**20 January 2022**

Comprehensive Ancillary Data Record Extract (CADRE) Laboratory Basic

for the

MHS Data Repository (MDR)

(Version 1.00.06)

Current Specification

Revision History

| Version | Date | Originator | Para/Tbl/Fig | Description of Change |
| --- | --- | --- | --- | --- |
| 1.00.00 | 02/04/2013 | S. Keane |  | Initial document. |
| 1.00.01 | 06/19/2013 | S. Keane | Section VII | Split Current Procedural Terminology (CPT) code and modifier of the laboratory test or radiology exam performed into two separate fields.  |
| 1.00.02 | 09/06/2013 | S. Keane | Sections II, III, IV | Clarify that data are for Laboratory services that occur on or after 1 October 2002, i.e., FY2003. |
| 1.00.03 | 01/29/2014 | S. Keane | Section IV, VI, VII, Appendix A | Update Key variables. Collapse source data into three (3) tables. Arrange source data by output tables. Rename source variables (47-48). Add variables: Sponsor SSN (raw) Type Code, Patient SSN Type Code, CBER Change Date, andCBER Change Flag. Add table of omitted source variables. Add Appendix A: CBER Required Fields. |
| 1.00.04 | 02/07/2014 | S. Keane | Section VII | Copy forward Order-related Information on TEST Table. |
| 1.00.05 | 2/28/14 | S. Keane | Section VII Table 1, Appendix A | Remove Variables: CBER Change Date and CBER Change Flag. Delete Appendix A: CBER Required Fields.  |
| 1.00.06 | 01/20/2022 | S. Keane  | Section III | Update Processing Frequency of Updates |

# CADRE Laboratory Basic for the MDR

1. Source

Data capture system: Composite Health Care System (CHCS).

1. Input Feed

Transmission of the feeds occurs daily from the CHCS to the EI/DS Feed Node, where they are batched and submitted weekly for MDR processing. The feed contains ASCII format with the caret (^) delimiter between fields.

ICD 1300-xxxx-xx describes the feed that contains Comprehensive Ancillary Data Record Extract (CADRE) records for Laboratory and Radiology services that occur on or after 1 October 2002.

The following specifies the user events or system initiated events that will result in Record Type “Laboratory” (RECTYPE = L) being included in the feed sent to the MDR.

* Records will not be reported until an accession is complete (resulted).
* *Records represent a snapshot; so the data for an accession should replace any previously received data for that accession (Process Flag is always N).*
* Records are included if the most recent Certify Date/Time falls in the date range being collected.
* Records are included if CPT codes are manually adjusted during the date range being collected and the adjustment is after the most recent Certify Date/Time.
1. Organization and batching
* Time slicing: Data are organized into fiscal year files.[[1]](#footnote-1) The Fiscal Year is determined by the Date of Service (SERVDATE) field.
* Frequency of processing: Data are harvested weekly. Raw data batches are harvested, processed, and appended/updated to the master file. If data are received from a fiscal year not being processed that month, they will be held to batch with all other data received prior to that fiscal year’s next update batch.
* Frequency of updates:
	+ Current FY: Weekly.
	+ Prior FY: Weekly for one quarter (October, November, and December) then semiannually (April, October).
	+ All years prior to prior FY: Annually (October) or on an as needed basis when data corrections or updates are required.
* Archiving (APUB): Use routine archiving rules and procedures of the MDR.
1. Receiving Filters

Process data where Record Type equals “Laboratory” (RECTYPE = L), Date of Service (SERVDATE) is valid and on or after 1 October 2002, CHCS Host Platform DMIS ID (CHCSDMIS) is not blank or equal to “0000”, Accession Number (ACCESSNO) is not blank or missing.

1. Field Transformations and Deletions for MDR Database

Refer to Section VII.

1. Updating the Master Tables

Every submission to the CADRE Laboratory file is hierarchical in structure, that is, each complete record or observation consists of a header record and a varying number of detail records. One record may have two lines of data; the next record may have four lines, and so on. Each complete record or observation contains information for one or more service performed (e.g. lab tests) and related results.

The MDR CADRE Laboratory Basic Tables will consist of three (3) separate tables or files: ACCESSION, TEST, and RESULT as specified in Section VII below. These three (3) tables can be recombined/joined to recreate the original hierarchical record(s).

