What was the actual average time to process for enrollment/membership data during the measurement year (2007)?

32.2 days (average weighted by enrollment across programs)

14. Was there ever a backlog or delay in processing enrollment/membership data during the measurement year (2007)? If so, describe.

Percent of applications requiring more than 45 days to process:
21.0% (average weighted by enrollment across programs)

15. During the measurement year, were audits of enrollment/membership data processing conducted to assess the accuracy of the entered data? If so, describe what was audited and how often.

Yes, in compliance with Minnesota's obligation under federal regulations pertaining to Medicaid Eligibility Quality Control (e.g., MEQC)

In summary, the eligibility audit consisted of two separate evaluations:

<u>MinnesotaCare Cases (FFP only)</u> [Note: MinnesotaCare is viewed as a "Medicaid Expansion Program" by CMS, the Federal Agency]

(Part A) 652 Enrolled Families were randomly sampled (statewide) – 493 cases actually reviewed; others were unable to locate, failure to cooperate, etc.
(Part B) 200 Families terminated for premium non-payment were randomly sampled

16. If accuracy audits were completed during the measurement year, what were the findings?

a. **Enrollment errors:**

14% of families with wage income
10% of families with self-employment income

b. **Calculation of income errors:**

37% of families with wage income
33% of families with self-employment income

17. Describe any deficiencies identified by the accuracy audits.

Two-thirds of enrollment errors were related to employment-sponsored insurance.

System Changes

18. Please describe any major changes/updates that have taken place in the last three years in your Medicaid enrollment data system (be sure to identify specific dates on which changes were implemented) for example:
    - New enrollment system purchased and installed to replace old system.
    - New enrollment system purchased and installed to replace most of old system - old system still used.
    - Major enhancements to old system (what kinds of enhancements?).

No major enhancements in the MMIS data system. A new system for entry of eligibility information has been under development for four years. Recently, the contractor for this project was dismissed. The project is under review and a determination of how to proceed is expected by June, 2008.

One change in 2007 was reduction of the enrollment form from 24 pages to eight pages.

19. In your opinion, have any of these changes influenced, even temporarily, the quality and/or completeness of the Medicaid enrollee data that are collected? If so, how and when?

N/A.

General Benefit Information

20. Does DHS set the pharmacy co-pay (if any) or is that set by each individual health plan?

Copays for our programs are set by the Legislature in statute. They apply to recipients enrolled in health plans under contract to DHS and to recipients enrolled in our fee-for-service program.

21. Please describe any differences in pharmacy benefits between the programs.

The health plans under contract with DHS are required to cover the drugs that are covered in the fee-for-service Medical Assistance program – or a therapeutic equivalent. Consequently, the plans do not necessarily cover the same drugs as the FFS program. The formularies vary from plan to plan. So do pharmacy-related prior authorization criteria.

The same drug coverage and policies apply to both the FFS GAMC and Medical Assistance programs.

22. Please describe any differences in vision benefits between the programs.

Generally speaking, the vision benefits between the programs are the same: MA, MNCare, and GAMC all have vision and eyeglasses coverage. The only exception to this is a subset of MNCare called MinnesotaCare Limited Benefit (MLB). This program does not have eyeglasses coverage. Also, medically necessary vision exams for such conditions as diseases of the eye and foreign body removal can be performed by either optometrists or ophthalmologists. But routine vision services such as an eye exam or determination of refractive state can only be performed by an ophthalmologists (MD), otherwise, there is no coverage.

Copays for glasses- MA has a $3 copay for eyeglasses, GAMC and MNCare have a $25 copay (MLB has no copay since there's no eyeglasses coverage). Children under 21 and pregnant women do not have a copay.

Requested Documentation

The documentation requested for this section is listed as follows. Label all documentation as described in the table.

Document	Details	Label
Enrollment/ Membership Data System Flowchart	Provide a flowchart that gives an overview of the DHS enrollment/membership data system and processes, indicating steps in the enrollment/membership data process as well as the flow of enrollment/membership data from all sources.	Attachment II.2
Data Accuracy Procedures	Provide a copy of any procedure used to assess the accuracy of enrollment information maintained in MMIS.	Attachment II.3
Data Accuracy Results	Provide a copy of any results of audits performed to assess the accuracy of the enrollee information entered into your system.	Attachment II.4
Enrollee Form	Provide a copy of the form used to capture enrollee information (i.e., name, date of birth, enrollment date, etc.)	Attachment II.1

Contacts

Provide the name, title, department, address, telephone number, fax number, and e-mail address of the persons responsible for completing this section of the ISCA.

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Date of completion: 03/18/2008

SECTION III. ENCOUNTER DATA

This section requests information on the encounter data submitted to DHS by the contracted MCOs.

Health Plan Submission

1. All health plans are required to submit encounter data to DHS. Please describe and/or provide the documentation of the process for data submission and loading into your warehouse. This should include the:
   - Process for the health plan to submit data.
   - Process for DHS to acknowledge receipt.
   - Frequency of submission.
   - Processes in place to ensure that transmissions are properly monitored and controlled.

   See: Attachment III.1 (Encounter Processing—Issues and Overview)
   Attachment III.2 (Mercer's Encounter Data Validation Study, 2004)
   Attachment III.3 (Encounter Billing Procedures and HIPAA Mapping)
   Attachment III.4 (Encounter EOB Codes)

   DHS utilizes its federally certified Medicaid Management Information System (MMIS) to process encounter claims. The processing of encounters parallels that of fee-for-services claims, except in the following ways:

   - **MMIS applies a reduced set of data edits to encounter claims (see Encounter EOB Codes)**
   - **MMIS receives ongoing batch submissions from MCOs, usually on a monthly basis**
   - **MMIS assigns the adjudication date as the warrant date on encounters**
   - **MCOs follow a modified set of instructions for submitting encounters (see Encounter Billing Procedures Manual and HIPAA Mapping Requirements for Encounter Data)**
   - **Encounter claims carry a special Input Media Type code ('7') to differentiate them from fee-for-service claims**

   Encounter submission uses the same claim formats used in fee-for-service submission (CMS 1500, UB-04, etc.). Each MCO has its own system for preparing encounters for submission to DHS (see Mercer's Encounter Data Validation Study, 2004). DHS relies heavily on an incentives-based approach to maintaining encounter data completeness and quality. Risk adjustment methodologies and performance-based reimbursement from withholds encourage MCOs to address completeness and quality issues before submissions are made.

   Once submitted, encounters are loaded into MMIS. State staff notify the submitting MCO that its data are loaded, or that loading was aborted due to data problems. The MCO is informed of the number of claims received and loaded. DHS also informs MCOs of each denied encounter via the remittance advice process (see Item 9 below).

2. Using Tables III.A. and III B. that follow, please indicate the encounter data elements DHS requires health plans to submit. Table III.A. addresses facility and provider encounter data and Table III.B addresses pharmacy encounter data. Please submit an appropriate substitute if applicable.

Please enter the following information:

R Required: DHS requires all MCOs to submit the data element for all encounters.
O Optional: DHS captures the element when submitted or requires it for some types of encounters but not all encounters.
N Not Required: DHS does not require or capture the data element.
NA Not Applicable: The data element does not apply to the encounter system.

Table III.A: DHS Encounter Data Element Requirements–Facility and Provider Data

Item	Required	# of Codes	# of Digits	Explanation	MMIS Field Name
Member and Provider Information					
Enrollee identification	R		8	New enrollee assigned next in sequence	RECIP-IDENT-NUMBER
Rendering practitioner identification	R		9		PROV-NUMBER
National Provider Identifier	R		10	Required if assigned to provider	PROV-NPI
Encounter Information					
DHS encounter identification number	R		17	Composed of 7 subfields, created by MMIS	TRANS-CONTROL-NUM
MCO encounter number	R		9	MCO's claim identifier	
First date of service	R				LI-FIRST-DATE-OF-SVC
Last date of service	R				LI-LAST-DATE-OF-SVC
Discharge status	R				PATIENT-STATUS
Payment status	N			MMIS codes as "accepted" or "rejected", based on data edits	CLAIM-STATUS
Codes					
Primary diagnosis	R	1 per claim	5	With Diag Sequence Number = 0001	DIAG-CODE-ICD-9
Secondary diagnosis	R	8 per claim	5	With Diag Sequence Number > 0001	DIAG-CODE-ICD-9
Primary procedure	R	1 per claim	5	With Procedure Sequence = 0001 on	PROC-CODE

