Data Quality and the Inter-rater Reliability Module Overview

In this time of increased reporting requirements and attention to the smallest of details, it is more important than ever to ensure that the data you collect and submit is valid and reliable. This session will show you how to be more proactive in managing the quality of your comparison data by using the tools available in MIDAS+ CPMS and DataVision. Included will be an introduction to an upcoming MIDAS+ method to monitor inter-rater reliability for core measure topics that will ensure your abstractors are proficient.

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Session Objectives

- Explain the importance of data integrity
- Examine methods to review and correct data integrity issues.
- Describe the ACS MIDAS+ system Inter-rater Reliability Module
- Evaluate the new module functionality for future reliability reviews
Why bother with data integrity?

- Credibility of your comparative data
- Easier preparation for harvest
- Requirements for comparative database participation
  - 0% Missing Data
  - 0% Data Quality Issues
  - 5% Discharge Abstract

Maintenance & Monitoring – When?

- Initially
- Ongoing
- For Harvest
Maintenance Components

- Dictionary maintenance
- Comparative Database Dictionary Map
- Other System Manager responsibilities
  - Deleting focus studies
  - Correcting Encounter data

Dictionary Maintenance – Key Dictionaries

Locations (#5) or Services (#2)
Reimbursement Type (#503)
Ethnic group (#166)
Payer (#31)
ICD-9 Discharge Status (#186)

ER-Disposition (#225)
Risk Incident Types (#8)
Anesthesia Types (#12)
Anesthesia Risk (#109)
Significance (#106)
Standard of Care (#107)
Dictionary Maintenance and Auto-Population

- Admission Source (#168) [Point of Origin]
- Admission Type (#3) [Admit Status]
- Discharge Disposition (#58) [Discharge Status]
  - (See subfields for ORYX terms)

Mapping and Auto-Population

- Ethnic group (#166) [Race & Hispanic Ethnicity]
- Payer (#31) [Payment Source]
Comparative Database Dictionary Map

Additional essential dictionaries to map:

- Locations (#5) or Services (#2)
  - Used to identify Acute from other levels of care
- ICD-9 Discharge Status (#186)
  - Ensure that only discharge diagnosis codes are considered in indicators (not admitting or working diagnosis)

Monitoring

- Data Integrity Check
- Data Quality Profile
- Core Measures
  - Topic detail profiles
  - Standard Report – Core Data Quality Encounter Detail (CDQED)
Data Integrity Check

- Displays at first login per day for any user with security level of:
  1. System Manager or
  2. 234 MGR – Comparative Data Base
- Only displays if there are problems to review
- Assesses data for a small window of time based on three parameters
  - Days Back (default is 49)
  - Days to Include (default is 9)
  - Minimum Percent (default is 20%)

Data Integrity Check Example

Warning

It appears that discharge abstract data received from your interface is incomplete.
At least one item listed below has greater than 10% missing data for 4 inpatients discharged
1/3/2007 through 3/8/2007:

- Discharge source
- Name
- Date of admission
- Admission status
- Admission time
- Admission physician
- Admission service
- Attending physician
- Org
- Diagnosis
- Discharge time
- Encounter type
- Procedure listed
- Procedure providers

Minimum %

Days to Include

Days Back

Warning: Failure to correct items marked with *** may prevent submission of your SCAND or QNET data.

Data Quality Profile

- Check after interface batch loaded; or at least monthly
- Available from Compile Indicator Profiles (also from DataVision Navigator)
- Includes the data required to meet non-Core thresholds (5% maximum missing)
  (Encounter Type, Diagnosis, DRG, Discharge Disposition, Service or Location)

Example Data Quality Profile

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDB501</td>
<td>% Patients Without Patient Type</td>
<td>0</td>
</tr>
<tr>
<td>CDB502</td>
<td>% Impatients Without Diagnosis</td>
<td>100</td>
</tr>
<tr>
<td>CDB503</td>
<td>% Impatients Without Procedure</td>
<td>50</td>
</tr>
<tr>
<td>CDB504</td>
<td>% Impatients Without DRG</td>
<td>100</td>
</tr>
<tr>
<td>CDB505</td>
<td>% Impatients Without Disposition</td>
<td>50</td>
</tr>
<tr>
<td>CDB506</td>
<td>% Impatients Without Service</td>
<td>50</td>
</tr>
<tr>
<td>CDB507</td>
<td>% Impatients Without Location</td>
<td>50</td>
</tr>
<tr>
<td>CDB508</td>
<td>% Impatients Without Age</td>
<td>0</td>
</tr>
<tr>
<td>CDB509</td>
<td>% Impatients Without Admit Status</td>
<td>50</td>
</tr>
<tr>
<td>CDB510</td>
<td>% Impatients Without Admitting Physician</td>
<td>50</td>
</tr>
<tr>
<td>CDB511</td>
<td>% Impatients Without Attending Physician</td>
<td>50</td>
</tr>
<tr>
<td>CDB512</td>
<td>% Impatients Without Non-Acute Status</td>
<td>50</td>
</tr>
<tr>
<td>CDB513</td>
<td>% Cholecystectomy Lap Outpatient</td>
<td></td>
</tr>
<tr>
<td>CDB514</td>
<td>% Newborns Without ICD9 Newborn Codes</td>
<td>0</td>
</tr>
<tr>
<td>CDB515</td>
<td>% Impatients in Behavioral Health (Psych) Unit</td>
<td>0</td>
</tr>
<tr>
<td>CDB516</td>
<td>% of sampled AMI cases without procedure date</td>
<td>0</td>
</tr>
<tr>
<td>CDB517</td>
<td>% of sampled Heart Failure cases without procedure date</td>
<td>0</td>
</tr>
<tr>
<td>CDB518</td>
<td>% of sampled Pneumonia cases without procedure date</td>
<td>0</td>
</tr>
<tr>
<td>CDB519</td>
<td>% of sampled SCIP cases without procedure date</td>
<td>0</td>
</tr>
</tbody>
</table>
you may want to talk to Jim K about DRGs to make sure you're up to date on how DV uses DRGs

