Common Data Model (CDM) Specification, Version 2.0

Released by the Data Standards, Security and Network Infrastructure (DSSNI) Task Force on February 27, 2015

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2. Overview of the PCORnet Common Data Model (CDM)

2.1. License and Use

The PCORnet data model is freely available for use. An open-source license will be selected by PCORI. The PCORnet Distributed Research Network (DRN) and its infrastructure, including the Common Data Model (CDM), is overseen and guided by the PCORnet Data Standards, Security, and Network Infrastructure Task Force (DSSNI) Task Force.

The PCORnet CDM is based on the Mini-Sentinel Common Data Model (MSCDM; www.mini-sentinel.org) and has been informed by other distributed initiatives such as the HMO Research Network, the Vaccine Safety Datalink, various AHRQ Distributed Research Network projects, and the ONC Standards & Interoperability Framework Query Health Initiative. The PCORnet CDM is positioned within healthcare standard terminologies (including ICD, SNOMED, CPT, HCPSC, and LOINC) to enable interoperability with and responsiveness to evolving data standards.

The PCORnet CDM documentation can be accessed online at: http://www.pcornet.org/resource-center/pcornet-common-data-model/

2.2. Overview

PCORnet is developing the PCORnet DRN design to be a "…functional distributed research network that facilitates multi-site patient–centered research across the Clinical Data Research Networks (CDRNs), Patient-Powered Research Networks (PPRNs), and other interested contributors. The distributed network will enable the conduct of observational research and clinical trials while allow each participating organization to maintain physical and operational control over its data." [DSSNI charter, 2014]

The PCORnet CDM is the foundation of the PCORnet DRN. Guiding Principles for the PCORnet DRN and CDM are included in the DSSNI Charter. The audience for this document includes current and future partners, and other stakeholders.

For more information about PCORnet, please visit http://pcornet.org

The glossary of terms for this document can be accessed online at: http://www.pcornet.org/resource-center/other-resources/

2.3.   History of Releases and Modifications

Note on version conventions: Major releases are denoted with whole number incrementation (eg, v1.0, v2.0, v3.0). Minor releases are denoted with decimal incrementation (eg, v1.1, v1.2) and will be used for bug fixes and minor adjustments.

Reference Table: History of Releases

Version	Date of Release	Description of Release
v1.0	2014-05-30	The DSSNI Task Force thanks the many individuals who provided thoughtful feedback, comments, and suggestions for this first release of the PCORnet CDM. A special thanks to members of the task force who volunteered to serve on the CDM working group.
v2.0	2015-02-27	The v2.0 release includes: • Four new tables (DISPENSING, CONDITION, PRO_CM, LAB_RESULT_CM) • Four new fields in existing tables (VITAL.TOBACCO, VITAL.TOBACCO_TYPE, PROCEDURE.PX_TYPE, PROCEDURE.PX_SOURCE) • Additional guidance and descriptions Please note: New and modified fields have been indicated in green to assist with visually scanning the document (in addition to the descriptive comments).

2.4. Overview Diagram

DEMOGRAPHIC
- PATID
- BIRTH_DATE
- BIRTH_TIME
- SEX
- HISPANIC
- RACE
- BIOBANK_FLAG

Fundamental basis

ENROLLMENT
- PATID
- ENR_START_DATE
- ENR_END_DATE
- CHART
- ENR_BASIS

DISPENSING
- PATID
- DISPENSE_DATE
- NDC
- DISPENSE_SUP
- DISPENSE_AMT

Data captured from processes associated with healthcare delivery

VITAL
- PATID
- ENCOUNTERID (optional)
- MEASURE_DATE
- MEASURE_TIME
- VITAL_SOURCE
- HT
- WT
- DIASTOLIC
- SYSTOLIC
- ORIGINAL_BMI
- BP_POSITION
- TOBACCO
- TOBACCO_TYPE

CONDITION
- PATID
- ENCOUNTERID (optional)
- REPORT_DATE
- RESOLVE_DATE
- CONDITION_STATUS
- CONDITION
- CONDITION_TYPE
- CONDITION_SOURCE

PRO_CM
- PATID
- ENCOUNTERID (optional)
- PRO_ITEM
- PRO_LOINC
- PRO_DATE
- PRO_TIME
- PRO_RESPONSE
- PRO_METHOD
- PRO_MODE
- PRO_CAT

Data captured within multiple contexts: healthcare delivery, registry activity, or directly from patients

ENCOUNTER
- PATID
- ENCOUNTERID
- ADMIT_DATE
- ADMIT_TIME
- DISCHARGE_DATE
- DISCHARGE_TIME
- PROVIDERID
- FACILITY_LOCATION
- ENC_TYPE
- FACILITYID
- DISCHARGE_DISPOSITION
- DISCHARGE_STATUS
- DRG
- DRG_TYPE
- ADMITTING_SOURCE

DIAGNOSIS
- PATID
- ENCOUNTERID
- *ENC_TYPE (replicated)*
- *ADMIT_DATE (replicated)*
- *PROVIDERID (replicated)*
- DX
- DX_TYPE
- DX_SOURCE
- PDX

LAB_CM_RESULT
- PATID
- ENCOUNTERID (optional)
- LAB_NAME
- SPECIMEN_SOURCE
- LAB_LOINC
- PRIORITY
- RESULT_LOC
- LAB_PX
- LAB_PX_TYPE
- LAB_ORDER_DATE
- SPECIMEN_DATE
- SPECIMEN_TIME
- RESULT_DATE
- RESULT_TIME
- RESULT_QUAL
- RESULT_NUM
- RESULT_MODIFIER
- RESULT_UNIT
- NORM_RANGE_LOW
- MODIFIER_LOW
- NORM_RANGE_HIGH
- MODIFIER_HIGH
- ABN_IND

PROCEDURE
- PATID
- ENCOUNTERID
- *ENC_TYPE (replicated)*
- *ADMIT_DATE (replicated)*
- *PROVIDERID (replicated)*
- PX_DATE
- PX
- PX_TYPE
- PX_SOURCE

Data captured from healthcare delivery, direct encounter basis

Denotes new to v2.0

3. Design of the CDM

3.1.   Special Topics for CDM Modeling

Prioritization of Analytic Functionality

> PCORnet CDM Guiding Principle #5 states,
>
> > "Documentation will be clear and transparent so that its contents are understandable to all contributors. The CDM will be intuitive and easy for analysts and investigators to use. **Investigators and analysts with prior experience using research data will not need additional skills or knowledge to use the CDM."** [emphasis added]

This guiding principle is expressed in the CDM design through prioritization of **analytic** functionality, and a parsimonious approach based upon analytic utility. At times, this results in decisions that are not based in relational database modeling principles such as normalization. The model is designed to facilitate routine and rapid execution of distributed complex analytics. To meet this design requirement, some fields are duplicated across multiple tables to support faster analytic operations for distributed querying. The PCORnet CDM is based on the FDA Mini-Sentinel CDM. This allows PCORnet to more easily leverage the large array of analytic tools and expertise developed for the MSCDM, including data characterization approaches and the various tools for complex distributed analytics.

Primary/Foreign Keys
Database programmers will notice that fields used as primary/foreign keys, especially PATID and ENCOUNTERID, are specified as TEXT instead of NUMBER. This approach, informed by prior experience in developing large-scale multi-site distributed networks, makes it easier to implement than requiring new key generation that could impact database management within source systems. Each organization is encouraged to use a consistent format for primary keys and foreign keys based upon their existing source data. Not all tables in the PCORnet CDM have a primary key specified (such as the DIAGNOSIS and PROCEDURE tables), but data partners are permitted to include their own primary or surrogate keys in implementation of the CDM. For example, this might include the INSTANCE_NUM in the i2b2 Data Repository Cell.

Date Formatting
Because the PCORnet CDM is intended to support multiple Relational Database Management Systems (RDBMS), date format consistency is an issue, given that most RDBMS's have platform-specific native date representation. To address this issue, the PCORnet CDM will adopt the ISO 8601 standard of date and time representation, which is platform-agnostic. The CDM will always separate date fields and time fields for consistency, and employ a naming convention of suffix "_DATE" or "_TIME".

All times should be recorded within the local time zone. A uniform time stamp or GMT offset is not expected. (Guidance added to v2.0)

Missing or Unknown Data Values

The PCORnet CDM will have use the HL7 conventions of "Null Flavors" (http://hl7.org/implement/standards/fhir/v3/NullFlavor/) as a basis for representing missing or unknown values. Specifically, we will populate null values as follows:

1. **A data field is not present** in the source system. (populate with null)
2. A data field is present in the source system, **but the source value is null or blank**. (populate with NI=No Information)
3. A data field is present in the source system, but the source value **explicitly denotes an unknown value**. (populate with UN=Unknown)
4. A data field is present in the source system, but the source value **cannot be mapped to the CDM**. (populate with OT=Other)

Source Data Consistency

The CDM does not include data consistency rules or edits, such as upper and lower limits of numeric values. The value recorded in the originating source system should be the value populated in the CDM, even if the value is outside a normally acceptable limit. Inclusion of all originating data, without modification, supports data characterization and better data provenance.

Decisions about inclusion (or censoring) of outlier values will be made as part of each <u>analysis or query</u>, allowing for these decisions to be driven by appropriateness for each individual analysis.