Item	Required	# of Codes	# of Digits	Explanation	MMIS Field Name
				UB-92 Inpat	
Secondary procedure	R	998 per claim	5	With Procedure Sequence > 0001 on UB-92 Inpat	PROC-CODE
Procedure modifiers	R	3 per line	2		PROC-CODE-MODIFIER
Revenue	R	1 per line	4	Leading zero	REVENUE-CODE
Type of bill	R	1 per claim	3	UB-92 claims	TYPE-BILL
Place of service	R	1 per line	2		PLACE-OF-SERVICE
DRG	N	1 per claim	3	Calculated by MMIS	DRG-NUMBER
Occurrence code	R	22 per claim	2	UB-92 claims	OCCURRENCE-CODE

Table III.B.: DHS Encounter Data Element Requirements–Pharmacy Data

Item	Required	# of Codes	# of Digits	Explanation	MMIS Field Name
Member and Provider Information					
Enrollee identification	R		8	New enrollee assigned next in sequence	RECIP-IDENT-NUMBER
Rendering practitioner identification	R		9		PROV-NUMBER
Encounter Information					
DHS encounter identification number	R		17	Composed of 7 subfields, created by MMIS	TRANS-CONTROL-NUM
MCO encounter number	R		9	MCO's claim identifier	
Date of service	R			Stored in Service Date From field	LI-FIRST-DATE-OF-SVC
Days supply	R				DAYS-SUPPLIED
Cost of the prescription	R			Submitted Charge	LI-SUBMITTED CHARGE
Any member co-pay	N			Adjustment made in MMIS	
Payment status	N			MMIS codes as "accepted" or "rejected", based on data edits	CLAIM-STATUS
Codes					
NDC Code	R		12	Drug UPC Code	DRUG-UPC-CODE

Other					

3. How many total diagnoses does DHS require that an MCO be able to submit (e.g., up to nine).

   DHS requires use of the standard Medicaid claims forms, and of all diagnoses codes that apply and can be reported on those forms.

4. Please list any MCOs not submitting the maximum number of diagnoses to DHS?

   All MCOs comply.

5. How does the DHS encounter system distinguish between principal and secondary diagnoses?

   The principal diagnosis is associated with a Diagnosis Sequence Number of '0001'. Secondary diagnoses carry sequence numbers from '0002' to '0009'.

Encounter Data Load Process

6. Please describe the process used to upload MCO encounter files.

   See: Attachment III.5 (Encounter Claims Nightly Adjudication Cycle)
   Attachment III.6 (Mercator Production Batch (X12) Inbound/Outbound Architectural Diagram)
   Attachment III.17 (E2E Business Process Descriptions)

   DHS/Health Claims Systems process encounter claim input files with two different methods. Both methods format input documents into claims and then load the claims onto queues where the MMIS system can edit and adjudicate the claims.

   I). The HIPAA compliant X12 837I and 837P claim input formats are sent by the MCOs to secured mailboxes. The translator then uses a scripted process that inputs these files, translates them to claims on the server and loads them to MQseries. On these queues, transaction processing brings the claims into MMIS where they are edited, adjudicated, checked for duplicity and loaded to the data base. Two MCOs, UCare and SCHA, currently use this method with secured file transfer protocol to send claim input files to the IFS mailbox system.

   2) The legacy encounter claim processing is done with Nation Standard Format (NSF) claim input formats sent to files on our mainframe at Intertechnology Group (ITG). These files are generation datasets with indexes for each MCO and each claim input type. A daily schedule job, PWMW4E02, reads these input files and collects them onto common claim input datasets for encounter processing. An "On Demand" job, PWMW4E03, processes these various input formats for institutional, medical, dental and pharmacy encounter claims. The claims are then converted to DB2 table formats, loaded to an MQseries queue and then edited and adjudicated by the MMIS system. All MCOs except UCare and SCHA use the NSF file input at this time.

The claim input files get to the mainframe MMIS by three different modes of transmittal. Emails or paper transmittals are used to verify claim types and claim counts for files being transmitted.

A) The MCOs use a leased line to FTP to input files directly to the mainframe files, using DHS assigned logons for FTP sessions.
B) MCOs can also use the DHS website to send files to the DMZ, where an internal process lifts these files over the firewall and into folders on our server. These files are then FTP'd to the mainframe files by the HCO/EDI unit staff.
C) MCOs may also put their files on other media, formerly tape cartridges and now CDs, and send the EDI unit the CDs with transmittals. The HCO/EDI unit staff then FTPs these files to the appropriate mainframe input files.

7. What process is used to determine that the files were accurately and completely uploaded into the warehouse?

Data Warehouse staff monitor loads to ensure that each one finishes without error. After each cycle, they compare the record count to the number of unique claim identifiers added to the Claim Header Table to ensure that a row is added for each claim. Staff check various counts from one reporting period to another, looking for unusual increases or decreases.

8. What edit checks exist to verify the accuracy of submitted information (e.g., procedure code-diagnosis edits, gender-diagnosis edits, gender-procedure code edits, field content edits)?

See: Attachment III.4 (Encounter EOB Codes)
Attachment III.2 (Mercer's Encounter Data Validation Report)

DMQA's 2008 workplan includes a project to rewrite encounter edits. The new set of edits will be better suited to encounter data. They were originally developed for FFS claims.

9. Please describe the process used when encounter data fails an edit. Please include the process used to monitor the number of encounters failing DHS edits.

See: Attachment III.7 (Encounter Claims Volume Report)
Attachment III.8 (SOP: Determine Readiness of Data Warehouse for Reporting)
Attachment III.1 (Encounter Processing—Issues and Overview)

The MMIS generates a Remittance Advice for each encounter that fails to pass an MMIS encounter edit. A batch of remittance advices is sent to each MCO each quarter.

PMQI produces a report each year (by quarter) on the number of encounters that fail certain edits. These are edits related to fields used by HEDIS measures. DMQA produces a quarterly report on the volume of encounters loaded, which includes counts by paid and denied status.

10. Please describe the process used to monitor resubmission of encounters that initially failed DHS edits.

See: Attachment III.9 (Replacement Claims Processing for Encounters)

MCOs submit replacement claims as they feel necessary to keep the DHS encounter database in MMIS complete and accurate. At this time, DHS does not monitor or in any way attempt to quantify the rate of replacement. In 2008, DHS will implement a process for tracking replacements and reporting on replacement issues. DHS will also implement a new process for voiding encounters that were improperly submitted.

DHS uses nearly all encounter claims in analyses and reports it produces. Only duplicates are universally eliminated; encounters with specific data errors are eliminated if the nature of the analysis or report calls for it. PMQI performs annual error rate analyses on those fields that are key to production of HEDIS measures.

DHS Data Warehouse

11. Please describe the warehouse used by DHS to store Medicaid encounter data. A document and/or flow sheet may be provided as an attachment to answer this question.

See: Attachment III.10 (Data Warehouse Table Structure)

The DHS Data Warehouse loads records from the MMIS, Child Support, and Cash/Food Stamps operational system into a Teradata database. The source files are loaded into normalized tables making it easy for users to access information across program transactional systems.

12. In Table III.D., indicate the type of staff responsible for key steps in the warehouse maintenance. Enter the number of individuals responsible for each step; provide explanations where relevant.