Amy Levy, 5/6/2009
Preparing for Harvest

In advance:
- Check Data Quality Profile
- Check Core Measures’ Detail profiles
- Check Standard Reports > Core Data Quality Encounter Detail

During Harvest:
- Harvest Status Review
What depends on the overnight job?

- Core Measure Profiles
- Data Quality Profile

- In contrast, Standard Reports > Core Data Quality Encounter Detail is current to the moment it is run

What if I don’t want to wait overnight?

- Standard Reports > Core Job Processing
Ok, I cleaned everything up – Now What?

- Use Standard Report > Core Job Processing for “include non-CORE measures”
- Use a month/year range as far back as data might have been affected, or as far back as you want to use

How can I tell when the job finishes?

System Manager > Message Queues
Look for text
- CDB SUMM – to find started/completed of summarization job
- HARVEST – to find harvest job started/completed
- MAPPED – to find unmapped terms warnings
- SAMPL – to find sampling started/completed
Message Queues Example

Message Examples – CDB Summary

- [server]: CDB SUMMARY JOB COMPLETED FROM 10/2008 THRU 4/2009 110 ENCOUNTERS (.0 HRS - 228 PER MINUTE) 0 FOCUS, 0 WORKLIST ENTRIES ADDED
- [server]: CDB SUMMARY JOB STARTED FROM 10/2008 THRU 4/2009 FOR 1110 INDICATORS
Message Examples – Harvest

- CDB Harvest File Export
to c:\temp\dvMidas.exp
STARTED 1/1/2009 THROUGH 4/30/2009
- CDB Harvest File Export
to c:\temp\dvMIDAS.exp COMPLETED
5432 TOTAL RECORDS CREATED

Message Examples – Unmapped

- [server]: CDB SUMMARY DICTIONARY
TERM Left Against Medical Advice IS UNMAPPED
Message Examples - Sampling

• [server]: CDB AUTO SAMPLE ANALYSIS COMPLETED
• [server]: CORE MEASURE - SCIP Other SAMPLE CREATED FOR (ALL FACILITIES) 3/2009
• [server]: CDB AUTO SAMPLE ANALYSIS STARTED

Resources

• Documentation available on clients only website https://www.midasplus.com/clients_only
  – Building SmarTrack Indicators
  – System Manager manual
  – Comparative Database Mapping guide
  – Measure definitions for Data Quality Profile
  – Harvest Guide
  – Core Job Processing Guide
  – Plus Much, Much, More
• eMail questions to midas.core@acs-inc.com
What is Inter-Rater Reliability?

Hospitals comparing the abstraction of clinical data by one person (the submission abstractor) with the abstraction of another person (the reliability abstractor) of the same clinical data.

Once the abstraction of both “identical” focus studies is complete, then the MIDAS+ software functionality will evaluate the inter-rater reliability of your Core Measures.

Purpose of IRR

• As part of The Joint Commission Vendor requirements and to assist facilities with meeting CMS requirements for CDAC Validation scores of 80% or greater in order to obtain their full Annual Market Basket Increase with Medicare, MIDAS+ has developed Inter-Rater Reliability studies for Core Measures.

Each hospital can proactively monitor their IRR in order to protect the hospital’s financial stability
How is MIDAS+ Meeting this Requirement?

• New functionality provide MIDAS+ Clients a mechanism for monitoring inter-rater reliability
  – Comparison between original focus study abstraction with an additional focus study completed by another person for a selected population
  – Improve accuracy of abstraction
  – Functionality includes: profiles, focus studies, worklists, and Standard Reports

Terms

• Inter-rater Reliability (IRR)
  – Compares abstraction of data by one person with the abstraction of the same data by another person. It is the degree of agreement among raters.

• Submission Focus Study
  – Part of the official clinical topic. This focus study will be submitted by MIDAS+.

• Reliability Focus Study
  – Additional focus study (also known as the “mirror” focus study) which is not submitted.