> PCORnet CDM Guiding Principle #7 states,
> "**The CDM will reflect variables and values found in the local data**. If some data are coded in a way that is unique to a site, mapping the data to a standardized format will be necessary. **Values in the source data before mapping will also be included in the CDM**. Derived variables should be avoided." [emphasis added]

"Raw" Fields

The data model uses a convention for "raw data fields." These are optional fields for storing the originating source value of a field, prior to mapping into PCORnet CDM value set. It may also be used for source-specific ontologies.

The "RAW" fields are intended to support data provenance and facilitate quality control checking by local implementation, if desired. These fields will have a naming convention of prefix "RAW_". We will not include these fields in the Entity-Relationship (ER) diagram.

Case Sensitivity

The PCORnet CDM recognizes that some relational database management systems (RDBMS) do not have case sensitive object naming. However, if the CDM is implemented in a platform that is case sensitive, please always name objects in UPPERCASE (for example TABLE_NAME and FIELD_NAME). Distributed programs will assume that all table names and field names are in UPPERCASE. Categorized value sets will also use UPPERCASE.

Avoidance of Padding

Numbers should not be "padded" with extra zeroes. Text fields should not be "padded" with spaces before or after the actual textual values. (Guidance added to v2.0.)

Additional Fields
PCORnet sites are welcome to include additional fields in their local CDM implementation that will assist with transformation or clarity.

> As stated in PCORnet CDM Guiding Principle #8,
> > "CDRNs and PPRNs may include additional domains and data elements in localized versions of the PCORnet CDM."

Incomplete Date Guidance (new to v2.0)
For situations where the source system does not include full date precision, the CDM will permit incomplete dates to be populated in a manner compatible with the ISO 8601 date format. If the year and month is known, but day is not, the value would be entered as YYYY-MM (eg, "2014-10"). If only the year is known, the value would be entered as YYYY (eg, "2014"). No padding or placeholders should be used. The only exception to this guidance is in the ENROLLMENT table, as specified in the field definitions.

This approach results in the following considerations, as discussed by the CDM Working Group:
- This approach results in better data provenance practices because of the clarity within the CDM where exact date precision is not known
  - This clarity is not present where defaults are chosen for the entire data model (for example, if day is unknown, default to the first day of the month)
- Individual analyses choose how to handle date defaults, allowing analyses requiring temporal precision to exclude incomplete dates if appropriate, or to determine appropriate default approaches that will not bias the results
  - However, this does result in the need for analytic programs to incorporate additional logic to handle these situations

3.2. Development Notes

> PCORnet CDM Guiding Principle #2 states,
> > "**It is expected that <u>not all</u> CDRNs and PPRNs will have data needed to populate all parts of the PCORnet CDM.** It is the responsibility of the CDRNs and PPRNs to communicate availability of each data domain and element." [emphasis added]

The PCORnet CDM will be implemented in phases. This will allow incorporation of new data domains and fields throughout the life of the project, building based on PCORnet needs, lessons learned from use, and data availability. The assessment of considerations and tradeoffs is an integral part of decision-making based on pragmatism and analytic value.
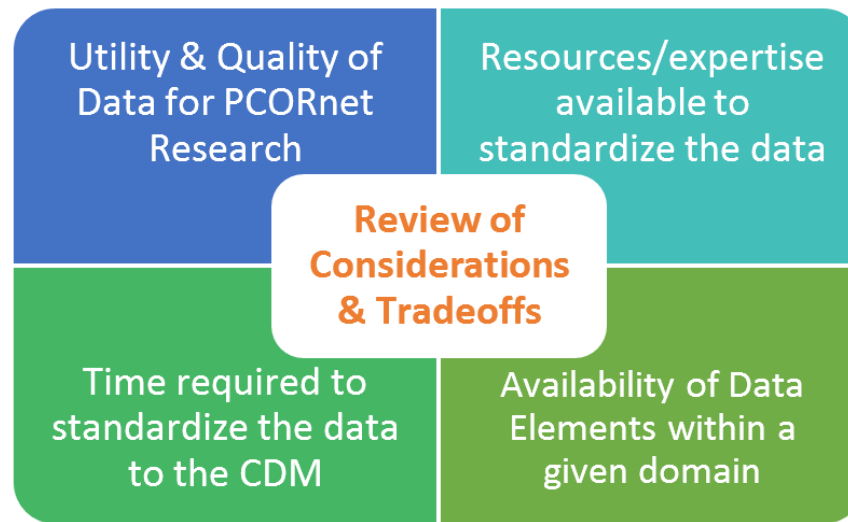
Because the PCORnet DRN has independent objectives and priorities, the PCORnet CDM will not reuse an existing data model, but will develop a stand-alone PCORnet CDM based on existing data models, as appropriate.

> PCORnet CDM Guiding Principle #6 states,
> "Other common data elements and common data model initiatives exist. PCORnet will draw from the experience of others within and outside of PCORI, leveraging existing successful approached and data model definitions wherever possible."

The model was initially informed by results from the PCORnet DSSNI Preliminary Partner Survey (also known as the "Tech Survey") completed in December 2013 and January 2014. Recommendations from the PCORnet CDM Working Group have been a basis for strategy and decisions. The PCORnet CDM priority data domains and implementation approach are based on PCORI needs, planned future capabilities, and the data sources and expertise of the PCORnet partners.

> As stated in PCORnet CDM Guiding Principle #4,
> "The PCORnet CDM will be developed in a **modular, incremental, and extensible fashion.** New types of data will be needed, or newly available, during the life of PCORnet. Data domains and data elements will be added, revised, and deprecated throughout an iterative CDM lifecycle. Personnel from the CDRNs and PPRNs will work with the DSSNI Task Force (and other Task Forces as appropriate) to assist in these efforts." [emphasis added]

The implementation process for each PCORnet data mart will be documented for review by the DSSNI Task Force in the form of the ETL Annotated Data Dictionary (ETL ADD). The DSSNI Task Force has provided a template for this documentation, and also provides support and consultation as implementation questions arise.

3.3. Comments on Protected Health Information (PHI)

The CDM will contain some of the 18 elements that define PHI under HIPAA, including encounter dates and date of birth. However, these dates will remain under the control of the institutions that already maintain PHI. To maximize analytic flexibility and allow for all types of analyses, complete and exact dates should be included in the CDM. Distributed analytic programs will use the date fields for analysis, but will generate results that contain the minimum necessary information to address the question. The results returned to the requester will typically be aggregated and not include any PHI. Queries that generate results sets with PHI (eg, a person-level analysis under an IRB, with all necessary data agreements in place) will be clearly flagged as such and will only be distributed with the appropriate approvals clearly documented. As with all distributed queries, sites should review all results before release.

> PCORnet Distributed Research Network Guiding Principle #2 states,
> "**CDRNs and PPRNs will control how their data are used as allowed by internal governance policies**. Data resources developed for PCORnet will stay within the CDRNs and PPRNs and under their control." [emphasis added]

The necessary "cross-walks" between the arbitrary identifiers included in the CDM and their originating data are not specified in the scope of the CDM, but are expected to be maintained by each data partner.

- PATID is a pseudoidentifier with a consistent crosswalk to the true identifier retained by the source site. For analytical data sets requiring patient-level data, only the pseudoidentifier is used to link across all information belonging to a patient.
- The PATID pseudoidentifier should not be a true identifier. It is not appropriate to use Medical Record Identifiers (MRNs) for this purpose because MRN is a direct patient identifier.
- Locally maintained "mapping tables" are tables necessary to implement so that each data partner has the ability to map arbitrary identifiers back to the originating data and patient.
- These mapping tables are not part of the PCORnet DRN.

Mapping tables for implementation of the CDM should include (but are not limited to):

- PATID crosswalk
- PROVIDER crosswalk

4. Individual Table Specifications

4.1. Table: DEMOGRAPHIC

DEMOGRAPHIC Domain Description:
Demographics record the direct attributes of individual patients.

Additional Notes:
- The DEMOGRAPHIC table contains one record per patient.
- The most recently available information should be populated for BIRTH_DATE, SEX, and other characteristics. If these attributes have been updated in the patient record, please use the most recent value.