Retain CHCS Host DMIS ID (CHCSDMIS), Accession Number (ACCESSNO), and Record Number (RECNO) on each of the three (3) CADRE Laboratory Basic Table(s). That is, each header record and all its subsequent detail records will retain CHCSDMIS, ACCESSNO, and RECNO from the feed file.

De-duplicate an accession by CHCS Host DMIS ID (CHCSDMIS) and Accession Number (ACCESSNO). Retain the accession with the newest Extract File Date (FILEDATE) (extracted from the File Name).

1. File Layout and Content

There are three (3) final MDR CADRE Laboratory Basic Tables, they include:

* ACCESSION: The ACCESSION Table is the core file. It contains most raw fields from the source data, as well as appended fields described below. For this table, retain the first row of the accession. Keep variables listed in Table 1 below. Add internally derived fields as specified below.

The Record Key for the ACCESSION Table is the combination of CHCS Host DMIS ID (CHCSDMIS) and Accession Number (ACCESSNO).

TEST: The TEST Table (aka Line Item file) has records for services performed (e.g. laboratory tests). Populate one observation (row) for every physical record on the accession in which Order ID (ORDERID) or CPT Code (CPT) is not empty. In the event that Order ID (ORDERID) is missing on a record, but the CPT Code (CPT) is present, populate the following fields: Order ID (ORDERID), Appointment Record ID (APPTNO), Appointment Match Indicator (APPTMATCH), Date of Order (ORDDATE), Ordering Provider IEN (OPIEN), Ordering MEPRS Code (MEPRSCD), Ordering Provider NPI (OPNPI), Ordering Provider SSN (OPSSN), Ordering Provider EDIPN (OPEDIPN), and Ordering Provider (OPHIPAA) using the same values as the previous entry in the TEST Table for that same accession.

Keep variables listed in Table 2 below.

The Record Key for the TEST Table is the combination of CHCS Host DMIS ID (CHCSDMIS), Accession Number (ACCESSNO), and Record Number (RECNO). This key can be used to link TEST Table data with the ACCESSION and RESULT Tables.

The TEST Table has an alternate key that consists of CHCS Host DMIS ID (CHCSDMIS), Accession Number (ACCESSNO), Order ID (ORDERID), CPT Code (CPT), and CPT Code Modifier (CPTMOD). Either TEST Table key will produce the same unique records. Additionally, this alternate key is the same record key used in CADRE Radiology Basic Table. This key may be used to link this data with legacy Laboratory and Radiology data. The CADRE Laboratory Basic variables have the same SAS names as legacy Laboratory and Radiology variables.

* RESULT: The RESULT Table contains laboratory test results as displayed to providers. Populate one observation (row) for each physical record on the accession in which Lab Test Name (LABTEST), Certification Date (CERTDATE), or Lab Results Long (LABLONG) is not empty. Keep variables listed in Table 3 below.

The Record Key for the RESULT Table is the combination of CHCS Host DMIS ID (CHCSDMIS), Accession Number (ACCESSNO), and Record Number (RECNO).