Table III.D.: Data Integration and Report Production

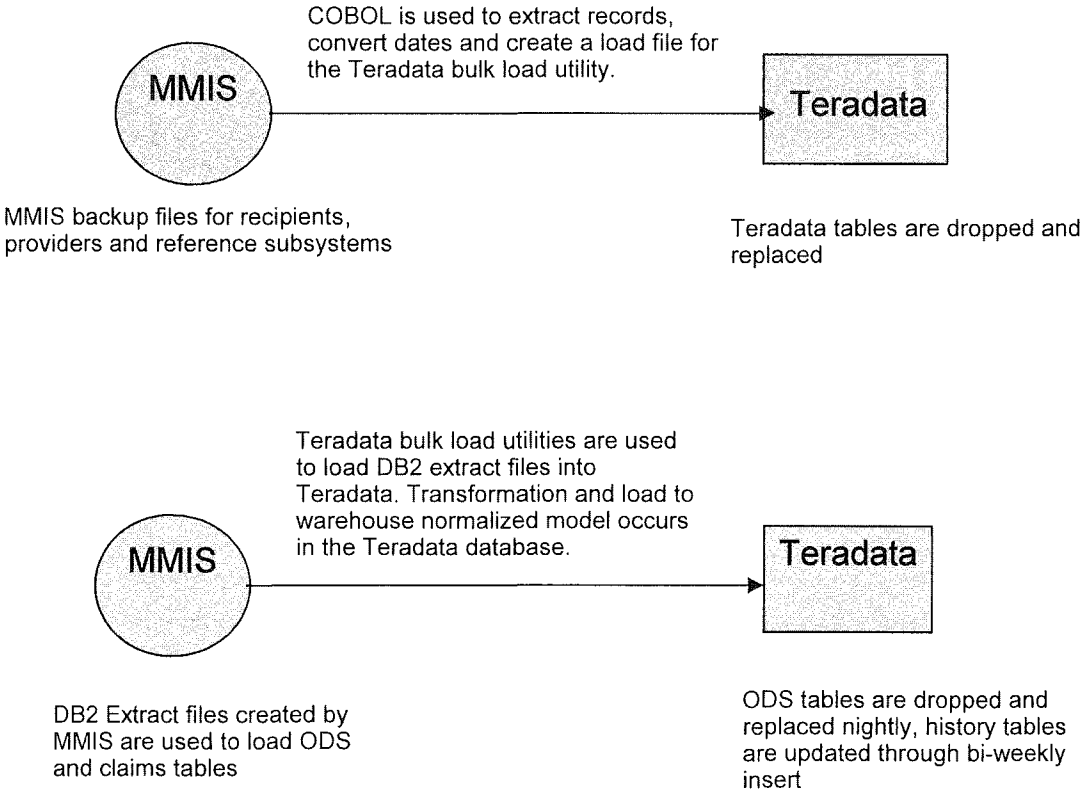
MMIS Production Functions	Type and Number of DHS Staff	Other
Encounter data loads	0.2 FTE programmer – Warehouse Unit	Loads are automated programs monitored by staff
Data warehouse maintenance	1.6 FTE programmers – Warehouse Unit 1.6 FTE administrators – Warehouse Unit	
Project management	6 warehouse specialists – Warehouse Unit	
Quality assurance	140 data users	Rely heavily on users to identify instances of data loss or corruption.
Other (indicate)		

See: Attachment III.11 (PMQI's Project Quality Control Methods)
Attachment III.8 (SOP: Determine Readiness of Date Warehouse for Reporting)

Warehouse support functions are performed by the 6 Warehouse Unit staff. The same staff do loads, maintenance, and project management. Warehouse user communities run their own quality control procedures related to their warehouse tables.

13. Provide an overview of how data are integrated and consolidated into the warehouse. Consider data from all sources. A flowchart may be substituted.

See diagram below:



14. Describe the process and time frames to update the warehouse with health plan data.

Provider and Operational Data Store (ODS) tables are dropped and recreated nightly to support MMIS operational needs. This includes provider data for scanner claim processing and ODS for suspended claim processing.

Recipient tables are dropped and recreated monthly on the night of the 1st. MinnesotaCare recipients are loaded a second time mid-month for operational purposes.

Claim tables have new claims inserted bi-weekly at the end of the MMIS warrant cycle process. New claims are appended and replaced claims are updated.

15. Describe the process used to update the warehouse edits used to validate health plan data submissions.

The data in the warehouse are rarely edited, but rather present a replication of the source system. The MMIS applies edits to the submissions, and the warehouse loads that data. Users are free to filter the source records based on qualifications for their specific queries and reports. This allows for complete reporting flexibility without forcing some predetermined parameter into multiple reports.

MMIS edits are changed through a formal process, including submission of a change request form.

See: Attachment III.14 (MMIS Change Request Form)

16. What changes, if any, were made to the warehouse production processes during 2007? Describe.

There were minor structural changes made because of user request for additional attributes or changes to the warehouse file structures.

A significant upgrade to the data warehouse hardware was implemented in 2007, decreasing processing time for those queries using the NCR's CPUs.

See: Attachment III.15 (Data Warehouse Change Request Form)

17. How were changes made during 2007 tested?

The Data Warehouse programmer tested record counts and output during development process. Requestor and primary contact for subsystem are responsible for testing changes in user test and after move to production.

18. Describe the process used to assure the accuracy of the warehouse loading process.

File and load counts and system logs/messages are reviewed after each load.

19. How many years of Medicaid data are retained in the warehouse? How is archived Medicaid data accessed when needed?

Ten years of warrants; ten years of enrollment data. Source data is archived through MMIS processing. Warehouse could reload tables from MMIS source archived if necessary.

Encounter Data Completeness

We are also interested in an estimate of the completeness of your encounter data and identifying any health plans that may be under-reporting encounters. We will use per member per year encounters and compare to previous DHS studies.

20. Please fill in Table III.E. below with the per member per year encounters:

Table III.E.: Completeness of Encounter Data

Health Plan	Blue Cross	First Plan	Health Partners	Itasca	Medica	Metropolitan Health Plan	Prime West	SCHA	UCare
Type of Service									
Avg. PMPY Ambulatory	19.91	20.07	20.92	23.09	23.40	20.30	27.77	17.58	22.02
Avg. PMPY Inpatient	0.13	0.13	0.14	0.12	0.15	0.17	0.19	0.12	0.13

Avg. PMPY Pharmacy	11.69	16.74	8.54	0.95	11.09	8.75	18.53	10.04	11.95
Avg. PMPY Behavioral Health	1.76	1.87	1.70	4.24	2.27	3.01	1.86	1.87	1.70
Avg. PMPY Laboratory	4.48	4.43	4.70	3.64	4.87	4.39	5.60	3.51	4.24

21. Please indicate in Table III.F. how each type of service in Table III.E. was identified and calculated.

Table III.F.: Process to Identify Services

Type of Service	Process to Identify and Calculate Services	Program/Query used*
Average PMPY Ambulatory	Ambulatory claim types only. Number of claim lines <div by> Number of enrollees	ISCAT Service Categories.sas
Average PMPY Inpatient	Inpatient claim types only. Number of claims <div by> Number of enrollees	ISCAT Service Categories.sas
Average PMPY Pharmacy	Pharmacy claim type only. Number of claim lines <div by> Number of enrollees	ISCAT Service Categories.sas
Average PMPY Behavioral Health	Subset of ambulatory claim lines with procedure codes, revenue codes, or diagnoses indicating MH service. Number of claim lines <div by> Number of enrollees	ISCAT Service Categories.sas
Average PMPY Laboratory	Subset of ambulatory claim lines with procedure code beginning with '8'. Number of claim lines <div by> Number of enrollees	ISCAT Service Categories.sas

*This is an optional field. It can be used to document the name of the program used to generate the PMPY results. Some groups document the names of programs within the ISCA for ease in updating future ISCAs.

22. How often does DHS monitor and assess the completeness of data submitted? Completeness includes assessing an individual encounter for all required fields and assessing the total volume of encounters.

Individual encounter claims are assessed for completeness during the editing process. Volume is assessed quarterly and annually, as indicated in items #8 and #9 above.

23. Has DHS established benchmarks to assess the completeness of data submitted? If so, describe.

See: Attachment III.8 (SOP: Determine Readiness of Data Warehouse for Reporting)

The PMQI Division runs reports from the data warehouse that flag MCOs with submitted claim counts exceeding 10% and 20% the counts of previous submissions. Counts 10% or 20% below previous counts are also flagged. The counts are by major program (product), Claim Type, Year, and Quarter. In cases where an MCO submits counts 20% below or above previous counts, PMQI and DMQA attempt to determine whether the change can be explained by policy, data, or systems changes. If necessary DHS contacts the MCO for an explanation.

PMQI performs a similar test for missing or invalid values. Frequencies for key HEDIS fields, such as procedure code, diagnosis, date of service, and revenue code are examined.

24. Has DHS conducted additional studies or analyses of data completeness or under-reporting? (This includes studies of total encounter volume and encounters not received.) If so, describe.

See: Attachment III.2 (Mercer's Encounter Data Validation Report)

From time to time, DHS analysts observe patterns in summary data that suggest possible under-reporting. These are carefully examined to identify causes, and often involve working with MCOs. MCOs submit missing encounters when they are identified.

25. Describe barriers to obtaining complete and accurate encounter data. Consider all factors that influence your ability to collect such information from MCO's, including (but not limited to) MCO system constraints or incompatibilities, lack of reporting requirements, payment arrangements (e.g., capitation), and data integration issues.

See: Attachment III.12 (Issues Log)

Many factors at the MCO level can account for incomplete or inaccurate encounter data. Staff turnover, system complexity, policy and procedural changes are the major ones. MCOs tend to allocate most of their attention to those data that are linked to payment, such as risk-adjustment and withholds. The data editing system at DHS, which was designed to detect errors in fee-for-service claims, is not always able to detect error in encounters. MetaStar and DHS developed a strategic plan in 2006 that will lead to further development of capability in this area. This plan is being implemented by the DMQA Division and will emphasize front-end quality controls, better edits, and better communication of expectations, instructions, and data issues to MCOs.