DEMOGRAPHIC Table Specification

Field Name	Data Type	Predefined Value Sets and Descriptive Text for Categorical Fields	Definition / Comments	Source
PATID	TEXT(x)	.	Arbitrary person-level identifier used to link across tables. PATID is a pseudoidentifier with a consistent crosswalk to the true identifier retained by the source data partner. For analytical data sets requiring patient-level data, only the pseudoidentifier is used to link across all information belonging to a patient. The PATID must be unique within each PCORnet data mart. Creating a unique identifier within a network would be beneficial and acceptable. The PATID is not the basis for linkages across data partners.	MSCDM
BIRTH_DATE	TEXT(10): Format as YYYY-MM-DD	.	Date of birth.	MSCDM with modified data type. Source of date format: ISO 8601

DEMOGRAPHIC Table Specification

Field Name	Data Type	Predefined Value Sets and Descriptive Text for Categorical Fields	Definition / Comments	Source
BIRTH_TIME	TEXT(5): Format as HH:MI using 24-hour clock and zero-padding for hour and minute	.	Time of birth.	PCORnet

Source of time format: ISO 8601 |
| SEX | TEXT(2) | A=Ambiguous
F=Female
M=Male
NI=No information
UN=Unknown
OT=Other | Administrative sex.

v2.0 guidance added: The "Ambiguous" category may be used for individuals who are physically undifferentiated from birth. The "Other" category may be used for individuals who are undergoing gender re-assignment. | MSCDM with modified field size and value set

Source: Administrative Sex (HL7)

http://phinvads.cdc.gov/vads/ViewValueSet.action?id=06D34BBC-617F-DD11-B38D-00188B398520 |
| HISPANIC | TEXT(2) | Y=Yes
N=No
R=Refuse to answer
NI=No information
UN=Unknown
OT=Other | A person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, regardless of race.

v2.0 amendment: The new categorical value of "Refuse to answer" has been added. | MSCDM with modified field size and value set

Compatible with "OMB Hispanic Ethnicity" (Hispanic or Latino, Not Hispanic or Latino) |

DEMOGRAPHIC Table Specification

Field Name	Data Type	Predefined Value Sets and Descriptive Text for Categorical Fields	Definition / Comments	Source
RACE	TEXT(2)	01=American Indian or Alaska Native 02=Asian 03=Black or African American 04=Native Hawaiian or Other Pacific Islander 05=White 06=Multiple race 07=Refuse to answer NI=No information UN=Unknown OT=Other	Please use only one race value per patient. **Details of categorical definitions:** American Indian or Alaska Native: A person having origins in any of the original peoples of North and South America (including Central America), and who maintains tribal affiliation or community attachment. Asian: A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam. Black or African American: A person having origins in any of the black racial groups of Africa. Native Hawaiian or Other Pacific Islander: A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands. White: A person having origins in any of the original peoples of Europe, the Middle East, or North Africa.	MSCDM with modified field size and value set Original value set is based upon U.S. Office of Management and Budget (OMB) standard, and is compatible with the 2010 U.S. Census
BIOBANK_FLAG	TEXT(1)	Y=Yes N=No	Flag to indicate that one or more biobanked specimens are stored and available for research use. Examples of biospecimens could include blood, urine, or tissue (eg, skin cells, organ tissues). If biospecimens are available, locally maintained "mapping tables" would be necessary to map between the DEMOGRAPHIC record and the originating biobanking system(s). If no known biobanked specimens are available, this field should be marked "No".	PCORnet
RAW_SEX	TEXT(x)	.	Optional field for originating value of field, prior to mapping into the PCORnet CDM value set.	PCORnet
RAW_ HISPANIC	TEXT(x)	.	Optional field for originating value of field, prior to mapping into the PCORnet CDM value set.	PCORnet
RAW_RACE	TEXT(x)	.	Optional field for originating value of field, prior to mapping into the PCORnet CDM value set.	PCORnet

ENROLLMENT Domain Description:
Enrollment is a concept that defines a period of time during which all medically-attended events are expected to be observed. This concept is often insurance-based, but other methods of defining enrollment are possible.

Relational Framework: DEMOGRAPHIC

Additional Notes:
- The ENROLLMENT table contains one record per unique combination of PATID, ENR_START_DATE, and BASIS.
- The ENROLLMENT table has a start/stop structure that contains records for continuous enrollment periods.
- For partners that do not have insurance-based enrollment information for some of their patients, other approaches for identifying periods during which complete medical capture is expected can be used.
- This table is designed to identify periods during which a person is expected to have complete data capture.
- Members with medical coverage, drug coverage, or both should be included.
- A break in enrollment (of at least one day) or a change in the chart abstraction flag should generate a new record.
- The ENROLLMENT table provides an important analytic basis for identifying periods during which medical care should be observed, for calculating person-time, and for inferring the meaning of unobserved care (ie, if care is not observed, it likely did not happen).

ENROLLMENT Table Specification

Field Name	Data Type	Predefined Value Sets and Descriptive Text for Categorical Fields	Definition / Comments	Source
PATID	TEXT(x)	.	Arbitrary person-level identifier used to link across tables.	MSCDM
ENR_START_DATE	TEXT(10): Format as YYYY-MM-DD	.	Date of the beginning of the enrollment period. If the exact date is unknown, use the first day of the month. For implementation of the CDM, a long span of longitudinal data is desirable; however, especially for historical data more than a decade old, the appropriate beginning date should be determined by the data partner's knowledge of the validity and usability of the data. More specific guidance can be provided through implementation discussions.	MSCDM with modified field name and data type Source of date format: ISO 8601

ENROLLMENT Table Specification

Field Name	Data Type	Predefined Value Sets and Descriptive Text for Categorical Fields	Definition / Comments	Source
ENR_END_DATE	TEXT(10): Format as YYYY-MM-DD	.	Date of the end of the enrollment period. If the exact date is unknown, use the last day of the month.	MSCDM with modified field name and data type Source of date format: ISO 8601
CHART	TEXT(1)	Y=Yes N=No	Chart abstraction flag is intended to answer the question, "Are you able to request (or review) charts for this person?" This flag does not address chart availability. Mark as "Yes" if there are no contractual or other restrictions between you and the individual (or sponsor) that would prohibit you from requesting any chart for this patient. Note: This field is most relevant for health insurers that can request charts from affiliated providers. This field allows exclusion of patients from studies that require chart review to validate exposures and/or outcomes. It identifies patients for whom charts are **never** available and for whom the chart can never be requested.	MSCDM
ENR_BASIS	TEXT(1)	I=Insurance G=Geography A=Algorithmic E=Encounter-based	When insurance information is not available but complete capture can be asserted some other way, please identify the basis on which complete capture is defined. Additional information on the approach identified will be required from each data partner. ENR_BASIS is a property of the time period defined. A patient can have multiple entries in the table. **Details of categorical definitions:** Insurance: The start and stop dates are based upon the concept of enrollment with health plan insurance Geography: An assertion of complete data capture between the start and end dates based upon geographic characteristics, such as regional isolation Algorithmic: An assertion of complete data capture between the start and end dates, based on a locally developed or applied algorithm, often using multiple criteria Encounter-based: The start and stop dates are populated from the earliest-observed encounter and latest-observed encounter.	PCORnet Based upon the HMORN VDW

4.3. Table: ENCOUNTER

ENCOUNTER Domain Description:
Encounters are interactions between patients and providers within the context of healthcare delivery.

Relational Framework: DEMOGRAPHIC

Additional Notes:
- The ENCOUNTER table contains one record per PATID and ENCOUNTERID (which generally reflects a unique combination of PATID, ADMIT_DATE, PROVIDERID and ENC_TYPE).
- Each diagnosis and procedure recorded during the encounter should have a separate record in the Diagnosis or Procedure Tables.
- Multiple visits to the **same** provider on the same day may be considered one encounter (especially if defined by a reimbursement basis); if so, the ENCOUNTER record should be associated with all diagnoses and procedures that were recorded during those visits.
- Visits to **different** providers on the same day, such as a physician appointment that leads to a hospitalization, would generally be considered multiple encounters in the source system.
- Rollback or voided transactions and other adjustments should be processed before populating this table.
- Note: Although "Expired" is represented in both DISCHARGE_DISPOSITION and DISCHARGE_STATUS, this overlap represents the reality that both fields are captured in hospital data systems but there is variation in which field is best populated.

Guidance on the Encounter Type Classification (v2.0 guidance added):
- For the situation where an Emergency Department (ED) encounter leads to a hospital admission
  - The optimal, preferred state is to have one record for the ED (ENC_TYPE=ED), and a separate record for the hospital admission (ENC_TYPE=IP)
  - However, this separation does not always exist in source data records. If the source system combines the ED and IP basis into one concept, a permissible substitution is to use ENC_TYPE=EI
  - Never merge separate ED and IP records together.
- Generally, a reimbursement basis will determine the source system classification, instead of physical location. For example, a patient may occupy a hospital bed during an observation that is not classified as an inpatient hospital stay.
- Please note that stand-alone urgent care facilities are usually not established as Emergency Departments.