• Reliability Set
  – Cases selected for the IRR review process.
**How Do You Get Started?**

- Locate the IRR Request form on the MIDAS+ Client’s Only Website
  - Download and designate topic, month, facility, and IRR employee
  - Email completed form to midas.core@acs-inc.com
  - Indicate number of cases or alternatively the % of cases in the topic’s sample to be used in the reliability set
    - Remember – at least 95% of the months diagnosis coding must be complete

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**Requesting an IRR Set**

- The following conditions apply when requesting an IRR set:
  - IRR set can be requested as either a number of cases or a % of cases qualifying in the sample
  - Cases in the IRR set will be selected randomly
  - IRR sets can be generated monthly up to 9 months after d/c
  - If sampling, the sampling must be done before the IRR set is generated
  - After IRR set has been created, no cases can be added
IRR Request Form

Prior to submitting this request, please ensure that a minimum of 80% of the encounters for the requested facility(ies) and month combinations have a discharge abstract loaded into MIDAS+. Additionally, if your hospital samples, please validate that the sample has already been generated.

Email the completed form to: midas.core@acs-inc.com

- Go to the MIDAS+ Client’s Only Website
- Locate IRR Request Form
- Complete and submit form electronically to midas.core@acs-inc.com
- Submit completed form monthly until the August overlay – Standard Report

MIDAS+ IRR Functionality

- Function Tab
- Standard Reports
- Compile Indicator Profile
- Select Core Inter-rater Reliability – Detail
Core IRR Indicator Profile

August Overlay Enhancement: new indicators that show the number of cases in the IRR study that are part of the submission focus that have missing data. Another indicator will identify DQ issues.

Focus Encounter Entry – Core Reliability Focus Study

- Abstracter field required for submission and IRR
- Except for SCIP and HOP Surgery, the fields will NOT auto-populate.
- SCIP and HOP Surgery auto-population will occur for strata and qualifying case information, dx, and procedure identifiers, and for SCIP any relevant “not applicable@” response.
- IRR Report cannot run with “missing data” – must complete the focus
The new Standard Report “Core Inter-Rater Reliability” provides 3 sub-report options:

1. Locks down initial score
2. Data Element Summary Match Rate
3. Focus Detail Match Results

Core IRR Standard Report
Opt #1 - Verify Completeness & Lock Down Initial Scoring

Both Reliability and Submission Study must be completed before initiating this report:
* Select Core Topic
* Select the Facilities
* Enter Start and End Months
* Select which Focus Study is to be the “authority:” reliability focus (default) or submission focus
* Once “compile” is selected, initial scoring cannot be changed

“authority” is your gold standard
Core IRR Standard Report (main screen)

Select #2 – Data Element Summary Match Rate

Core IRR Standard Report
Opt #2 - Data Element Summary Match Rate

Check the box □ ONLY if you want to view an UPDATED score
Opt #2 - Data Element Summary Match Rate

- Report reflects 1 Submission Focus and 1 IRR Focus
- 3 IRR cases in the sample
- All data elements are scored for all cases in IRR set
- Aggregate results

Core IRR Standard Report (main screen)

Select #3 – Focus Detail Match Results
Core IRR Standard Report
Opt #3 – Focus Detail Match Results

Check the box □ ONLY if you want to view an UPDATED score

Option #3 - Focus Detail Match Results Output
Upcoming August Enhancements

- The ability for hospitals to manage the process independently; thus alleviating the need to fill out the IRR Request Form each time you wish to create a sample
- Assign IRR worklists to multiple reviewers
  - Example: 10 cases in AMI IRR Set. 2 IRR reviewers get 5 cases each to review.
- Create a 4th and 5th Sub-Option within Standard Reports, which compares the core measure category assignment for each patient in the IRR study by topic/month/facility.

Core IRR Standard Report Opt #4 – Category Summary Match Rate

All measures are scored for all cases in IRR set, providing aggregate results.

<table>
<thead>
<tr>
<th>Field Agreement Rates</th>
<th>Overall Agreement Rate: 23/24 (95.83%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core AMI - Aspirin at arrival</td>
<td>3/3 (100%)</td>
</tr>
<tr>
<td>Core AMI - Aspirin prescribed at discharge</td>
<td>3/3 (100%)</td>
</tr>
<tr>
<td>Core AMI - ACEI or ARB for LVSD</td>
<td>2/2 (100%)</td>
</tr>
<tr>
<td>Core AMI - Adult smoking cessation attempts/cessation</td>
<td>2/2 (100%)</td>
</tr>
<tr>
<td>Core AMI - Beta blocker prescribed at discharge</td>
<td>2/2 (100%)</td>
</tr>
<tr>
<td>Core AMIa - Fibrinolysis therapy received within 30 min of arrival</td>
<td>3/3 (100%)</td>
</tr>
<tr>
<td>Core AMIa - Primary PCI within 90 minutes of arrival</td>
<td>3/3 (100%)</td>
</tr>
<tr>
<td>Core AMIa - In-hospital Mortality</td>
<td>2/2 (100%)</td>
</tr>
</tbody>
</table>
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Summary

Data Quality – managing and knowing the various methods to review and correct data integrity issues functionality in MIDAS+ is essential.

Inter-Rater Reliability – consider the MIDAS+ IRR Module to evaluate proficiency of your staff who are responsible for core measure data abstraction.

Contact midas.core@acs-inc.com for any future questions.