26. What steps, if any, has DHS taken to improve completeness of encounter data?

See: Attachment III.12 (Issues Log)
Attachment III.18 (Encounter Data Integrity Plan)

The Encounter Claims Issues Workgroup meets biweekly to discuss problems with encounter reporting, and to develop solutions. In the past, DHS has commissioned special studies to examine completeness of encounters.

See Item # 25 above.

27. Does DHS contractually require all MCOs to submit complete and accurate encounter data?

Yes. These contracts include incentives for complete and accurate data.

28. Does DHS use performance standards to ensure submission of encounter data by MCOs? Describe.

- **All encounters must be submitted within 90 days of date of service**
- **90% of claims in a batch must have proper formatting**

There are no standards as yet for the percent of claims denied.

29. Does DHS have incentive or penalty arrangements in place for MCOs to submit complete and accurate data? Describe.

Recovery of financial withholds are sometimes based on submission criteria, such as the percent of Treating Provider ID data populated with pseudo-provider identifiers or pay-to-identifiers.

Risk-adjustment methods encourage all MCOs to submit complete and accurate data.

30. During the measurement year, were other activities undertaken to encourage encounter data submission by health plans? Describe.

The DHS Provider Enrollment Division continued its efforts to streamline the process for updating provider identification data between DHS and the MCOs. This process is now operating much more effectively. The Division works directly with MCOs to address additional data issues as well. DHS has added staff and developed a new workplan to improve encounter submissions.

31. What action, if any, was taken for MCOs who routinely failed to submit complete and accurate encounter data?

DHS implemented a set of incentives and withholds in MCO contracts, which are partially determined by MCO performance in meeting encounter data submission standards. For instance, MCOs not including valid treating provider identifiers received no reimbursement from the withhold pool.

System Changes

- Please describe any major changes/updates that have taken place in the last three years in your Medicaid encounter data system (be sure to identify specific dates on which changes were implemented) for example:
  - New enrollment system purchased and installed to replace old system.
  - New enrollment system purchased and installed to replace most of old system - old system still used.
  - Major enhancements to old system (what kinds of enhancements?).

See: Attachment III.16 (Data Warehouse Change Record)

There were no major changes to the encounter data system during the last three years. Improvements have been incremental, yet noticeable in their effects.

- In your opinion, have any of these changes influenced, even temporarily, the quality and/or completeness of the Medicaid encounter data that are collected? If so, how and when?

N/A

Requested Documentation

The documentation requested for this section is listed as follows. Label all documentation as described in the table.

Document	Details	Label
Data submission process	Please describe and/or provide the documentation of the process for data submission and loading into your warehouse.	Attachments III.1, III.5, III.9
Data submission format	Please provide a copy of the format used by the health plans to submit data.	Attachment III.3
Encounter completeness	Provide documentation of completeness of encounter data at the time data files were generated for performance measure reporting.	Attachments III.13, III.8
Data completeness studies or analyses	If applicable, attach copies of additional studies or analyses conducted on data completeness or under-reporting.	Attachment III.2

Contacts

Provide the name, title, department, address, telephone number, fax number, and e-mail address of the persons responsible for completing this section of the ISCA.

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Date of completion: 03/18/2008

SECTION IV: PERFORMANCE MEASURE REPORT

Integration and Control of Data for Performance Measure Reporting

This section requests information on how DHS integrates Medicaid encounters, membership, provider, vendor, and other data to calculate performance rates. All questions relate to your current systems and processes, unless indicated otherwise.

Performance Measure Repository Structure

If DHS uses a performance measure repository, please answer the following questions. Otherwise, skip to the File Consolidation section.

1. Please attach the repository structure.

   See: Attachment IV.1 (Data Flows From Data Warehouse to PMQI's HEDIS Data Repository)
   Attachment IV.2 (SAS System CONTENTS Procedure Output for HDR_E04 and HDR_C04)
   Attachment IV.3 (HEDIS Data Repository Structure)

2. Describe the process used to update the repository when measure specifications are changed.

   See: Attachment IV.4 (Producing the HEDIS Data Repository)
   Attachment III.8 (SOP: Determine Readiness of Data Warehouse for Reporting)
   Attachment IV.5 (SOP: Create HEDIS Data Repository)
   Attachment IV.6 (HEDIS Claims 2007.sas)
   Attachment IV.7 (HEDIS Enrollment 2007.sas)

   SOP: Determine Readiness of Data Warehouse for Reporting describes a set of reports designed to detect significant variances in the number of enrollees for each MCO, and the number of claims submitted by each MCO, as reflected in the Data Warehouse. The reasons behind significant variances are tracked down and corrected if necessary.

   SOP: Create HEDIS Data Repository governs the process of updating the data repository. When measure specifications occur, those specifications are entered into the two SAS programs listed above, as well as into the SAS measure production programs. A description of the changes is entered into the updated SOPs for the measures affected.

3. Describe how the repository is tested during and after being modified?

   See: Attachment IV.8 (SOP: Validate SAS Programs)
   Attachment IV.9 (SOP: Validate Contents of HDR)
   Attachment IV.10 (Test Record for SAS Programs)

   SOP: Validate SAS Programs describes the general methods and criteria used to test all SAS programs. SOP: Validate Contents of HDR describes the steps taken to ensure that

data from the Data Warehouse have been properly moved into the HDR. This includes production of several reports that compare data warehouse counts to HDR counts. The Test Record for SAS Programs contains for each measure any special notes on testing results and data issues.

4. How are revisions to Medicaid encounter and enrollee systems managed? (e.g. will a change in the encounter system result in a change in the performance measure repository.)

Changes to enrollment data and encounter data have occurred many times in the past. These changes are communicated throughout DHS by those divisions that manage the systems. User divisions, such as PMQI, are typically involved in the process of determining what changes are needed and how they are to be implemented in the source systems. The Encounter Workgroup, composed of encounter data users from various divisions, meets every two weeks to discuss these kinds of issues.

Changes in enrollment or encounter data—for example, change from a single-character code for major program to a two-character code, and implementation of HIPAA procedure codes—often will impact the SAS programs that create the HEDIS data repository and produce HEDIS measures. When implemented, these changes are noted in the SAS programs and in the measure process sheets.

File Consolidation

5. Please attach a flowchart outlining the structure of the MMIS and your performance measurement repository indicating data integration (i.e., encounter files, membership, pharmacy, etc.).

See: Attachment IV.11 (Encounter Data Flow From MCO to Performance Measurement)
Attachment IV.12 (Eligibility Tables and Key Fields For Use in Producing the HEDIS Data Depository)
Attachment IV.13 (MMIS Claims Tables and Key Fields For Use in Producing the HEDIS Data Depository)
Attachment IV.3 (HEDIS Data Repository Structure)
Attachment IV.14 (Generic Protocol for Performance-Measure Producing SAS Programs)

6. Describe the procedure for consolidating Medicaid encounter and enrollee data for performance measure reporting (i.e., from a relational database or file extracts on a measure by measure basis).

See: Attachment IV.5 (SOP: Create HEDIS Data Repository)
Attachment IV.12 (Eligibility Tables and Key Fields For Use in Producing the HEDIS Data Depository)
Attachment IV.13 (MMIS Claims Tables and Key Fields For Use in Producing the HEDIS Data Depository)
Attachment IV.14 (Generic Protocol for Performance-Measure Producing SAS

Programs)

MMIS enrollment data and MMIS claims data are located in DHS Data Warehouse tables. Data from these tables are extracted by the two SAS programs that create the HEDIS Data Repository: HEDIS Enrollment RY*yyyy*.sas and HEDIS Claims RY*yyyy*.sas. The two types of data are linked by the HEDIS measure-producing programs, measure by measure. Attachment IV.14 {Generic Protocol} explains the basic approach taken in all these programs.

7. How many different sources of data are merged together to create performance measure reports?

   All data derive from the DHS Data Warehouse, with the exception of a small number of supplemental childhood immunization records that are obtained from the Minnesota Department of Health, and the NDC Codes obtained from NCQA.

8. What control processes are in place to ensure file consolidations are accurate and complete?

   See: Attachment III.8 (SOP: Determine Readiness of Data Warehouse for Reporting)
   Attachment IV.9 (SOP: Validate Contents of HDR)

   These procedures use volume counts (enrollees, enrollee-months, claims, data errors), compared from year to year, quarter to quarter, plan to plan, to assess the completeness of data both at the data warehouse level and in the HEDIS Data Repository once it is loaded.