ENCOUNTER Table Specification

Field Name	Data Type	Predefined Value Sets and Descriptive Text for Categorical Fields	Definition / Comments	Source
PATID	TEXT(x)	.	Arbitrary person-level identifier used to link across tables.	MSCDM
ENCOUNTERID	TEXT(x)	.	Arbitrary encounter-level identifier. Used to link across tables, including the ENCOUNTER, DIAGNOSIS, and PROCEDURE tables.	MSCDM
ADMIT_DATE	TEXT(10): Format as YYYY-MM-DD	.	Encounter or admission date.	MSCDM with modified field name and data type Source of date format: ISO 8601
ADMIT_TIME	TEXT(5): Format as HH:MI using 24-hour clock and zero-padding for hour and minute	.	Encounter or admission time.	PCORnet Source of time format: ISO 8601
DISCHARGE_DATE	TEXT(10): Format as YYYY-MM-DD	.	Discharge date. Should be populated for all Inpatient Hospital Stay (IP) and Non-Acute Institutional Stay (IS) encounter types. May be populated for Emergency Department (ED) encounter types. Should be missing for ambulatory visit (AV or OA) encounter types.	MSCDM with modified field name and data type Source of date format: ISO 8601
DISCHARGE_TIME	TEXT(5): Format as HH:MI using 24-hour clock and zero-padding for hour and minute	.	Discharge time.	PCORnet Source of time format: ISO 8601

ENCOUNTER Table Specification

Field Name	Data Type	Predefined Value Sets and Descriptive Text for Categorical Fields	Definition / Comments	Source
PROVIDERID	TEXT(x)	.	Provider code for the provider who is most responsible for this encounter. For encounters with multiple providers choose one so the encounter can be linked to the diagnosis and procedure tables. As with the PATID, the provider code is a pseudoidentifier with a consistent crosswalk to the real identifier.	MSCDM
FACILITY_LOCATION	TEXT(3)	.	Geographic location (3 digit zip code). Should be left blank if not recorded in source system.	MSCDM

ENCOUNTER Table Specification

Field Name	Data Type	Predefined Value Sets and Descriptive Text for Categorical Fields	Definition / Comments	Source
ENC_TYPE	TEXT(2)	AV=Ambulatory Visit ED=Emergency Department EI=Emergency Department Admit to Inpatient Hospital Stay (permissible substitution) IP=Inpatient Hospital Stay IS=Non-Acute Institutional Stay OA=Other Ambulatory Visit NI=No information UN=Unknown OT=Other	Encounter type. v2.0 amendment: The new categorical value of EI has been added. **Details of categorical definitions:** Ambulatory Visit: Includes visits at outpatient clinics, physician offices, same day/ambulatory surgery centers, urgent care facilities, and other same-day ambulatory hospital encounters, but excludes emergency department encounters. Emergency Department (ED): Includes ED encounters that become inpatient stays (in which case inpatient stays would be a separate encounter). Excludes urgent care facility visits. ED claims should be pulled before hospitalization claims to ensure that ED with subsequent admission won't be rolled up in the hospital event. Emergency Department Admit to Inpatient Hospital Stay: Permissible substitution for preferred state of separate ED and IP records. Only for use with data sources where the individual records for ED and IP cannot be distinguished (new to v2.0). Inpatient Hospital Stay: Includes all inpatient stays, including: same-day hospital discharges, hospital transfers, and acute hospital care where the discharge is after the admission date. Non-Acute Institutional Stay: Includes hospice, skilled nursing facility (SNF), rehab center, nursing home, residential, overnight non-hospital dialysis, and other non-hospital stays. Other Ambulatory Visit: Includes other non-overnight AV encounters such as hospice visits, home health visits, skilled nursing visits, other non-hospital visits, as well as telemedicine, telephone and email consultations. May also include "lab only" visits (when a lab is ordered outside of a patient visit), "pharmacy only" (e.g., when a patient has a refill ordered without a face-to-face visit), "imaging only", etc.	MSCDM with modified value set

ENCOUNTER Table Specification

Field Name	Data Type	Predefined Value Sets and Descriptive Text for Categorical Fields	Definition / Comments	Source
FACILITYID	TEXT(x)	.	Arbitrary local facility code that identifies the hospital or clinic. Used for chart abstraction and validation. FACILITYID can be a true identifier, or a pseudoidentifier with a consistent crosswalk to the true identifier retained by the source data partner.	MSCDM with modified field name
DISCHARGE_DISPOSITION	TEXT(2)	A=Discharged alive E=Expired NI=No information UN=Unknown OT=Other	Vital status at discharge. Should be populated for Inpatient Hospital Stay (IP) and Non-Acute Institutional Stay (IS) encounter types. May be populated for Emergency Department (ED) encounter types. Should be missing for ambulatory visit (AV or OA) encounter types.	MSCDM with modified field size and value set
DISCHARGE_STATUS	TEXT(2)	AF=Adult Foster Home AL=Assisted Living Facility AM=Against Medical Advice AW=Absent without leave EX=Expired HH=Home Health HO=Home / Self Care HS=Hospice IP=Other Acute Inpatient Hospital NH=Nursing Home (Includes ICF) RH=Rehabilitation Facility RS=Residential Facility SH=Still In Hospital SN=Skilled Nursing Facility NI=No information UN=Unknown OT=Other	Discharge status. Should be populated for Inpatient Hospital Stay (IP) and Non-Acute Institutional Stay (IS) encounter types. May be populated for Emergency Department (ED) encounter types. Should be missing for ambulatory visit (AV or OA) encounter types.	MSCDM with modified value set

ENCOUNTER Table Specification

Field Name	Data Type	Predefined Value Sets and Descriptive Text for Categorical Fields	Definition / Comments	Source
DRG	TEXT(3)	.	3-digit Diagnosis Related Group (DRG). Should be populated for IP and IS encounter types. May be populated for ED encounter types. Should be missing for AV or OA encounters. Use leading zeroes for codes less than 100. The DRG is used for reimbursement for inpatient encounters. It is a Medicare requirement that combines diagnoses into clinical concepts for billing. Frequently used in observational data analyses.	MSCDM
DRG_TYPE	TEXT(2)	01=CMS-DRG (old system) 02=MS-DRG (current system) NI=No information UN=Unknown OT=Other	DRG code version. MS-DRG (current system) began on 10/1/2007. Should be populated for IP and IS encounter types. May be populated for ED encounter types. Should be missing for AV or OA encounters.	MSCDM with modified field size and value set
ADMITTING_SOURCE	TEXT(2)	AF=Adult Foster Home AL=Assisted Living Facility AV=Ambulatory Visit ED=Emergency Department HH=Home Health HO=Home / Self Care HS=Hospice IP=Other Acute Inpatient Hospital NH=Nursing Home (Includes ICF) RH=Rehabilitation Facility RS=Residential Facility SN=Skilled Nursing Facility NI=No information UN=Unknown OT=Other	Admitting source. Should be populated for Inpatient Hospital Stay (IP) and Non-Acute Institutional Stay (IS) encounter types. May be populated for Emergency Department (ED) encounter types. Should be missing for ambulatory visit (AV or OA) encounter types.	MSCDM with modified value set

ENCOUNTER Table Specification

Field Name	Data Type	Predefined Value Sets and Descriptive Text for Categorical Fields	Definition / Comments	Source
RAW_SITEID	TEXT(x)	.	This field is new to v2.0. Optional field for locally-defined identifier intended for local use; for example, where a network may have multiple sites contributing to a central data repository. This attribute may be sensitive in certain contexts; the intent is for internal network use only, and not to enable site quality comparisons.	PCORnet
RAW_ ENC_TYPE	TEXT(x)	.	Optional field for originating value of field, prior to mapping into the PCORnet CDM value set.	PCORnet
RAW_ DISCHARGE_DISPOSITION	TEXT(x)	.	Optional field for originating value of field, prior to mapping into the PCORnet CDM value set.	PCORnet
RAW_ DISCHARGE_STATUS	TEXT(x)	.	Optional field for originating value of field, prior to mapping into the PCORnet CDM value set.	PCORnet
RAW_ DRG_TYPE	TEXT(x)	.	Optional field for originating value of field, prior to mapping into the PCORnet CDM value set.	PCORnet
RAW_ ADMITTING_SOURCE	TEXT(x)	.	Optional field for originating value of field, prior to mapping into the PCORnet CDM value set.	PCORnet

4.4.   Table: DIAGNOSIS

DIAGNOSIS Domain Description:
Diagnosis codes indicate the results of diagnostic processes and medical coding within healthcare delivery.

Relational Framework: ENCOUNTER

Additional Notes:
- The DIAGNOSIS table contains one record per unique combination of PATID, ENCOUNTERID, DX, DX_SOURCE, and DX_TYPE. This table should capture all uniquely recorded diagnoses for all encounters.
- Diagnoses from problem lists will be captured in the separate CONDITION table.
- If a patient has multiple diagnoses associated with one encounter, then there would be one record in this table for each diagnosis.
- ENCOUNTERID is not optional for DIAGNOSIS and PROCEDURE. The definitions of the DIAGNOSIS and PROCEDURE tables are dependent upon a healthcare context; therefore, the ENCOUNTER basis is necessary.
- Data in this table are expected to be from healthcare-mediated processes and reimbursement drivers. This can include both technical/facility billing and professional billing.
- We recognize that, in many cases, these diagnoses may only be related to the **treatment** of the patient during the specific encounter. For example, chronic conditions may not be pertinent to the treatment of a specific encounter, and would not be expected to be present.
- If a local ontology is used, but cannot be mapped to a standard ontology such as ICD-9-CM, DX_TYPE should be populated as "Other".