**Table 1: ACCESSION Table for MDR CADRE Laboratory Basic**

| **MDR Field Name** | **SAS Name** | **Format** | **Source Position** | **Derivation** |
| --- | --- | --- | --- | --- |
| CHCS Host Platform DMIS ID | chcsdmis | $4 | 2 | No Derivation. |
| Accession Number | accessno | $17 | 18 | No Derivation. |
| Record Number | recno | numeric | 1 | No Derivation.  |
| ***From the Source File*** |  |  |  |  |
| Patient IEN | patien | $20 | 5 | No Derivation. |
| Patient Age | patage | $3 | 6 | No Derivation. If "0Y" then change to 0. Else leave as is. |
| Patient Category Code | patcat | $3 | 7 | No Derivation. |
| Patient HCDP Code (raw) | hcdpr | $3 | 8 | No Derivation. This field will be populated only if patient is enrolled on the Date of Service. |
| Inpatient Record ID | prn | $12 | 9 | No Derivation. When there is an open admission on the Date of Service, this field contains the CHCS Inpatient Register Number.  |
| Date of Collection | examdate | yyyymmdd | 17 | Change MMDDYYYY to YYYMMDD. Store as SAS date. |
| Record Type Modifier | mod | $2 | 21 | No Derivation. Valid Values: Null = Results entered directly in CHCS; AP = Anatomic Pathlogy generated on CoPath.  |
| Date of Service | servdate | yyyymmdd | 23 | Change MMDDYYYY to YYYMMDD. Store as SAS date. Note save to both ACCESSION Table and TEST Table  |
| Treatment DMIS ID | tmtdmis | $4 | 25 | No Derivation. |
| Treatment Parent DMIS ID | pgrpdmis | $4 | 26 | No Derivation. |
| Performing CMAC Locality Code | cmaccd | $3 | 27 | No Derivation. |
| External LAB Type | extype | $1 | 29 | No Derivation. Valid values: C = CHCS V = VA O = Other.  |
| External Name | xname | $60 | 30 | No Derivation. |
| External Address1 | xadd1 | $60 | 31 | No Derivation. |
| External Address2 | xadd2 | $60 | 32 | No Derivation. |
| External City | xcity | $40 | 33 | No Derivation. |
| External State | xstate | $2 | 34 | No Derivation. |
| External Zip | xzip | $5 | 35 | No Derivation. |
| External Country | xcountry | $2 | 36 | No Derivation. |
| External Phone | xphone | $20 | 37 | No Derivation. |
| CLIA Number | clia | $15 | 46 | No Derivation. |
| Purchased Service Facility ID Type Code | psfidtyp | $2 | 47 | No Derivation. The type (IEN/SSN) of the Purchased Service Facility Identifier. Valid values: 24 = IEN, 34 = SSN. Previously named External Indicator (external). |
| Purchased Service Facility ID | psfid | $12 | 48 | No Derivation. Purchased Service Facility IEN. Previously named IEN/SSN (ienssn). |
| **MDR Field Name** | **SAS Name** | **Format** | **Source Position** | **Derivation** |
| Patient Family Member Prefix | fmp | $2 | 49 | No Derivation. |
| Sponsor SSN (raw) | rsponssn | $9 | 50 | No Derivation. |
| Patient EDIPN (raw) | redipn | $10 | 51 | No Derivation. |
| OHI Indicator | ohi | $1 | 52 | No Derivation. Valid Values: Y = Yes N = No. |
| PATCAT subcategory | patcat2 | $1 | 53 | No Derivation. |
| Patient SSN | patssn | $9 | 54 | No Derivation. |
| Sponsor SSN (raw) Type Code | rsponssntyp | $1 | 71 | No Derivation. Type code describing the Sponsor SSN (raw). Valid values: D = Temporary Identification Number (TIN)F = Foreign Identification Number (FIN) I = Provider Tax ID (ITIN) P = US military personnel code prior to SSNsR = Special Code assigned to a DOD contractorS = Social Security Number (SSN) U = Pseudo SSN |
| Patient SSN Type Code | patssntyp | $1 | 72 | No Derivation. Type code describing the Patient SSN. Valid values: D = Temporary Identification Number (TIN)F = Foreign Identification Number (FIN) I = Provider Tax ID (ITIN) P = US military personnel code prior to SSNsR = Special Code assigned to a DOD contractorS = Social Security Number (SSN) U = Pseudo SSN |
| ***Internally Derived Fields*** |  |  |  |  |
| Extract File Date | filedate | yyyymmdd |  | Extract Creation Date/Time from the File Name used by CHCS. Position 21-32 from left of 50 character field. For example, given CADRE\_1070\_0124\_PHR\_201203121054.20120312\_20120312, extract “201203121054”. Store as SAS date. Will keep the most recent record using this date. |
| Initial Processing Date | procdate | yyyymmdd |  | Set to the initial date that this record was processed for the MDR. Store as SAS date. |
| Master Change Date | chgdate | yyyymmdd |  | Set to the most recent date that any data element was changed. For records that never change, this will be equal to the initial processing date. Store as SAS date. |
| Master Change Code | chgcode | $1 |  | Record type after processing. N = a newly-added record; U= a record that was modified/updated since the last processing cycle; X= a new cancellation record; blank = a record that was not modified since the last processing cycle, e.g. record already exists. |
| Calendar Year | cy | $4 |  | Derived from Date of Service. CY of Date of Service. |
| Calendar Month | cm | $2 |  | Derived from Date of Service. CM of Date of Service. |
| Fiscal Year | fy | $4 |  | Derived from CY of Date of Service. If CM is 10, 11, 12 then FY=CY+1. Else FY=CY. |
| Fiscal Month | fm | $2 |  | Derived from CM of Date of Service. If CM is 10, 11, 12 then FM=CM-9. Else FM=CM+3. |