   Record counts in SAS logs are also inspected to ensure that record selection criteria and dataset merges result in reasonable counts. Special output procedures are executed within the measure-producing programs to ensure that appropriate records are being selected at each step and that computations are accurate.

9. What control processes are in place to ensure that no extraneous data are captured (e.g., lack of specificity in enrollee identifiers may lead to inclusion of non-eligible enrollees or to double-counting)?

   Wherever needed, SAS programs contain steps that remove duplication. KEEP or DROP options are used to remove any unnecessary data elements. Within HEDIS measures programs, denominator and numerator datasets are reduced to a single record per member prior to production of denominator and numerator counts. Problems with duplicative or conflicting record identifiers are identified and removed at the MMIS level, prior to loading into the Data Warehouse.

10. Do you compare samples of data in the repository to transaction files to verify if all the required data are captured (e.g., were any members, providers, or services lost in the process)? Describe.

    Yes. The measure-producing SAS programs produce sample results sets after most procedural steps. These results are checked against the HDR, to ensure that the

HDR records are reflected in the sample output. The sample output is often checked back against the Data Warehouse as well.

11. Describe your process(es) to monitor that the required level of coding detail is maintained (e.g., all significant digits and primary and secondary diagnoses remain).

We rely on visual inspection of SAS programs, comparing data code lists provided by HEDIS specifications to the programs. We look for instances where SAS programs may not include all needed codes, or where level of specificity is not correct.

We also rely on a vendor (MetaStar) to review code sets for accuracy and completeness.

12. Describe both the files/datasets accessed to create Medicaid performance measures and the fields from those files used for linking or analysis. Use either a schematic, source code programs, or text to respond.

See responses to items #5 and #6 above.

13. Describe any algorithms used to check the reasonableness of data integrated to report Medicaid performance measures.

See response to item #8 above.

14. Describe how data files used to report Medicaid performance measures are archived and maintained to ensure repeatability for the measurement period in question.

See: Attachment IV.5 (SOP: Create HEDIS Data Repository)
Attachment IV.15 (SOP: Create HEDIS COL Database)

The process of creating the HEDIS Data Repository (HDR) for the new measurement year begins with storage of the old HDR. The HDR datasets are named by measurement year:

HDR_E06.sas7bdat
HDR_C06.sas7bdat

In this example, the HDR is for measurement year 2006. These same file names are used while the HDR is current (located on the hard disk of the HDR computer) and when it is archived (on the external storage device).

The COL Database is a special SAS dataset used for production of the Colorectal Cancer Screening measure. Like the HDR, old versions are stored on the external device prior to creation of the COL database for the new measurement year. The naming convention distinguishes the years:

COL_2005.sas7bdat
COL_2006.sas7bdat
etc…

Performance Measurement Software

15. Please list the software packages, programming languages, and/or mainframe/pc-based application programs DHS uses to calculate the performance measures and how each is used. Please consider all programs, not just the final application.

The DHS Data Warehouse is maintained on a Teradata relational database system (NCR computer). The HDR is created by SAS programs that extract enrollment, claims, and provider data from the data warehouse. Another set of SAS programs is run against the HDR to produce the performance measures. The output from these programs (denominator and numerator counts) are loaded into a MicroSoft Access database (PMP Rates.mdb) that contains forms for data entry, queries, and pre-programmed reports.

Performance Measurement Source Code Developers

16. How many programmers are involved in developing the performance measure source code?

Two.

17. What is the experience and background of individuals developing source code?

Programmer #1: Twenty-two years with DHS, twenty-two years of SAS and RDBMS experience, MA and MPH degrees, ten years working with the DHS Data Warehouse, twenty years with health care data, attendance at two NCQA/HEDIS training conferences.

Programmer #2: Two years with data warehouse; three years of SAS; over twenty years with health data.

18. Do you rely on any quantitative measures of programmer performance? If so, what method(s) do you use to measure the effectiveness of the programmer?

New and revised programs are expected to be completed one month prior to implementation in the HEDIS reporting cycle. New and revised programs must meet all test criteria. Final measures must be accurate within the limits of data quality. These performance criteria are included in the programmer's annual evaluation report (Job Performance Rating and Development Plan).

19. What is the average experience, in years, of programmers in your organization?

See item # 17.

20. Approximately how much in resources (time, money) is spent on training per programmer per year for training on software and the performance measures?

Two-three days.

21. What type of standard training does DHS provide for programmers?

Nothing standard. Our programmer seeks out training that he/she feels is needed. Each year, the programmer examines training available from NCQA, SAS, the Minnesota Science Museum, and local colleges.

22. What type of additional training does DHS provide for individuals involved in developing source code?

See item #21.

23. Do you have internal back-ups for performance measure programmers--i.e., do others know the programming language and the structure of the actual programs?

PMQI has two additional SAS programmers/health care data analysts. DHS has several more SAS programmers. The programs have been written and documented in a straightforward way that will enable other SAS programmers to easily follow their logical structure.

Performance Measure Report Production

24. Please provide an overview of the process used to produce performance measurements. A flowchart may be used to answer this question.

See: Attachment IV.16 (SOP: Master Control Sequence for Production of PMP Measures)
Attachment IV.17 (Measure Production Process: HEDIS Asthma Medications)

The dataflows and general outlines of data processing are covered under items addressed above. A set of Standard Operating Procedures guides the process, and another set of Measure Production Processes details the process for each individual measure.

25. Please describe your performance measure production logs and run controls.

The SAS System produces a log for each executed program. Each log is dated by the system, and each log is saved on disk. Logs are archived along with the HDR (see item #14). Log files are given the same name as the program that generates them, except for the extension .log.

26. How are performance measure report generation programs documented?

Each program contains a general documentation section in the beginning lines. This section contains information on the program's purpose; any standard operating procedures related to the program; notes on code modifications that must be made each year, such as dates; last modification and last validation dates; general notes on the nature of the data; and special notes on actions taken by the program that may deviate from HEDIS specifications, or on reasons why counts may vary from year to year or MCO to MCO.

In addition to the general documentation section, each program contains documentation on specific program steps (blocks of code) and on individual lines where the action may not be clear to uninitiated programmers.

The Measure Production Process documents (see item #24) provide another source of information on the programming logic for each measure.

27. Please describe any version control used in your performance measure programs.

SEE: Attachment IV.20 (SOP: Produce Performance Measures)

Program versions for each measurement year are stored along with the HDR and logs for each year. (See items #14 and #25.)

28. How does DHS test the process used to create Medicaid performance measure reports?

See: Attachment III.8 (SOP: Determine Readiness of Data Warehouse for Reporting)
Attachment IV.8 (SOP: Validate SAS Programs)
Attachment IV.9 (SOP: Validate Contents of HDR)
Attachment IV.10 (Test Record for SAS Programs)

The ultimate test is whether the process produces accurate denominator and numerator counts. Data source and mid-course testing is performed as well. Information on these testing methods is provided above under items #3, #8, #9, #10, #11.

29. Please describe how continuous enrollment logic tracks enrollee changes in MCOs, movement across programs, and re-enrollment.

For our performance measures, the typical definition for continuous enrollment is no more than a 45-day gap in enrollment over the course of the measurement year. Since Minnesota assigns enrollment on a full-month basis, we operationalize this definition as at least 11 months of enrollment during the year. This enables us to simply count the number of months a person was enrolled during the year, and exclude those with fewer than 11 months.

Persons who change programs sometime during the year are assigned to the program in which they were enrolled in their last month of enrollment that year. Generally, when a person changes program he or she does not change MCO.

Persons who change MCO during the year are likely to be dropped from the denominator because they were not continuously enrolled in one MCO or the other.

The only exception would be an individual who was enrolled in one MCO for one month and another MCO for 11 months.

30. Please describe the internal process for full sign-off on an individual performance measure.

See: Attachment IV.8 (SOP: Validate SAS Programs)
Attachment IV.10 (Test Record for SAS Programs)
Attachment IV.18 (SAS Program Sign-Off Sheet)

The current sign-off process relies heavily on external consultants (MetaStar), due to the number of programs and volume of work required to assess their validity. Subsequent years, which will deal primarily with revisions to program code, will also utilize external consultants; however, there will be an internal process as well.

The internal process will consist of three main steps. First, the programmer will retest each modified program, applying the SOPs mentioned above. Second, the programmer will present each modified segment of code to a second PMQI programmer, who will then verify that the code changes are correct vis-a-vis the new specifications.

In the third step, the two programmers meet with their supervisor, who will ask them to explain in English how they implemented the revised specifications. Keeping in mind past issues that have surfaced, the supervisor will ask probing questions until confident that the program is functioning properly.