DIAGNOSIS Table Specification

Field Name	Data Type	Predefined Value Sets and Descriptive Text for Categorical Fields	Definition / Comments	Source
PATID	TEXT(x)	.	Arbitrary person-level identifier. Used to link across tables.	MSCDM
ENCOUNTERID	TEXT(x)	.	Arbitrary encounter-level identifier. Used to link across tables.	MSCDM

DIAGNOSIS Table Specification

Field Name	Data Type	Predefined Value Sets and Descriptive Text for Categorical Fields	Definition / Comments	Source
ENC_TYPE	TEXT(2)	AV=Ambulatory Visit ED=Emergency Department EI=Emergency Department Admit to Inpatient Hospital Stay (permissible substitution) IP=Inpatient Hospital Stay IS=Non-Acute Institutional Stay OA=Other Ambulatory Visit NI=No information UN=Unknown OT=Other	Please note: This is a field replicated from the ENCOUNTER table. See the ENCOUNTER table for definitions.	MSCDM with modified value set
ADMIT_DATE	TEXT(10): Format as YYYY-MM-DD	.	Please note: This is a field replicated from the ENCOUNTER table. See the ENCOUNTER table for definitions.	MSCDM with modified field name and data type Source of date format: ISO 8601
PROVIDERID	TEXT(x)	.	Please note: This is a field replicated from the ENCOUNTER table. See the ENCOUNTER table for definitions.	MSCDM
DX	TEXT(18)	.	Diagnosis code. Leading zeroes and different levels of decimal precision are permissible in this field. Please populate the exact textual value of this diagnosis code, but remove source-specific suffixes and prefixes. Other codes should be listed as recorded in the source data.	MSCDM
DX_TYPE	TEXT(2)	09=ICD-9-CM 10=ICD-10-CM 11=ICD-11-CM SM=SNOMED CT NI=No information UN=Unknown OT=Other	Diagnosis code type. We provide values for ICD and SNOMED code types. Other code types will be added as new terminologies are more widely used. Please note: The "Other" category is meant to identify internal use ontologies and codes.	MSCDM with modified field name

DIAGNOSIS Table Specification

Field Name	Data Type	Predefined Value Sets and Descriptive Text for Categorical Fields	Definition / Comments	Source
DX_SOURCE	TEXT(2)	AD=Admitting DI=Discharge FI=Final IN=Interim NI=No information UN=Unknown OT=Other	Classification of diagnosis source. We include these categories to allow some flexibility in implementation. The context is to capture available diagnoses recorded during a specific encounter. It is not necessary to populate interim diagnoses unless readily available. Ambulatory encounters would generally be expected to have a source of "Final."	PCORnet
PDX	TEXT(2)	P=Principal S=Secondary X=Unable to Classify NI=No information UN=Unknown OT=Other	Principal discharge diagnosis flag. Relevant only on IP and IS encounters. For ED, AV, and OA encounter types, mark as X=Unable to Classify. (Billing systems do not require a primary diagnosis for ambulatory visits (eg, professional services)) One principal diagnosis is expected, although in some instances more than one diagnosis may be flagged as principal.	MSCDM with modified field size and value set
RAW_DX	TEXT(x)	.	Optional field for originating value of field, prior to mapping into the PCORnet CDM value set.	PCORnet
RAW_ DX_TYPE	TEXT(x)	.	Optional field for originating value of field, prior to mapping into the PCORnet CDM value set.	PCORnet
RAW_ DX_SOURCE	TEXT(x)	.	Optional field for originating value of field, prior to mapping into the PCORnet CDM value set.	PCORnet
RAW_ PDX	TEXT(x)	.	Optional field for originating value of field, prior to mapping into the PCORnet CDM value set.	PCORnet

4.5. Table: PROCEDURE

PROCEDURE Domain Description:
Procedure codes indicate the discreet medical interventions and diagnostic testing, such as surgical procedures, administered within healthcare delivery.

Relational Framework: ENCOUNTER

Additional Notes:
- The PROCEDURE table contains one record per unique combination of PATID, ENCOUNTERID, PX_DATE, PX, and PX_TYPE. This table should capture all uniquely recorded procedures for all encounters.
- If a patient has multiple procedures ordered during one encounter, then there would be one record in this table for each procedure.
- ENCOUNTERID is not optional for DIAGNOSIS and PROCEDURE. The definitions of the DIAGNOSIS and PROCEDURE tables are dependent upon a healthcare context; therefore, the ENCOUNTER basis is necessary.
- Healthcare mediated process and reimbursement driver.
- Can include both technical/facility billing and professional billing.
- Only billed procedures should be included in the PROCEDURE table. The ORDER concept may be incorporated into future phases of the CDM.
- If a local ontology is used, but cannot be mapped to a standard ontology such as ICD-9-CM, PX_TYPE should be populated as "Other".

PROCEDURE Table Specification

Field Name	Data Type	Predefined Value Sets and Descriptive Text for Categorical Fields	Definition / Comments	Source
PATID	TEXT(x)	.	Arbitrary person-level identifier. Used to link across tables.	MSCDM
ENCOUNTERID	TEXT(x)	.	Arbitrary encounter-level identifier. Used to link across tables.	MSCDM

PROCEDURE Table Specification

Field Name	Data Type	Predefined Value Sets and Descriptive Text for Categorical Fields	Definition / Comments	Source
ENC_TYPE	TEXT(2)	AV=Ambulatory Visit ED=Emergency Department **EI=Emergency Department Admit to Inpatient Hospital Stay (permissible substitution)** IP=Inpatient Hospital Stay IS=Non-Acute Institutional Stay OA=Other Ambulatory Visit NI=No information UN=Unknown OT=Other	Please note: This is a field replicated from the ENCOUNTER table. See ENCOUNTER table for definitions.	MSCDM with modified field name and value set
ADMIT_DATE	TEXT(10): Format as YYYY-MM-DD	.	Please note: This is a field replicated from the ENCOUNTER table. See ENCOUNTER table for definitions.	MSCDM with modified field name and data type Source of date format: ISO 8601
PROVIDERID	TEXT(x)	.	Please note: This is a field replicated from the ENCOUNTER table. See ENCOUNTER table for definitions.	MSCDM
PX_DATE	TEXT(10): Format as YYYY-MM-DD	.	New to v2.0. Date the procedure was performed.	PCORnet
PX	TEXT(11)	.	Procedure code.	MSCDM

PROCEDURE Table Specification

Field Name	Data Type	Predefined Value Sets and Descriptive Text for Categorical Fields	Definition / Comments	Source
PX_TYPE	TEXT(2)	09=ICD-9-CM 10=ICD-10-PCS 11=ICD-11-PCS C2=CPT Category II C3=CPT Category III C4=CPT-4 (i.e., HCPCS Level I) H3=HCPCS Level III HC=HCPCS (i.e., HCPCS Level II) LC=LOINC ND=NDC RE=Revenue NI=No information UN=Unknown OT=Other	Procedure code type. We include a number of code types for flexibility, but the basic requirement that the code refer to a medical procedure remains. Revenue codes are a standard concept in Medicare billing and can be useful for defining care settings. If those codes are available they can be included. Medications administered by clinicians can be captured in billing data and Electronic Health Records (EHRs) as HCPCS procedure codes. Administration (infusion) of chemotherapy is an example. We are now seeing NDCs captured as part of procedures because payers are demanding it for payment authorization. Inclusion of this code type enables those data partners that capture the NDC along with the procedure to include the data. Please note: The "Other" category is meant to identify internal use ontologies and codes.	MSCDM with modified field name and value set
PX_SOURCE	TEXT(x)	OD=Order BI=Billing CL=Claim NI=No information UN=Unknown OT=Other	New to v2.0. Source of the procedure information. Order and billing pertain to internal healthcare processes and data sources. Claim pertains to data from the bill fulfillment, generally data sources held by insurers and other health plans.	PCORnet
RAW_PX	TEXT(x)	.	Optional field for originating value of field, prior to mapping into the PCORnet CDM value set.	PCORnet
RAW_PX_TYPE	TEXT(x)	.	Optional field for originating value of field, prior to mapping into the PCORnet CDM value set.	PCORnet

> **VITAL Domain Description:**
> Vital signs (such as height, weight, and blood pressure) directly measure an individual's current state of attributes.

Relational Framework: DEMOGRAPHIC, optional relationship to ENCOUNTER

Additional notes:

- The VITAL table contains one record per result/entry. Multiple measurements may exist in source data (for example, 3 blood pressure readings on the same day); each measurement would be a separate record. This table should be populated with all available measures.
- This table include both healthcare and non-healthcare settings.
- v2.0 amendment: direct feeds from devices are no longer excluded; please see guidance on VITAL_SOURCE field

Figure 1. Example of populated VITAL table (guidance added in v2.0).

PATID	ENCOUNTERID	MEASURE_DATE	MEASURE_TIME	VITAL_SOURCE	HT	WT	DIASTOLIC	SYSTOLIC	ORIGINAL_BMI	BP_POSITION	TOBACCO	TOBACCO_TYPE
123	98765	2014-01-05	13:51	HC	67							
123	98765	2014-01-05	13:52	HC		150						
123	98765	2014-01-05	13:55	HC			120	80		01		
123	98765	2014-01-05		HC							01	NI
123	98765	2014-01-05	14:02	HC			122	86		01		
123		2014-03-22		PR		145.6						
123	65432	2014-11-30		HC	67							
123	65432	2014-11-30		HC		149.3						

The encounter basis is optional.

Measurements on the same date are recorded in different records; however, it is permissible to consolidate into one record if none of the measures were repeated.

In this example, no time was recorded for several of the measures. Although preferable to capture time, we recognize that some source data may not include time precision.

More than one blood pressure reading was collected during this encounter on January 5.

Note: Completely fake data example created de novo, not from existing data.