**Table 2: TEST Table for MDR CADRE Laboratory Basic**

| **MDR Field Name** | **SAS Name** | **Format** | **Source Position** | **Derivation** |
| --- | --- | --- | --- | --- |
| CHCS Host Platform DMIS ID | chcsdmis | $4  | 2 | No Derivation. |
| Accession Number | accessno | $17  | 18 | No Derivation. |
| Record Number | recno | numeric | 1 | No Derivation.  |
| ***From Source File*** |  |  |  |  |
| Appointment Record ID | apptno | $20 | 10 | No Derivation. |
| Appointment Match Indicator | apptmatch | $3 | 11 | No Derivation. Matching Identifiers: LIN = Appointment IEN based on CHCS Provider Link (100% Confidence) MAT = Appointment IEN based on CHCS Order match to Encounter (75% Confidence). OUT = F MEPRS Code for Ancillary Services Requested by Outside Provider. |
| Order ID | Orderid | $12 | 12 | No Derivation. A sequential number assigned to each order  |
| Date of Order | orddate | $12 | 13 | Change MMDDYYYYHHMM to YYYMMDD. Store as SAS date. |
| Ordering Provider IEN | opien | $20 | 14 | No Derivation. |
| Ordering DMIS ID | orddmis | $4 | 15 | No Derivation. |
| Ordering MEPRS Code | meprscd | $4 | 16 | No Derivation. |
| CPT Code | cpt | $5 | 19 | CPT Code (CPT) = substr(cpt,1,5). |
| CPT Code Modifier | cptmod | $2 | 19 | CPT Code Modifier (cptmod) = substr(cpt,6,2). |
| Inactive CPT Code Indicator | nactcpt | $1 | 20 | No Derivation. Valid values: A = CPT Code is ActiveI = CPT Code is Inactive .  |
| Number of Services | count | comma | 22 | No Derivation. |
| Date Of Service | servdate | yyyymmdd | 23 | Change MMDDYYYY to YYYMMDD. Store as SAS date. Note save to both ACCESSION Table and TEST Table |
| Certifying Provider IEN | cpien | $20 | 28 | No Derivation. This is the IEN of the Pathologist that reviewed and certified the results. This field is populated only when there is a Professional Component and will not be populated for Technical Component Only. Note save to both TEST Table and RESULT Table. |
| Ordering Provider NPI | opnpi | $10 | 55 | No Derivation. |
| Ordering Provider SSN | opssn | $9 | 56 | No Derivation. |
| Ordering Provider EDIPN | opedipn | $10 | 57 | No Derivation. |
| Ordering Provider HIPAA Taxonomy | ophipaa | $10 | 58 | No Derivation. |
| Certifying Provider NPI | cpnpi | $10 | 59 | No Derivation. Note save to both TEST Table and RESULT Table. |
| Certifying Provider SSN | cpssn | $9 | 60 | No Derivation. Note save to both TEST Table and RESULT Table. |
| Certifying Provider EDIPN | cpedipn | $10 | 61 | No Derivation. Note save to both TEST Table and RESULT Table. |
| Certifying Provider HIPAA Taxonomy | cphipaa | $10 | 62 | No Derivation. Note save to both TEST Table and RESULT Table. |
| Lab Test Name | labtest | $30 | 63 | No Derivation. Nomenclature provider uses. Note save to both TEST Table and RESULT Table. |
| Certification Date | certdate | yyyymmdd | 65 | Change MMDDYYYYHHMM to YYYYMMDD. Store as a SAS date. Note save to both TEST Table and RESULT Table. |

