**19 December 2011**

CDR Appointment Table

for the MHS Data Repository (MDR)

(Version 1.00.00)

Current Specification

Revision History

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Version | Date | Originator | Para/Tbl/Fig | Description of Change |
| 1.00.00 | 12/19/2011 | C. Kangas |  | Baseline |

# MDR CDR Appointment Table

1. Background

This specification describes the process required to create the MDR CDR Appointment table based on data received from the CDR. The MDR has contained appointment files for many years, generated from extracts received directly from CHCS. The addition of this CDR-based appointment information is not meant to replace the appointment data already available in the MDR, but to compliment it. Another major purpose of placing the CDR Appointment data in the MDR is that the MDR now contains other clinical data from the AHLTA CDR, such as patient vital sign information, which are mostly taken and recorded in AHLTA during regular appointments. The relational database structure of the CDR creates many dependencies between its tables. For example, the CDR Vitals table does not contain information about the provider or location (DMISID) where the patient had their vital statistics taken, but it does contain an Appointment ID field, which is linked to the CDR Appointment table. The provider and location information is stored in the CDR Appointment table, and therefore it is crucial to capture and maintain a separate appointment table for MDR users to make all of the other clinical data more useful for analysis.

1. Sources

The source data files used to create the MDR Appointment tables are extracted from the AHLTA Clinical Data Repository (CDR). The transfer of the raw source extracts is handled by DHSS for loading into the MDR for further processing according to routine MDR operations. The source file is:

**Table 1: Source**

| **Source** | **Data Files** | **Purpose** |
| --- | --- | --- |
| CDR Appointment Table | APAPT\*.DAT | Collection of records for direct care appointments in raw text form, prepared in accordance with the ICD. |

1. Transmission (Format and Frequency)

Source files are provided according to the frequency described in the table below.

**Table 2: Frequency of Source File**

|  |  |
| --- | --- |
| **Source File** | **Frequency** |
| CDR Appointment Table | Weekly |

1. Organization and batching

Source Data: The first step in MDR processing is to batch records received from CDR. Raw data batches are stored in MDR/RAW according to routine MDR operating procedures.

Output Products: The MDR appointment processor outputs a single FY level SAS dataset for each year processed. The processor needs to be run separately for each year. The processor performs merges and field derivations, and must also apply updates to appointment records across extracts. The current fiscal year is processed weekly, and past fiscal years are processed on a less frequent basis (ex. FY09 is processed twice a year). Table 3 contains the location and names of the output products. The preparation of them is described in subsequent sections of this document.

**Table 3: CDR Appointment Processor Output Product**

|  |  |  |
| --- | --- | --- |
| **MDR Appointment Processor** | **File Naming Convention** | **Member Name** |
| MDR CDR Appointment File | /mdr/pub/cdr/appt/ | fy<yy>.sas7bdat |

Archival of files is also required, so that corresponding “apub” and other processing files (i.e. log, aprod, etc) are also loaded into the MDR according to routine operating procedures.

1. Receiving Filters

None.

1. Field Transformations and File Types

There are several merges required to prepare the MDR CDR Appointment File as described in Table 4.

**Table 4: External File Merges**

| **Merge** | **Date Matching** | **Additional Matching** |
| --- | --- | --- |
| CDR Patient Table | Most recent CDR Patient Table is used for all FY Appt files. | See CDR Patient Specification. |
| CHCS Host Format | None. | Apply the format to host\_facility\_id, which will return HOSTDMIS. |
| DMIS ID Format | None. | Apply the format to cdr\_clinic\_id, which will return the DMISID. |

Business rules for each of the appended fields that result from the file merges and formats are described in the body of Table 5.

1. record layout and content

The CDR Appointment data are stored as one SAS dataset per fiscal year. The dataset file names are of the format fy<yy>.sas7bdat. The dataset is prepared according to the derivation rules listed in Table 5.

# Table 5: CDR Appointment SAS Data Set

| **Variable Name** | **SAS Name** | **Format** | **Transformation Rule** |
| --- | --- | --- | --- |
| Appointment Classification | APPT\_CLASS | $1. | No transformation. |
| Appointment Date | APPTDT | $8. | No transformation. |
| Appointment ID Number | APPTIDNO | $10. | No transformation. |
| Appointment Status | APPTSTAT | $10. | No transformation. |
| Appointment Type | APPTYPE | $5. | No transformation. |
| CDR Appointment ID | CDR\_APPT\_ID | $20. | No transformation. |
| CDR Clinic ID | CDR\_CLINIC\_ID | $20. | No transformation. |
| CDR Patient ID | CDR\_PATIENT\_ID | $20. | No transformation. |
| CDR Provider ID | CDR\_PROVIDER\_ID | $20. | No transformation. |
| Check In | CHECK\_IN | $14. | No transformation. |
| Treatment DMISID | DMISID | $4. | Obtained from application of the CDR DMISID format to the cdr\_clinic\_id |
| EDIPN | EDI\_PN | $10. | Obtained from merge to CDR Patient table, based on CDR\_PATIENT\_ID. |
| Feed Date | FEEDDT | $8. | No transformation. Obtained directly from the extract file name. |
| Fiscal Month | FM | $2. | Fiscal month of appointment date |
| Fiscal Year | FY | $4. | Fiscal Year of appointment date |
| CHCS HOST | HOSTDMIS | $4. | Obtained from application of the CDR Host DMISID format based on host\_facility\_id |
| Patient SSN | PATSSN | $9. | Obtained from merge to CDR Patient table, based on CDR\_PATIENT\_ID |
| Sign Time | SIGN\_TIME | $14. | No transformation. |
| Sponsor SSN | SPONSSN | $9. | Obtained from merge to CDR Patient table, based on CDR\_PATIENT\_ID |
| Universal Patient ID | UPID | $14. | Obtained from merge to CDR Patient table, based on CDR\_PATIENT\_ID |

1. Refresh Frequency

Frequency of updates (based on appointment date):

* Weekly for current FY.
* For the previous FY, weekly for 1 quarter (October, November, and

December), then switch to semiannually (April, October).

* All years prior to prior FY: Semiannually (April, October)
* Retrofits: On an as needed basis when data corrections or updates are

required.

1. Data Quality

It is expected that when the CDR Appointment processor is run each week, that basic quality checks are performed throughout the process. It is recommended that the DHSS vendor develop a spreadsheet which tracks key characteristics of the data across processing cycles; making it relatively easy to understand how the data should generally look. DHSS vendors need to review these statistics each month prior to releasing the data. DHCAPE (the functional proponent and the specification author) should be contacted immediately should any quality issues arise. These checks, at a minimum, should include:

* Total record counts in the data feed should have a relatively stable distribution across appointment date, accounting for weekends and holidays. Any anomalies should immediately be investigated.
* The number of records ‘cleaned out’ each month should be similar in scope and proportion across update cycles.
* The number of records that match when doing the CDR Patient table merge should be consistent.
* The distribution of all categorical fields (ex. DMISID, APPTSTAT) should be consistent. The results of proc freq analyses will verify this.
* The number of null values for important fields such as CDR\_PATIENT\_ID, APPTIDNO, and PROVIDER\_ID should be tracked across monthly updates.
* When reading in the appointment data feed, a small number of records should be printed off and manually inspected to ensure they have read in properly.
* Cross tabulations should be reviewed on derived elements to ensure the derivation logic works.
* A data flow tracker should be built to ensure that all records that are intended to make it into the final CDR Appointment dataset do. In other words, all inserts, updates, and deletions should be tracked and explained in the data flow worksheet.