VITAL Table Specification

Field Name	Data Type	Predefined Value Sets and Descriptive Text for Categorical Fields	Definition / Comments	Source
PATID	TEXT(x)	.	Arbitrary person-level identifier. Used to link across tables.	MSCDM
ENCOUNTERID	TEXT(x)	.	Arbitrary encounter-level identifier. This is an optional relationship; the ENCOUNTERID should be present if the vitals were measured as part of healthcare delivery.	PCORnet
MEASURE_DATE	TEXT(10): Format as YYYY-MM-DD	.	Date of vitals measure.	MSCDM with modified data type Source of date format: ISO 8601
MEASURE_TIME	TEXT(5): Format as HH:MI using 24-hour clock and zero-padding for hour and minute	.	Time of vitals measure.	MSCDM with modified data type Source of time format: ISO 8601
VITAL_SOURCE	TEXT(2)	PR=Patient-reported PD=Patient device direct feed HC=Healthcare delivery setting HD=Healthcare device direct feed NI=No information UN=Unknown OT=Other	Please note: The "Patient-reported" category can include reporting by patient's family or guardian. v2.0 amendment: The new categorical value of PD and HD have been added. v2.0 guidance added: If unknown whether data are received directly from a device feed, use the more general context (such as patient-reported, healthcare delivery setting, or registry).	PCORnet
HT	NUMBER(8)	.	Height (in inches) measured by standing. Only populated if measure was taken on this date. If missing, leave blank. Decimal precision is permissible.	MSCDM
WT	NUMBER(8)	.	Weight (in pounds). Only populated if measure was taken on this date. If missing, leave blank. Decimal precision is permissible.	MSCDM

VITAL Table Specification

Field Name	Data Type	Predefined Value Sets and Descriptive Text for Categorical Fields	Definition / Comments	Source
DIASTOLIC	NUMBER(4)	.	Diastolic blood pressure (in mmHg). Only populated if measure was taken on this date. If missing, leave blank.	MSCDM
SYSTOLIC	NUMBER(4)	.	Systolic blood pressure (in mmHg). Only populated if measure was taken on this date. If missing, leave blank.	MSCDM
ORIGINAL_BMI	NUMBER(8)	.	BMI if calculated in the source system. Important: **Please do not calculate BMI during CDM implementation**. This field should only reflect originating source system calculations, if height and weight are not stored in the source.	PCORnet
BP_POSITION	TEXT(2)	01=Sitting 02=Standing 03=Supine NI=No information UN=Unknown OT=Other	Position for orthostatic blood pressure. Leave blank if blood pressure was not measured.	MSCDM with modified field name, field size, and value set
TOBACCO	TEXT(2)	01=Current every day smoker 02=Current some day smoker 03=Former smoker 04=Never smoker 05=Smoker, current status unknown 06=Unknown if ever smoked 07=Heavy tobacco smoker 08=Light tobacco smoker NI=No information UN=Unknown OT=Other	This field is new to v2.0. Guidance: The values of "Heavy tobacco smoker" and "Light tobacco smoker" will be assumed to imply a smoking status of current.	PCORnet Meaningful Use Core Measures 9 of 13, Stage 1 (2014 definition) http://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/downloads/9_Record_Smoking_Status.pdf [retrieved January 11, 2015]

VITAL Table Specification

Field Name	Data Type	Predefined Value Sets and Descriptive Text for Categorical Fields	Definition / Comments	Source
TOBACCO_TYPE	TEXT(2)	01=Cigarettes only 02=Other tobacco only 03=Cigarettes and other tobacco 04=None NI=No information UN=Unknown OT=Other	This field is new to v2.0. Type(s) of tobacco used.	MSCDM with modified field size and value set
~~RAW_VITAL_SOURCE~~	~~TEXT(x)~~	~~.~~	~~Optional field for originating value of field, prior to mapping into the PCORnet CDM value set.~~ This field has been removed with v2.0.	~~PCORnet~~
RAW_ DIASTOLIC	TEXT(x)	.	Optional field for originating value of field, prior to formatting into the PCORnet CDM.	PCORnet
RAW_ SYSTOLIC	TEXT(x)	.	Optional field for originating value of field, prior to formatting into the PCORnet CDM.	PCORnet
RAW_ BP_POSITION	TEXT(x)	.	Optional field for originating value of field, prior to mapping into the PCORnet CDM value set.	PCORnet
RAW_TOBACCO	TEXT(x)	.	Optional field for originating value of field, prior to mapping into the PCORnet CDM value set. New to v2.0.	PCORnet
RAW_TOBACCO_TYPE	TEXT(x)	.	Optional field for originating value of field, prior to mapping into the PCORnet CDM value set. New to v2.0.	PCORnet

> **DISPENSING Domain Description:**
> Outpatient pharmacy dispensing, such as prescriptions filled through a neighborhood pharmacy with a claim paid by an insurer. Outpatient dispensing is not commonly captured within healthcare systems.

Relational Framework: DEMOGRAPHIC

Additional notes:
- The DISPENSING table contains one record per unique combination of PATID, NDC, and RX_DATE. Each record represents an outpatient pharmacy dispensing.
- This domain is commonly available in claims data, but may not be available in many EHR data sources.
- Medications administered in outpatient settings, such as infusions given in medical practices, would be expected to be present in through the PROCEDURE table. Medications administered in inpatient settings may be captured in the PROCEDURE table if that level of detail is available in the source data.
- Dispensing is different from medication orders, prescribing, administration, and medication reconciliation of the active medication list.
- Rollback transactions and other adjustments that are indicative of a dispensing being canceled or not picked up by the member should be processed before populating this table. This may be handled differently by Data Partners and may be affected by billing cycles.

DISPENSING Table Specification

Field Name	Data Type	Predefined Value Sets and Descriptive Text for Categorical Fields	Definition / Comments	Source
PATID	TEXT(x)	.	Arbitrary person-level identifier. Used to link across tables.	MSCDM
DISPENSE_DATE	TEXT(10): Format as YYYY-MM-DD	.	Dispensing date (as close as possible to date the person received the dispensing).	MSCDM with modified field name and data type Source of date format: ISO 8601

DISPENSING Table Specification

Field Name	Data Type	Predefined Value Sets and Descriptive Text for Categorical Fields	Definition / Comments	Source
NDC	TEXT(11)	.	National Drug Code in the 11-digit, no-dash, HIPAA format. Please expunge any place holders (such as dashes or extra digits). If needed, guidance on normalization for other forms of NDC can be found: http://www.nlm.nih.gov/research/umls/rxnorm/docs/2012/rxnorm_doco_full_2012-1.html (see section 6)	MSCDM with additional guidance
DISPENSE_SUP	NUMBER(4)	.	Days supply. Number of days that the medication supports based on the number of doses as reported by the pharmacist. This amount is typically found on the dispensing record. Integer values are expected. Important: Please do not calculate during CDM implementation. This field should only reflect originating source system calculations.	MSCDM with modified field name
DISPENSE_AMT	NUMBER(4)	.	Number of units (pills, tablets, vials) dispensed. Net amount per NDC per dispensing. This amount is typically found on the dispensing record. Positive values are expected. Important: Please do not calculate during CDM implementation. This field should only reflect originating source system calculations.	MSCDM with modified field name
RAW_NDC	TEXT(x)	.	Optional field for originating value of field, prior to mapping into the PCORnet CDM value set.	

4.8. Table: LAB_RESULT_CM (new to v2.0)

LAB_RESULT_CM Domain Description:
Laboratory result Common Measures (CM) use specific types of quantitative and qualitative measurements from blood and other body specimens. These standardized measures are defined in the same way across all PCORnet networks.

Relational Framework: DEMOGRAPHIC, optional relationship to ENCOUNTER

Additional Notes:
- The LAB_RESULT_CM table contains one record per result/entry.
- Only records with actual lab results should be included in this table. If the result suggests that the test was run (e.g., result is "borderline" or "inconclusive") include it. But if the test is not resulted for any reason (specimen not sufficient, patient did not show) then do not include it.
- The MSCDM concept of subcategory is not included in PCORnet v2.0 because of the subset of lab categories included
- Please note that each source system's laboratory coding terminology should be carefully assessed against the LAB_NAME common measures. The LOINC codes listed in the reference table are generally part of the top 2000+ lab test subset (for more information, please see http://loinc.org/usage/obs), and may not represent all codes used by the source system. The CPT code reference table also may not reflect local practices.