Requested Documentation

The documentation requested for this section is listed as follows. Label all documentation as described in the table.

Document	Details	Label
Data integration flowchart	Please attach a flowchart outlining the structure of the MMIS and your performance measurement repository, indicating data integration (i.e., encounter files, membership, pharmacy, etc.).	Attachments III.10, IV.1, IV.3
Performance measure repository structure	Provide a complete file structure, file format, and field definitions for your performance measure repository.	Attachments IV.2, IV.3

Contacts

Provide the name, title, department, address, telephone number, fax number, and e-mail address of the persons responsible for completing this section of the ISCA.

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Date of completion: 03/18/2008

SECTION V: SECURITY

This section requests information on the security processes used to protect and maintain the integrity of the data used for performance reporting. All questions should be answered for both the MMIS warehouse and the performance measure repository.

1. How frequently are system back-ups performed? Where is back-up data stored?

   See: Attachment V.1 (MMIS Backup, Recovery, Version Control)

   MMIS: Backups are daily. They are stored on IBM mainframe off-line disks and cartridges, at the Dept. of Administration mainframe site.

   Data Warehouse: Data dictionary and user tables are backed-up nightly. Manually created and maintained reference tables are archived weekly. Special project user tables are archived on-demand. Data recoverable from source systems is not backed up. Back-up files are stored on tapes managed by Department of Administration Intertechnology Group, same as MMIS production.

   HDR: Backups occur after each load in which data are changed. Backups are stored on a network drive and on an off-line storage device connected to the PC.

2. Describe how security is maintained that restricts or controls access to MMIS and the performance measure repository.

   MMIS: Any employee accessing any component of the MMIS must be authorized. Authorization is acquired by completing a form controlled by the Intertechnologies Group of the Dept. of Administration, and by the Information Technology Services Division (ITS) of DHS. Sign-off on the form is required by the applicant's supervisor and division director, and by ITS.

   Data Warehouse: Users sign-in using login ID and password. DBA grant access rights based on user source system rights or source system approval. The warehouse has a table that is loaded from the source system security file to confirm user right to source data.

   HDR: The HDR is a set of SAS data files located on a single PC in the PMQI Division of DHS. Only the HDR operator, the PMQI system administrator, and ITS staff can access those data files. Access is controlled by User ID numbers and passwords, and by specific access rights associated with the User ID.

3. Describe the physical security in place, include fire protection, locked areas, etc.

   MMIS: The mainframe system on which MMIS runs is located in the Centennial Building, 6th floor, within the Dept. of Administration. The entire floor is located behind locked doors. System recovery procedures are in place, in case of major physical damage.

   Data Warehouse: Warehouse is physically located and secured in the same Mn Dept of Administration computer center location as the MMIS system mainframes.

HDR: The DHS Building has security access procedures in place to control entry to the 5th floor on which the HDR computer is located. In the event of physical destruction of the HDR, the HDR can be reconstructed from the DHS Data Warehouse. Computer programs are backed up off-site periodically as a group, or following changes to individual programs.

4. Describe the mechanisms used to protect data in the event of power failures.

   MMIS: Mn Dept of Administration computer center has generator back-up to support mainframe computer

   Data Warehouse: Mn Dept of Administration computer center has generator back-up to support mainframe computer, Teradata is wired into that grid. Teradata also has redundant battery UPS on all database server and disk drive cabinets.

   HDR: Storage devices are not corruptible via power loss. Data located in memory during power loss would be lost in some cases; however, it can also be easily re-created. Prior year HDRs are stored on external hard drives.

   PMQI is currently looking into a mechanism for off-site backup of the HDR and program versions. Because performance measures are not produced until the database is verified as "Ready" (i.e., not likely to change much in the future), loss of an old HDR could be handled by re-creation from the data warehouse. There might be some minor change in measures, but these would be very small.

5. Describe how loss of Medicaid encounter and other related data is prevented when systems fail or program errors occur?

   MMIS: Lost data can be recovered from source systems (e.g., MCOs) or from backup systems.

   Data warehouse: Warehouse system is RAID 1. Transaction journaling for roll-back is used during loads/updates. Warehouse staff also monitors table size for unusual fluctuations. Old table /new table row counts are used to monitor program changes.

   HDR: Procedures are in place to monitor data loads and processing output, to ensure that the HDR is fully loaded when in operation, and that reporting programs lose no data when extracting from the HDR. Should data be lost or damaged, it can be easily reconstructed from the DHS Data warehouse.

6. During the measurement year, did you restore data from back-up files? If so, please explain.

   Data Warehouse: Tables were recovered from source files. Infrequent recovery of user personal tables.

   HDR: We encountered no data loss or need to restore from backup files. During our first year of operation, we re-constructed the HDR twice in order to accommodate late submissions from MCOs.

7. During the measurement year, did you experience any data loss? If so, please explain.

   None.

Contacts

Provide the name, title, department, address, telephone number, fax number, and e-mail address of the persons responsible for completing this section of the ISCA.

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Date of completion: 03/18/2008

SECTION VI: PROVIDER INFORMATION

The purpose of this section is to evaluate the mechanisms used to identify provider specialty types. In addition, the section requests information on process used to link providers in DHS system with the encounter data.

1. Please describe the process by which providers obtain a Medicaid identifier and are entered into the DHS provider system.

   See: Attachment VI.1 (MHCP Provider Enrollment Application)
   Attachment VI.2 (Provider Agreement)
   Attachment VI.3 (Provider Number Request)

   Fee-for-Service: Provider completes MHCP Provider Enrollment Application and signs Provider Agreement. Provider Enrollment Division verifies licensure and/or certification, keys data into the MMIS.

   Encounter Data: Managed Care Organization completes Provider Number Request form, Provider Enrollment keys data into the MMIS. (Provider Number Request form attached.)

   Beginning in 2008, most providers are required to have national provider identifiers (NPI) that will be submitted on encounters and cross-walked to legacy Medicaid identifiers. Those providers not qualified for an NPI will be assigned a substitute by the State.

2. Please describe the provider data maintained in your provider system.

   See: Attachment VI.4 (Provider File Data Elements)

   Not all of the data elements described in the attachment are keyed in for all provider types.

3. Please describe how provider specialty types are identified in your system.

   Providers are primarily classified by provider type. We also use Specialty Type Codes for further classification within some specific provider types. (These are also listed in the "Provider File Data Elements" attachment.)

4. Please describe the fields used to link provider identification in DHS systems with the encounter data.

   Active Fee-for-Service providers are assigned an Enrollment Status Code of either 1, 2, 3 or 5. Each has its own significance; all indicate that the provider has completed an application, signed a provider agreement and has submitted claims in a consistent fashion. Encounter providers are assigned Enrollment Status Code 4, unless they are already currently enrolled Fee-for-Service providers.

Contacts

Provide the name, title, department, address, telephone number, fax number, and e-mail address of the persons responsible for completing this section of the ISCA.

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Date of completion: 03/18/2008

Appendix B

MetaStar's Detailed Assessment of DHS's Information System Capabilities

The audit consisted of an overall information systems capabilities assessment (IS Standards), followed by an evaluation of DHS's ability to comply with specifications for performance measure determination (PMD Standards). During the audit process, the audit work was evaluated and reassessed depending on early findings regarding the IS Standards and on the potential strengths and weaknesses identified by the audit team on-site.

- *Information System Capabilities Assessment:* The first part of the audit focused on assessing DHS's overall information systems capabilities and core business functions. The IS Standards used to assess the effectiveness of the systems, information practices, and control procedures focused on the processing of medical information and on mechanisms used to calculate performance measures as the foundation for accurate reporting.

- *Performance Measurement Determination Specifications Assessment:* Following completion of the Information System Capabilities Assessment, MetaStar's audit team conducted appropriate audit verification steps to assess individual performance measures. This part of the audit focused on assessing compliance with conventional reporting practices and PMD specifications, including identification of denominator and numerator populations and assessment of algorithmic compliance.

The review of DHS's information system was designed to collect information that documented the effect of DHS's information management practices on the performance measure reporting process. The audit was not intended to evaluate the overall effectiveness of DHS's information systems. Rather, the focus was on evaluating aspects of DHS's information systems that specifically impacted the ability to accurately report performance measures. In essence, DHS needed to demonstrate that it had the automated systems, information management practices, and data control procedures needed to ensure that all information required for performance measure reporting was adequately captured, translated, stored, analyzed, and reported. In the section below, the auditors summarize the findings and describe any non-compliant issues and effects on performance measure reporting.

