
National Patient Information Reporting System: National Data Warehouse

NDW Data Quality Mart

Technical Guide

Version 1.0

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Version Control

Version	Date	Notes
1.0	March 2008	FY08 Bridge Contract Deliverable D1.7.7 Approved April 10, 2008

Overview

The purpose of National Data Warehouse (NDW) Data Quality Mart (DQM) is to provide feedback to the suppliers of data to the NDW, related to the detection of critical and non-critical errors affecting the quality and completeness of their data.

The NDW Data Quality Mart is a collection of easily accessible web-based reports, which provide the user a quantified picture of problems with their data, as well as enough detail to allow record level identification of problematic data. Note that any detail displayed is within the boundaries of currently required laws and regulations, such as the Health Insurance Portability and Accountability Act (HIPAA).

All Data Quality Mart reporting is limited to data already loaded and stored in the NDW. Reports related to problems loading data into the NDW database are provided by the NDW Export Tracking Mart.

Environment

Reports

Web Server:	ROHAN
Reports Development Tool:	Crystal Reports
Web Application Interface:	Business Objects
Reports Location:	Data Quality Mart folder on IHS NDW intranet web site

Data Source

Database:	WILDHRSE
Database Schema:	DQMART
Database Objects:	Views and Stored Procedures
Language;	SQL

The WILDHRSE database was chosen as the NDW Data Quality Mart data source for performance reasons and to not interfere with production database processes when running DQM reports.

DQM Reports

The Data Quality Mart reports are developed using Crystal Reports software and posted on the IHS NDW intranet Reports web site (ROHAN) in the Data Quality Mart folder, using Business Objects Web application interface.

Data Quality Mart web reports are organized into two categories:

- Reports related to User Population
- Reports related to Workload

Currently, there are seven DQM reports, two related to User Population (UP) and five related to Workload (WL):

- 1) DQM-UP1 Registrations Not Included on User Population Reports
- 2) DQM-UP2 Registrations Potentially Countable on UP Reports
- 3) DQM-WL1 WL Reportable Visits Not Included on Workload Reports
- 4) DQM-WL2APC Potentially Workload Reportable Ambulatory Visits
- 5) DQM-WL2CON Potentially Workload Reportable Contract Visits
- 6) DQM-WL2DEN Potentially Workload Reportable Dental Visits
- 7) DQM-WL2INP Potentially Workload Reportable Inpatient Visits

Each of these reports pulls data from a dedicated view, using report specific parameters (e.g., Region and/or date range) passed to the database by the dedicated stored procedure.

Using Crystal Reports software, the data undergoes further calculations, using formulas for conditional computations of results presented on reports. The data is then grouped, sorted, and formatted, and written to a report.

The code for each of these reports is stored on the ROHAN server in the following folder:

`\\NDW\DATA QUALITY MART`

For detailed descriptions of the DQM reports, see the *Data Quality Mart User Guide*.

DQM Database Objects

Currently, there are seventeen database objects (10 views and 7 stored procedures) in the NDWMART schema on the WILDHRSE database that are used as data sources for the Data Quality Mart reports.

By default, the SQL Code for these database objects is stored by DB2 in the appropriate system tables (views, procedures) in the TEXT field. Additionally, the SQL code is saved in text files and stored on the ROHAN sever in the following folder:

\\NDW\DATA QUALITY MART\Stored Procedures_Views

DQM Views

The Data Quality Mart Views (virtual tables) contain columns from several NDW Target and Reference tables. The data is specifically formatted and calculated for the existence of certain conditions required for each report. The views are:

Schema	View Name
DQMART	DQMV_ADA
DQMART	DQMV_POV
DQMART	DQMV_REG_RPT1
DQMART	DQMV_REG_RPT2
DQMART	DQMV_VALID_CHART
DQMART	DQMV_WL_RPT1
DQMART	DQMV_WL_RPT2_APC
DQMART	DQMV_WL_RPT2_CHI_CHO
DQMART	DQMV_WL_RPT2_DENTAL
DQMART	DQMV_WL_RPT2_INP

DQMV_ADA

DQMV_ADA is a supplementary view used by DQMV_WL_RPT2_DENTAL. It selects Encounter IDs (ENCTRSS_ID) that do not have any ADA codes.

DQMV_POV

DQMV_POV is a supplementary view used by DQMV_WL_RPT2_APC. It selects Encounter IDs (ENCTRSS_ID) that do not have any DX codes.

DQMV_REG_RPT1

DQMV_REG_RPT1 is the primary view for DQM-UP1, Registrations Not Included on User Population reports. It selects registration data relevant to these reports (e.g., unique registration code, region code, or exporting facility). Additionally, it tests five fields (last name, first name, middle name, chart number, chart facility) to verify whether the values are missing, valid, or invalid, and the stores the results in designated new fields.

DQMV_REG_RPT2

DQMV_REG_RPT2 is the primary view for the DQM-UP2, Registrations Potentially Countable on UP reports. It selects registration data relevant to these reports (e.g., unique registration code, region code, or exporting facility). Also, it tests six fields (community, area, service unit, tribe code, beneficiary code, blood quantum) to verify whether the values in each of these fields are missing, valid, or invalid, and then stores the results in designated new fields.