LAB_RESULT_CM Table Specification

Field Name	Data Type	Predefined Value Sets and Descriptive Text for Categorical Fields	Definition / Comments	Source
PATID	TEXT(x)	.	Arbitrary person-level identifier. Used to link across tables.	MSCDM
ENCOUNTERID	TEXT(x)	.	Arbitrary encounter-level identifier used to link across tables. This is an optional field, and should only be populated if the lab was collected as part of a healthcare encounter.	PCORnet (modeled upon VITAL table)

LAB_RESULT_CM Table Specification

Field Name	Data Type	Predefined Value Sets and Descriptive Text for Categorical Fields	Definition / Comments	Source
LAB_NAME	TEXT(10)	A1C=Hemoglobin A1c CK=Creatine kinase total CK_MB=Creatine kinase MB CK_MBI=Creatine kinase MB/creatine kinase total CREATININE=Creatinine HGB=Hemoglobin LDL=Low-density lipoprotein INR=International normalized ratio TROP_I=Troponin I cardiac TROP_T_QL=Troponin T cardiac (qualitative) TROP_T_QN=Troponin T cardiac (quantitative)	Laboratory result common measure, a categorical identification for the type of test, which is harmonized across all contributing data partners. Please note that it is possible for more than one LOINC code, CPT code, and/or local code to be associated with one LAB_NAME.	MSCDM with modified field name and subset of categorical values
SPECIMEN_SOURCE	TEXT(10)	BLOOD=blood CSF=cerebrospinal fluid PLASMA=plasma PPP=platelet poor plasma SERUM=serum SR_PLS=serum/plasma URINE=urine NI=No information UN=Unknown OT=Other	Specimen source. All records will have a specimen source; some tests have several possible values for SPECIMEN_SOURCE. Please see the reference tables for additional details.	MSCDM with subset of categorical values

LAB_RESULT_CM Table Specification

Field Name	Data Type	Predefined Value Sets and Descriptive Text for Categorical Fields	Definition / Comments	Source
LAB_LOINC	TEXT(10)	.	Logical Observation Identifiers, Names, and Codes (LOINC) from the Regenstrief Institute. Results with local versions of LOINC codes (e.g., LOINC candidate codes) should be included in the RAW_ table field, but the LOINC variable should be set to missing. Current LOINC codes are from 3-7 characters long but Regenstrief suggests a length of 10 for future growth. The last digit of the LOINC code is a check digit and is always preceded by a hyphen. All parts of the LOINC code, including the hyphen, must be included. Do not pad the LOINC code with leading zeros. Please see the LOINC reference table for known LOINC codes for each LAB_NAME.	MSCDM
PRIORITY	TEXT(2)	E=Expedite R=Routine S=Stat NI=No information UN=Unknown OT=Other	Immediacy of test. The intent of this variable is to determine whether the test was obtained as part of routine care or as an emergent/urgent diagnostic test (designated as Stat or Expedite).	MSCDM with modified value set and modified field name
RESULT_LOC	TEXT(2)	L=Lab P=Point of Care NI=No information UN=Unknown OT=Other	Location of the test result. Point of Care locations may include anticoagulation clinic, newborn nursery, finger stick in provider office, or home. The default value is 'L' unless the result is Point of Care. There should not be any missing values.	MSCDM with modified value set
LAB_PX	TEXT(11)	.	Optional variable for local and standard procedure codes, used to identify the originating order for the lab test.	MSCDM with modified field name

LAB_RESULT_CM Table Specification

Field Name	Data Type	Predefined Value Sets and Descriptive Text for Categorical Fields	Definition / Comments	Source
LAB_PX_TYPE	TEXT(2)	09=ICD-9-CM 10=ICD-10-PCS 11=ICD-11-PCS C2=CPT Category II C3=CPT Category III C4=CPT-4 (i.e., HCPCS Level I) H3=HCPCS Level III HC=HCPCS (i.e., HCPCS Level II) LC=LOINC ND=NDC RE=Revenue NI=No information UN=Unknown OT=Other	Procedure code type, if applicable.	MSCDM with modified field name and value set
LAB_ORDER_DATE	TEXT(10): Format as YYYY-MM-DD	.	Date test was ordered.	MSCDM with modified field name
SPECIMEN_DATE	TEXT(10): Format as YYYY-MM-DD	.	Date specimen was collected.	MSCDM with modified field name
SPECIMEN_TIME	TEXT(5): Format as HH:MI using 24-hour clock and zero-padding for hour and minute	.	Time specimen was collected.	MSCDM with modified field name
RESULT_DATE	TEXT(10): Format as YYYY-MM-DD		Result date.	MSCDM with modified field name
RESULT_TIME	TEXT(5): Format as HH:MI using 24-hour clock and zero-padding for hour and minute		Result time.	MSCDM with modified field name

LAB_RESULT_CM Table Specification

Field Name	Data Type	Predefined Value Sets and Descriptive Text for Categorical Fields	Definition / Comments	Source
RESULT_QUAL	TEXT(12)	BORDERLINE POSITIVE NEGATIVE UNDETERMINED NI=No information UN=Unknown OT=Other	Standardized result for qualitative results. This variable should be NI for quantitative results. Please see the reference tables for additional details and information on acceptable values for each qualitative LAB_NAME.	MSCDM with modified field name,value set, and field length
RESULT_NUM	NUMBER(8)	.	Standardized/converted result for quantitative results. This variable should be left blank for qualitative results. Please see the reference tables for additional details.	MSCDM with modified field name
RESULT_MODIFIER	TEXT(2)	EQ=Equal GE=Greater than or equal to GT=Greater than LE=Less than or equal to LT=Less than TX=Text NI=No information UN=Unknown OT=Other	Modifier for result values. Any symbols in the RAW_RESULT value should be reflected in the RESULT_MODIFIER variable. For example, if the original source data value is "<=200" then RAW_RESULT=200 and RESULT_MODIFIER=LE. If the original source data value is text then RESULT_MODIFIER=TX. If the original source data value is a numeric value then RESULT_MODIFIER=EQ.	MSCDM with modified field name and value set
RESULT_UNIT	TEXT(11)	.	Converted/standardized units for the result. Please see the standard abbreviations reference table for additional details.	MSCDM with modified field name
NORM_RANGE_LOW	TEXT(10)	.	Lower bound of the normal range assigned by the laboratory. Value should only contain the value of the lower bound. The symbols >, <, >=, <= should be removed. For example, if the normal range for a test is >100 and <300, then "100" should be entered.	MSCDM

LAB_RESULT_CM Table Specification

Field Name	Data Type	Predefined Value Sets and Descriptive Text for Categorical Fields	Definition / Comments	Source
MODIFIER_LOW	TEXT(2)	EQ=Equal GE=Greater than or equal to GT=Greater than NO=No lower limit NI=No information UN=Unknown OT=Other	Modifier for NORM_RANGE_LOW values. For numeric results one of the following needs to be true: 1) Both MODIFIER_LOW and MODIFIER_HIGH contain EQ (e.g. normal values fall in the range 3-10) 2) MODIFIER_LOW contains GT or GE and MODIFIER_HIGH contains NO (e.g. normal values are >3 with no upper boundary) 3) MODIFIER_HIGH contains LT or LE and MODIFIER_LOW contains NO (e.g. normal values are <=10 with no lower boundary)	MSCDM with modified value set
NORM_RANGE_HIGH	TEXT(10)	.	Upper bound of the normal range assigned by the laboratory. Value should only contain the value of the upper bound. The symbols >, <, >=, <= should be removed. For example, if the normal range for a test is >100 and <300, then "300" should be entered.	MSCDM with modified field length
MODIFIER_HIGH	TEXT(2)	EQ=Equal LE=Less than or equal to LT=Less than NO=No higher limit NI=No information UN=Unknown OT=Other	Modifier for NORM_RANGE_HIGH values. For numeric results one of the following needs to be true: 1) Both MODIFIER_LOW and MODIFIER_HIGH contain EQ (e.g. normal values fall in the range 3-10) 2) MODIFIER_LOW contains GT or GE and MODIFIER_HIGH contains NO (e.g. normal values are >3 with no upper boundary) 3) MODIFIER_HIGH contains LT or LE and MODIFIER_LOW contains NO (e.g. normal values are <=10 with no lower boundary)	MSCDM with modified value set
ABN_IND	TEXT(2)	AB=Abnormal AH=Abnormally high AL=Abnormally low CH=Critically high CL=Critically low CR=Critical IN=Inconclusive NL=Normal NI=No information UN=Unknown OT=Other	Abnormal result indicator. This value comes from the source data; do not apply logic to create it.	MSCDM with modified value set

LAB_RESULT_CM Table Specification

Field Name	Data Type	Predefined Value Sets and Descriptive Text for Categorical Fields	Definition / Comments	Source
RAW_LAB_NAME	TEXT(x)	.	Local code related to an individual lab test. This variable will not be used in queries, but may be used by local programmers to associate a record with a particular LAB_NAME.	PCORnet
RAW_LAB_CODE	TEXT(x)	.	Local code related to an individual lab test. This variable will not be used in queries, but may be used by local programmers to associate a record with a particular LAB_NAME.	PCORnet
RAW_PANEL	TEXT(x)	.	Local code related to a battery or panel of lab tests. This variable will not be used in queries, but may be used by local programmers to associate a record with a particular LAB_NAME.	PCORnet
RAW_RESULT	TEXT(x)	.	The original test result value as seen in your source data. Values may include a decimal point, a sign or text (e.g., POSITIVE, NEGATIVE, DETECTED). The symbols >, <, >=, <= should be removed from the value and stored in the Modifier variable instead.	PCORnet
RAW_UNIT	TEXT(x)	.	Original units for the result in your source data.	PCORnet
RAW_ORDER_DEPT	TEXT(x)	.	Local code for ordering provider department.	PCORnet
RAW_FACILITY_CODE	TEXT(x)	.	Local facility code that identifies the hospital or clinic. Taken from facility claims.	PCORnet

Reference Table 1: Laboratory Results and LOINC Codes

This table is intended to be a guide and does not represent a complete list of codes for each laboratory test. Regenstrief Institute, the organization that has developed and maintains the LOINC system, has completed a partial mapping of LOINC to CPT codes. The mapping is publicly available on the US National Library of Medicine's webpage at the following link (valid as of October 15, 2014):
http://www.nlm.nih.gov/research/umls/mapping_projects/loinc_to_cpt_map.html