This section follows the standards used in NCQA HEDIS Compliance Audits. Since in prior years DHS required MCOs to undergo an NCQA HEDIS Compliance Audit, it was deemed appropriate to hold DHS to the same standards that MCOs were required to meet. The appropriate ISCAT section is provided as a reference to the initial documentation prepared by DHS.

IS 1.0 Sound Coding Methods for Medical Data

ISCAT Section III

Criteria

In order to provide a basis for calculation of performance measures, DHS must be able to capture all encounter information relevant to the delivery of services. There are a number of practices that are necessary in order for this to occur, and the audit process must assure that the organization is conducting its business consistent with these practices. Principal among these, and critical for computing clinical performance measures, is that all MCOs should submit standardized codes on the encounters. These codes can then be used to identify the medical events being reported. This would include the use of nationally recognized schemes for the capture of diagnosis and procedure codes, as well as DRG and DSM codes. The use of standardized coding improves the comparability of performance measures through common definition of identical clinical events.

Since performance measures may require that a medical event is due to a specific condition (e.g., an inpatient admission due to asthma), the system must be able to distinguish between a principal and secondary diagnosis.

Process

In order to confirm that MCO submitted encounter data containing standard coding schemes, the auditors reviewed the ISCAT; DHS's Encounter Billing Procedures Manual; and HIPAA Mapping Requirements for Encounter Data, MCO submission requirements, and actual data contained in the warehouse. The audit team reviewed the ISCAT and interviewed staff to assure that processes were in place to identify missing and/or erroneous data. Review of the data repository was performed to assure that coding conventions were maintained and that principal and secondary diagnoses were identified.

Findings

DHS contractually required MCOs to submit standardized codes on encounter data and all diagnosis and procedure codes. Upon receipt of the data, edit checks are performed by DHS to assure only accepted codes are contained on the encounters. Non-standard codes would not be accepted into the system, and encounters containing non-standard codes were returned to the MCO.

On a regular basis, Performance Measurement and Quality Improvement (PMQI) staff produces reports on the volume of encounters and the number of encounters denied. In addition, PMQI produces reports identifying the number of encounters failing edits that might have an impact on performance measure rates. Through these mechanisms, DHS identifies any MCO that is not submitting standardized codes.

Activities performed to assess compliance with this standard did not identify concerns with the type of coding systems accepted by the system. Review of the performance measure

repository, PMQI repository testing, and individual performance measure results demonstrated that the coding conventions were maintained.

IS 2.0 Data Capture, Transfer, and Entry – Medical Data

ISCAT Section III

Criteria

The integrity of performance measures requires standardized encounter data formats, control over data edits and verification, and other control procedures that promote completeness and accuracy in the encounter data. DHS must have processes to receive data, communicate data receipt and status to the submitting MCO, and also return unacceptable data to the MCO. DHS must also have processes in place to ensure that data submitted by the MCO is accurately loaded into DHS's MMIS database and accurately transferred to the performance measure repository. Prior to preparing performance measures, DHS must determine data completeness by comparing received volume to expected volume. In addition, DHS must also examine performance measure results to identify potential data completeness concerns.

Process

Through the ISCAT, on-site demonstration, and review of individual encounters, the auditors assessed whether the encounter data used to calculate performance measures contained critical data such as diagnosis, procedure, date of service, enrollee information, place of service, date of birth, and gender. In addition, this process verified the receipt of electronic encounter data and that the data was accurately transferred to the performance measure repository.

The auditors examined claims completeness through review of DHS volume reports, encounter data rejection, interviews with DHS staff, and PMQI performance measure repository completeness assessments. In addition, the audit team examined individual encounter data for each performance measure included in the study.

Findings

DHS required MCOs to submit data in a standardized format. This format contained all critical elements required for performance measure reporting.

DHS has formal processes for the submission of electronic encounter data. After MCO data are received and loaded into MMIS, record counts are verified to assure that MMIS contains all submitted encounter data. DHS appropriately notifies the submitting MCO of the number of encounters received and loaded into MMIS.

When DHS loads the data into MMIS, approximately 100 edits are performed. If an encounter does not pass an edit, the information is written to a remittance form provided to the MCO on a routine basis. The MCO is responsible for correcting the data.

When data are transferred from MMIS into the data repository, formal processes are in place to assure the integrity of the data transfer. Transfers to the performance measurement repository followed a standard operating procedure. In addition, PMQI staff perform several analyses to assess the data quality. Review of individual data demonstrated the appropriate transfer of data between systems.

DHS has adequate processes for accepting encounter data from MCOs and transferring encounter data to the MMIS and the performance measure data warehouse. Encounter volume reports are generated and reviewed by DHS.

DHS's Encounter Data Workgroup addresses key work areas including:

- Improving DHS's ability to estimate costs of managed care
- Improving DHS's ability to analyze encounter data at a more detailed level
- Improving the completeness and accuracy of health plan-submitted data
- Avoiding artificially inflated measurements due to duplication
- Improving communication regarding encounter data with managed care organizations

Additionally, the PMQI analyst performs analyses to assess the completeness of the database prior to the computation of performance measure rates.

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 little incentive to correct and resubmit individual encounters on a timely basis. As a result, the PMQI analyst must perform additional analyses to determine the completeness of the data. Review of the analyses does not demonstrate a significant negative impact on the performance measure rates.

Because DHS's encounter data management unit does not monitor completeness at the point of encounter data submission, PMQI's analysts must perform several encounter data assessments. PMQI's process to assess encounter data completeness and accuracy was formally documented, and they investigated all potential performance measure concerns. 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 at the point of encounter receipt results in a duplication of effort within DHS.

IS 3.0 Data Capture, Transfer, and Entry – Enrollee Demographics

ISCAT Section II

Criteria

The use of standardized forms; control over receipt processes; data entry edits and verification; and other control procedures, such as data audits, promoting completeness and accuracy in receiving, and recording enrollee demographic and enrollment information are critical in developing databases that will support accurate calculation of performance measures. Specific enrollee information must include age, sex, program type, and the enrollment dates that define time periods included in the study.

Process

Through the ISCAT, enrollee forms, interviews, and examination of enrollee data, the auditors assessed whether the performance measure system contained the information necessary to meet performance measure specifications. Data fields were assessed to ascertain that they were the appropriate size for receiving the required information. Specific edits and data verification procedures were reviewed to examine the procedures used to ensure data accuracy. DHS staff were interviewed to assess the training and oversight processes of data entry. The audit team reviewed the time-to-process standards and results to determine the completeness of the data at the time the performance measures were calculated.

Findings

DHS has processes to collect and enter enrollee demographic information. All data systems reviewed contained the demographic information necessary for performance measure reporting. Review of time-to-process standards results showed that enrollee demographic information was complete when the performance measures were calculated.

The system electronically verifies 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.

IS 4.0 Data Integration Meets the Demands of Accurate Reporting

ISCAT Sections IV

Criteria

The often complex calculations of performance measures may require data from a number of different sources. The schemes or systems utilized to assemble the data and to make the required calculations should be carefully constructed and tested. The performance measure

system must contain all elements necessary for the required measures. Formal processes should be in place to assess the transfer of data and to ensure that all appropriate data are included.

Process

The audit team reviewed the ISCAT, the performance measure repository procedures, documentation and testing, and the final performance measure results. In addition, the audit team interviewed PMQI staff. The auditors reviewed procedures to ensure that all appropriate data were identified and included in the repository. Actual results were compared to expected results (prior information reported by MCOs and national data) to verify the effectiveness of the consolidations. Any areas of potential concern were analyzed through source code review, generation of additional queries, and close examination of encounter data. Inspection of programming source code and enrollee data was performed to assess the mechanisms used to link data across all data sources to satisfy data integration requirements (e.g., identifying an enrollee with a given disease/condition).

Findings

DHS has formal, documented processes for populating the performance measure repository. This process identified all data requirements, included extensive quality assurance procedures, and contained a procedure for updating the performance measure 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.

DHS performed extensive testing of the performance measure warehouse after each data load. Following a formal procedure, DHS staff appropriately assessed that the data transfer performed as expected. Review of DHS's results showed that DHS's procedures effectively transfer data.

From the beginning of the study through the generation of performance measure results, the audit team and PMQI staff compared the actual results to those expected. The audit did not identify problems concerning data integration.

IS 5.0 Control Procedures Support Data Integrity for Reporting

ISCAT Sections IV

Criteria

DHS's quality assurance practices and backup procedures serve as the necessary infrastructure supporting all of the organization's information systems. As such, they promote accurate and timely information processing and protect data in the event of system failure. The data needed for calculation of performance measures is an output of the organization's information systems and may be directly or indirectly impacted by those practices and procedures. DHS needs to have a process governing report production,

including review of results, adherence to policies and procedures, compliance with production timelines, and documentation of all aspects of the reporting system.