**Table 3: RESULT Table for MDR CADRE Laboratory Basic**

| **MDR Field Name** | **SAS Name** | **Format** | **Source Position** | **Derivation** |
| --- | --- | --- | --- | --- |
| CHCS Host Platform DMIS ID | chcsdmis | $4 | 2 | No Derivation. |
| Accession Number | accessno | $17 | 18 | No Derivation. |
| Record Number | recno | numeric | 1 | No Derivation.  |
| **MDR Field Name** | **SAS Name** | **Format** | **Source Position** | **Derivation** |
| ***From Source File*** |  |  |  |  |
| Certifying Provider IEN | cpien | $20 | 28 | No Derivation. This is the IEN of the Pathologist that reviewed and certified the results. This field is populated only when there is a Professional Component and will not be populated for Technical Component Only. Note save to both TEST Table and RESULT Table. |
| Certifying Provider NPI | cpnpi | $10 | 59 | No Derivation. Note save to both TEST Table and RESULT Table. |
| Certifying Provider SSN | cpssn | $9 | 60 | No Derivation. Note save to both TEST Table and RESULT Table. |
| Certifying Provider EDIPN | cpedipn | $10 | 61 | No Derivation. . Note save to both TEST Table and RESULT Table. |
| Certifying Provider HIPAA Taxonomy | cphipaa | $10 | 62 | No Derivation. Note save to both TEST Table and RESULT Table. |
| Lab Test name | labtest | $30 | 63 | No Derivation. Nomenclature provider uses. Note save to both TEST Table and RESULT Table. |
| Lab Test Resulted Name | labtestr | $30 | 64 | No Derivation. |
| Certification Date | certdate | yyyymmdd | 65 | Change MMDDYYYYHHMM to YYYYMMDD. Store as a SAS date. Note save to both TEST Table and RESULT Table. |
| Lab Result Value | labvalue | $20 | 66 | No Derivation. |
| Abnormal Flags Alert | abnormal | $80 | 67 | No Derivation. |
| LOINC (Logical Observation Identifier Names and Codes) | loinc | $7 | 68 | No Derivation. |
| Lab Results Long | lablong | $80 | 69 | No Derivation. Results appear on multiple lines (records). |

**Table 4: Omitted Source Variables from the MDR CADRE Laboratory Basic**

| **MDR Field Name** | **SAS Name** | **Format** | **Source Position** | **Derivation** |
| --- | --- | --- | --- | --- |
| Record Type | rectype | $1 | 3 | No Derivation. Valid values: L = Laboratory.  |
| Process Flag | procflag | $1 | 4 | No Derivation. Valid values: N = New Record. |
| Date of Cancellation | cancdate | yyyymmdd | 24 | This field is not populated. From ICD: "Not applicable in CADRE since resulted orders cannot be cancelled..." Note: If populated, Change MMDDYYYY to YYYMMDD. Store as SAS date. |
| ICD9 Diagnosis Code 1 | dx1 | $6 | 38 | No Derivation. Not populated.  |
| Diagnosis Priority 1  | dx1p | 1 | 39 | No Derivation. Not populated.  |
| ICD9 Diagnosis Code 2 | dx2 | $6 | 40 | No Derivation. Not populated.  |
| Diagnosis Priority 2  | dx2p | 1 | 41 | No Derivation. Not populated.  |
| ICD9 Diagnosis Code 3 | dx3 | $6 | 42 | No Derivation. Not populated.  |
| Diagnosis Priority 3  | dx3p | 1 | 43 | No Derivation. Not populated.  |
| ICD9 Diagnosis Code 4 | dx4 | $6 | 44 | No Derivation. Not populated.  |
| Diagnosis Priority 4  | dx4p | 1 | 45 | No Derivation. Not populated.  |
| Date Report Verified | verfdate | yyyymmdd | 70 | No Derivation. Not populated for Laboratory records..  |

* The processor should flag variables (listed in Table 4) if their values differ from the expected/valid values.
1. Data Marts

M2: These data will not be visible in M2.

1. Quality Assurance

The processor should conduct routine quality assurance checks to ensure input and output data are valid, complete, and reliable. At a minimum, the processor should:

* Compare weekly raw data row counts to ensure data are consistent with previous week’s raw data feeds.
* Ensure pre-processing data subtotals equal post-processing data subtotals.
* Evaluate post-processing values for data that appear out of the ordinary, or not consistent with SME expected values (face validity).
1. The current files begin with FY03. [↑](#footnote-ref-1)