DQMV_VALID_CHART

DQMV_VALID_CHART is a supplementary view used by DQMV_REG_RPT1. It selects Registration IDs (REG_ID) that have valid chart records.

DQMV_WL_RPT1

DQMV_REG_RPT2 is the primary view for the DWM-WL1, WL Reportable Visits Not Included on Workload reports. It selects workload reportable encounter data relevant to these reports (e.g., unique encounter code, region code, exporting facility). Additionally, it tests the date and facility code fields (specific to encounter type) to verify whether the values in each of these fields are missing, valid, or invalid, and then stores the results in designated new fields.

DQMV_WL_RPT2_APC

DQMV_WL_RPT2_APC is the primary view for DWM-WL2APC, Potentially Workload Reportable Ambulatory Visits reports. It selects non-workload reportable direct outpatient encounter data relevant to these reports (e.g., unique encounter code, region code, location of encounter facility). Additionally, it tests six fields (facility designation flag, service type, service category, provider code, clinic code, diagnosis code) to verify whether the values in each of these fields are missing, valid, or invalid, and then stores the results in designated new fields.

DQMV_WL_RPT2_CHI_CHO

DQMV_WL_RPT2_CHI_CHO is the primary view for DWM-WL2CON, Potentially Workload Reportable Contract Visits reports. It selects non-workload reportable contract (inpatient and outpatient) encounter data relevant to these reports (e.g., unique encounter code, region code, exporting facility). Additionally, it tests the values in the provider type field to verify whether they are missing, valid, or invalid, and then stores the results in the designated new field.

DQMV_WL_RPT2_DENTAL

DQMV_WL_RPT2_DENTAL is the primary view for DWM-WL2DEN, Potentially Workload Reportable Dental Visits reports. It selects non-workload reportable dental encounter data relevant to these reports (e.g., unique encounter code, region code, location of encounter facility, authorizing facility). The selected data are limited to dental encounters with no ADA codes.

DQMV_WL_RPT2_INP

DQMV_WL_RPT2_INP is the primary view for DWM-WL2INP, Potentially Workload Reportable Inpatient Visits reports. It selects non-workload reportable direct inpatient encounter data relevant to these reports (e.g., unique encounter code, region code, location of encounter facility, authorizing facility). The selected data are limited to direct inpatient encounters with no DX codes.

DQM Stored Procedures

The following Data Quality Mart Stored Procedures are used for passing implicit “WHERE” statements to the database, allowing the selection of data (from the dedicated view) related only to a specified Region and/or within a specified timeframe.

Schema	Procedure Name
DQMART	DQMS_REG_RPT1
DQMART	DQMS_REG_RPT2
DQMART	DQMS_WL_RPT1
DQMART	DQMS_WL_RPT2_APC
DQMART	DQMS_WL_RPT2_CHI_CHO
DQMART	DQMS_WL_RPT2_DENTAL
DQMART	DQMS_WL_RPT2_INP

For detailed information about the selection criteria, see the *NDW Data Quality Mart Technical Specification, V1.0*.

DQMS_REG_RPT1

The DQMS_REG_RPT1 procedure passes the region abbreviation code from DQM-UP1 report to DQMV_REG_RPT1 view, allowing the selection of data belonging only to one region.

DQMS_REG_RPT2

The DQMS_REG_RPT2 procedure passes the region abbreviation code from DQM-UP2 report to DQMV_REG_RPT2 view, allowing the selection of data belonging only to one region.

DQMS_WL_RPT1

The DQMS_REG_RPT2 procedure passes the region abbreviation code from DQM-WL1 report to DQMV_WL_RPT1 view, allowing the selection of data belonging only to one region.

DQMS_WL_RPT2_APC

The DQMS_WL_RPT2_APC procedure passes the region abbreviation code and the date range from DQM-WL2APC report to DQMV_WL_RPT2_APC view, allowing the selection of data belonging only to one region and specified timeframe (beginning, ending dates).

DQMS_WL_RPT2_CHI_CHO

The DQMS_WL_RPT2_CHI_CHO procedure passes the region abbreviation code and the date range from DQM-WL2COM report to DQMV_WL_RPT2_CHI_CHO view, allowing the selection of data belonging only to one region and specified timeframe (beginning, ending dates).

DQMS_WL_RPT2_DENTAL

The DQMS_WL_RPT2_CHI_CHO procedure passes the region abbreviation code and the date range from DQM-WL2DEN report to DQMV_WL_RPT2_DENTAL view, allowing the selection of data belonging only to one region and specified timeframe (beginning, ending dates).

DQMS_WL_RPT2_INP

The DQMS_WL_RPT2_INP procedure passes the region abbreviation code and the date range from DQM-WL2INP report to DQMV_WL_RPT2_INP view, allowing the selection of data belonging only to one region and specified timeframe (beginning, ending dates).