DHS must have procedures in place to ensure the physical safety of the data. Fire protection, computer system backup procedures, and data access security must be in place.

Process

Through the ISCAT, on-site visits, and communication with DHS, the audit team remained apprised of DHS's timelines and report production processes. All documentation related to the report process (policies, procedures, quality assurance results, and performance measure results) were reviewed by the audit team. The processes were discussed with DHS throughout the study. DHS revised and/or added procedures based on MetaStar's review. All revised documentation was submitted to MetaStar's audit team, and the review cycle was repeated.

Throughout the study, review of performance measure source code, report documentation, discussions with DHS staff, and review of programming output logs were performed to assess adherence to documented policies and procedures. Through the ISCAT, on-site demonstration, and documentation review, the audit team assessed whether DHS's processes and documentation complied with report program specifications, code review methodology, and testing.

Assessment of MCO submission requirements, MCO volume reports, and DHS's estimate of data completeness from prior years was performed to assess if DHS's final date to include encounter data in the performance measure repository was adequate.

MetaStar's audit team used the ISCAT, interviews, and on-site observations to assess physical security and data access authorization.

Findings

DHS has processes in place to determine its measure production timeline and to monitor adherence to the timeline. DHS met its internal timeline. DHS has appropriate documentation of the project. DHS could test the process by having a second programmer update some of the measures following the protocols. There was no evidence that data or reporting were compromised due to breaches in either physical security or data access.

Assessment of Adherence to the PMD Technical Specifications

A detailed review of the processes used to prepare the performance measures is an integral part of every performance measure audit. Auditors review specifications, computer programs, record review tools, and procedures (both manual and automated) used by DHS to prepare each performance measure. The goal of this portion of the audit is to determine whether or not each performance measure is implemented in compliance with the measure's technical specifications.

In auditing individual performance measures, auditors reviewed each of the following standards:

PMD 1.0 Denominator Identification

ISCAT Section V

Criteria

The performance measures reviewed are encounter-based measures, and as such, it is critical that DHS properly enumerate the set of enrollees who are candidates for the service or event being measured. The enumeration of this set is called the denominator, and the subsequent enumeration of those in the set who satisfy additional criteria constitute the numerator. Determining the denominator set typically involves identifying all individuals satisfying certain criteria related to age, gender, diagnosis, and having received certain medical services in certain time frames. The auditor's task is to assess the extent to which the organization has properly identified the denominator according to the appropriate technical specifications.

Process

Through review of the Data Warehouse Readiness Report, MetaStar's audit team assured that DHS performed tests to evaluate the completeness of the data used to determine denominator populations. Review of the results, DHS's comparisons to prior data, and individual enrollee data was performed to validate the accuracy and completeness of the denominator populations. Review of individual enrollee data and the formula to calculate enrollee age and/or date ranges was performed to assess adherence to the specifications. Performance measure source code and individual enrollee data were reviewed for adherence to the measure specification time frame and clinical event requirements. Individual enrollee data was examined to assure an unduplicated count for the measures. In addition, when appropriate, MetaStar wrote queries to identify denominators and validate DHS source code.

Findings

Initial review of the programs used to identify denominators showed some minor deviations from specifications. These deviations were communicated to PMQI staff who revised the programs, retested, and resubmitted to MetaStar for additional review. Final denominators for all measures included in the study met performance measure specifications or deviations were not significant to final reported rates. There were no measures excluded from DHS's performance measurement report due to PMQI denominator identification concerns.

PMD 2.0 Numerator Identification

ISCAT Section V

Criteria

After identification of the denominator population, DHS must determine if these enrollees met the numerator qualifications. Such decisions should be based on evidence methodologies specified by the performance measure specifications (e.g., CPT codes). The objective of the auditor is to examine the data and the processes employed by DHS in making these determinations to verify that they accurately include all patients who qualified for the numerator, as well as exclude those who do not.

Process

Performance measure source code, individual results, and benchmarks were reviewed to assess whether DHS's programming appropriately identified the specified medical and service events (e.g., diagnoses, procedures, prescriptions, and date of claims payment). Source code and individual results were examined to ascertain that all appropriate time frames for numerator events met performance measure specifications. If multiple events were required to meet numerator criteria, source code and individual data were reviewed to verify that the numerator was appropriately identified.

Findings

Initial review of the programs used to identify numerators showed a few minor deviations from specifications. These deviations were communicated to PMQI staff that revised the programs, retested, and resubmitted the program and results to MetaStar for review. Final numerators for all measures included in the study met all performance measure specifications or specification discrepancies were not significant to reported rates. There were no measures excluded from DHS's performance measurement report due to PMQI numerator identification concerns.

PMD 3.0 Algorithmic Compliance

ISCAT Section V

Criteria

Algorithmic compliance addresses a variety of issues associated with the production of performance measure reports beyond counting (numerator and denominator) populations. It includes proper algorithms in medical decision-making, such as classification as a diabetic or determining gestation parameters and live birth.

Process

Based on numerator and denominator results, MetaStar reviewed performance measure results as calculated within the PMQI measure database. MetaStar also reviewed final performance measurement results from production runs to those manually entered into the performance measure report. Since DHS did not perform medical record review, data integration and further algorithmic compliance did not need to be assessed.

Findings

Review of performance measure results showed algorithmic compliance. There were no issues identified through the study.

PMD 4.0 Documentation

All Sections of the ISCAT

Criteria

Reported performance results cannot be verified unless an organization can produce adequate documentation of the data and processes used to prepare its reports. An adequate "audit trail" describes the performance measure preparation process from beginning to end and includes a project plan, programming specifications, source code, computer queries, sample lists, completed record review tools, validation summaries, and many other documents.

Process

As described in the IS sections, all documentation related to the production of performance measures was reviewed. This documentation included the following:

- Programming specifications and data sources
- Data reported in prior years by the MCOs
- Dated job logs or computer runs for denominators and numerators with record counts
- Sources of any supporting external data or prior year's data used in reporting
- Computer queries, programming logic, or source code used to create final denominators and numerators and interim data files

Findings

DHS has excellent documentation of performance measure production and has continued to improve it annually. Appropriate procedures are written for each critical production step. PMQI's documentation allows reproduction of the process and protects PMQI in the event of personnel changes.

Measure Validation

This process assessed the extent to which DHS's information system met the requirements set forth in 42 CFR 438.242. The system's ability to collect, analyze, integrate, and report data was integral to meeting this requirement, as well as to ensure accurate performance measure reporting. DHS's system used MCO encounter data. Thus, the assessment included extensive examinations of DHS's ability to monitor the data for accuracy and completeness.

A detailed review of the preparation processes used to calculate the performance measures is an integral part of every audit. MetaStar's audit team reviewed the specifications, computer programs, and processes (both manual and automated) used by DHS to prepare the performance measures. The goal of this portion of the audit was to determine whether or not each performance measure was in compliance with performance measure technical specifications.

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.

DHS's 25 Performance Measures for 2007	
1	Percent of children age two receiving immunizations
2	Percent of adults with depression receiving antidepressant medication management
3	Percent of enrollees with persistent asthma receiving appropriate medications
4	Percent of children 3-18 appropriately treated for URI
5	Percent of AMI discharges with persistent beta-blocker treatment
6	Percent of women 40-69 screened for breast cancer
7	Percent of enrollees with cardiac condition screened for LDL level
8	Percent of women screened for cervical cancer
9	Percent of sexually active women 16-25 screened for chlamydia
10	Percent of adults 51-80 screened for colorectal cancer
11	Percent of adults with diabetes screened for HbA1c and LDL-C
12	Percent of enrollees 65 and older screened for glaucoma
13	Percent of enrollees with an annual dental visit
14	Percent of adults with CD initiating and engaging in treatment
15	Percent of adults 40 and older with COPD receiving spirometry test
16	Percent of women 67 and older receiving osteoporosis care after fracture
17	Percent of live deliveries with a postpartum visit
18	Percent of 15-month olds receiving six or more primary care visits
19	Percent of 3-6 year olds receiving a primary care visit
20	Percent of adolescents with a well-care visit
21	Percent of adults with an ambulatory or preventive visit
22	Percent of children with a visit to a primary care practitioner
23	Number of AOD service recipients per 1,000 enrollee-years/months
24	Number of MH service recipients per 1,000 enrollee-years/months
25	Percent of MH discharges receiving follow-up services
These measures are adopted from the HEDIS™ 2008 Technical Specifications published by the National Committee for Quality Assurance (NCQA). All use administrative (enrollment and claims) data only, not medical records data.	