LAB_NAME	SPECIMEN_SOURCE	LOINC	Comments
A1C	BLOOD	4548-4	Hemoglobin A1c/Hemoglobin total in blood
A1C	BLOOD	17856-6	Hemoglobin A1c/Hemoglobin total in blood by high-performance liquid chromatography HPLC
CK	SERUM, PLASMA, or SR_PLS	2157-6	
CK	BLOOD	50756-6	This code is "discouraged"
CK_MB	SERUM, PLASMA, or SR_PLS	13969-1	

Reference Table 1: Laboratory Results and LOINC Codes

This table is intended to be a guide and does not represent a complete list of codes for each laboratory test. Regenstrief Institute, the organization that has developed and maintains the LOINC system, has completed a partial mapping of LOINC to CPT codes. The mapping is publicly available on the US National Library of Medicine's webpage at the following link (valid as of October 15, 2014):
http://www.nlm.nih.gov/research/umls/mapping_projects/loinc_to_cpt_map.html

LAB_NAME	SPECIMEN_SOURCE	LOINC	Comments
CK_MB	SERUM, PLASMA, or SR_PLS	2154-3	
CK_MB	SERUM, PLASMA, or SR_PLS	32673-6	
CK_MB	BLOOD	49551-5	
CK_MBI	SERUM, PLASMA, or SR_PLS	12187-1	
CK_MBI	SERUM, PLASMA, or SR_PLS	12189-7	
CK_MBI	SERUM, PLASMA, or SR_PLS	20569-0	
CK_MBI	SERUM, PLASMA, or SR_PLS	49136-5	Rarely used
CK_MBI			Do not use LOINC code 15049-0, as this is a ratio for CK-MM instead of CK-MB.
CREATININE	SERUM, PLASMA, or SR_PLS	14682-9	
CREATININE	BLOOD	21232-4	
CREATININE	SERUM, PLASMA, or SR_PLS	2160-0	
CREATININE	SERUM, PLASMA, or SR_PLS	35203-9	
CREATININE	BLOOD	38483-4	
CREATININE	SERUM, PLASMA, or SR_PLS	44784-7	
CREATININE	SERUM	54052-6	HEDIS 2009 code.
CREATININE	BLOOD	59826-8	
HGB	BLOOD	14775-1	
HGB	BLOOD	20509-6	
HGB	BLOOD	24360-0	HGB and HCT panel - keep only the HGB results, e.g., those with units "g/dl" instead of "%".
HGB	BLOOD	30313-1	
HGB	BLOOD	30350-3	
HGB	BLOOD	30351-1	
HGB	BLOOD	30352-9	
HGB	BLOOD	55782-7	
HGB	BLOOD	59260-0	
HGB	BLOOD	718-7	
LDL	SERUM, PLASMA, or SR_PLS	47213-4	
INR	BLOOD	34714-6	
INR	BLOOD	46418-0	
INR	PPP	6301-6	

Reference Table 1: Laboratory Results and LOINC Codes

This table is intended to be a guide and does not represent a complete list of codes for each laboratory test. Regenstrief Institute, the organization that has developed and maintains the LOINC system, has completed a partial mapping of LOINC to CPT codes. The mapping is publicly available on the US National Library of Medicine's webpage at the following link (valid as of October 15, 2014):
http://www.nlm.nih.gov/research/umls/mapping_projects/loinc_to_cpt_map.html

LAB_NAME	SPECIMEN_SOURCE	LOINC	Comments
TROP_I	SERUM, PLASMA, or SR_PLS	10839-9	
TROP_I	SERUM, PLASMA, or SR_PLS	16255-2	
TROP_I	BLOOD	42757-5	
TROP_I	SERUM, PLASMA, or SR_PLS	49563-0	
TROP_T_QL	SERUM, PLASMA, or SR_PLS	33204-9	
TROP_T_QL	BLOOD	48426-1	
TROP_T_QN	BLOOD	48425-3	
TROP_T_QN	BLOOD	6597-9	
TROP_T_QN	SERUM, PLASMA, or SR_PLS	6598-7	

Reference Table 2: Laboratory Results and CPT Codes

This table is intended to be a guide and does not represent a complete list of codes for each laboratory test.

LAB_NAME	CPT Code	Comments
A1C	83036	
CK	82550	
CK_MB	82553	
CK_MBI	82550	
CK_MBI	82553	
CREATININE	80047	Panel
CREATININE	80048	Panel
CREATININE	80050	Panel
CREATININE	80053	Panel
CREATININE	80069	Panel
CREATININE	82565	
CREATININE	82575	
HGB	80050	Panel
HGB	80053	Panel
HGB	83026	
HGB	85018	
HGB	85025	Panel
HGB	85027	Panel
INR	85610	This code is for prothrombin time but includes INR.
LDL	83721	

Reference Table 2: Laboratory Results and CPT Codes

This table is intended to be a guide and does not represent a complete list of codes for each laboratory test.

LAB_NAME	CPT Code	Comments
A1C	*83036*	
TROP_I	84484	
TROP_T_QL	84512	
TROP_T_QN	84484	

Reference Table 3: Laboratory Standard Abbreviations

Unit Type	Standard Abbreviation	Comments
Billion	BIL	Billion is often written as "10*9".
Cells	CELL	
Decigram	DG	
Deciliter	DL	
Gram	G	
International Units	IU	Do not confuse "1U" (one unit) or "/U" (per unit) with "IU" (international units).
Thousand	K	Thousand is often written as "10*3".
Liter	L	
Milligram	MG	
Milli-international units	MIU	
Milliliter	ML	
Nanogram	NG	Nanogram per milliliter is equivalent to microgram per liter (i.e., NG/ML=UG/L).
Nanoliter	NL	
Percent	PERCENT	
Ratio	RATIO	
Units	U	
Microgram	UG	Microgram is often written as "MCG".
Cubic Millimeter	UL	One cubic millimeter of blood is equivalent to one microliter. Cubic millimeter is often written as "MM*3" or "CU MM".
Microliter	UL	Do not confuse "UL" (microliter) with "U/L" (units per liter).
	NI	No Information (the source value is null or blank)
	UN	Unknown (the source value explicitly denotes an unknown value)
	OT	Other (the source value cannot be mapped)

CONDITION Domain Description:
> A condition represents a patient's diagnosed and self-reported health conditions and diseases. The patient's medical history and current state may both be represented.

Relational Framework: DEMOGRAPHIC, optional relationship to ENCOUNTER

Additional Notes:
- The CONDITION table contains one record per unique combination of PATID, REPORT_DATE, CONDITION, and CONDITION_TYPE.
- This table includes both healthcare and non-healthcare settings.
- Rollback or voided transactions and other adjustments should be processed before populating this table.

CONDITION Table Specification

Field Name	Data Type	Predefined Value Sets and Descriptive Text for Categorical Fields	Definition / Comments	Source
PATID	TEXT(x)	.	Arbitrary person-level identifier. Used to link across tables.	MSCDM
ENCOUNTERID	TEXT(x)	.	Arbitrary encounter-level identifier used to link across tables. This is an <u>optional</u> field, and should only be populated if the item was collected as part of a healthcare encounter.	PCORnet (modeled upon VITAL table)
REPORT_DATE	TEXT(10): Format as YYYY-MM-DD	.	Date condition was noted. Please note that this date may not correspond to onset date.	PCORnet (informed by ESP model)
RESOLVE_DATE	TEXT(10): Format as YYYY-MM-DD	.	Date condition was resolved, if resolution of a transient condition has been achieved. A resolution date is not generally expected for chronic conditions, even if the condition is managed.	PCORnet
CONDITION_STATUS	TEXT(2)	AC=Active RS=Resolved IN=Inactive NI=No information UN=Unknown OT=Other	Condition status corresponding with REPORT_DATE. Guidance: The value of IN=Inactive may be used in situations where a condition is not resolved, but is not currently active (for example, psoriasis).	PCORnet (informed by ESP model)

CONDITION Table Specification

Field Name	Data Type	Predefined Value Sets and Descriptive Text for Categorical Fields	Definition / Comments	Source
CONDITION	TEXT(18)	.	Condition code. Leading zeroes and different levels of decimal precision are permissible in this field. Please populate the exact textual value of this diagnosis code, but remove source-specific suffixes and prefixes. Other codes should be listed as recorded in the source data.	PCORnet (modeled upon DIAGNOSIS table)
CONDITION_TYPE	TEXT(2)	09=ICD-9-CM 10=ICD-10-CM 11=ICD-11-CM SM=SNOMED CT HP=Human Phenotype Ontology NI=No information UN=Unknown OT=Other	Condition code type. Please note: The "Other" category is meant to identify internal use ontologies and codes.	PCORnet (modeled upon DIAGNOSIS table)
CONDITION_SOURCE	TEXT(2)	PR=Patient-reported medical history HC=Healthcare problem list RG=Registry cohort NI=No information UN=Unknown OT=Other	Please note: The "Patient-reported" category can include reporting by a proxy, such as patient's family or guardian. Guidance: "Registry cohort" generally refers to cohorts of patients flagged with a certain set of characteristics for management within a health system. "Patient-reported" can include self-reported medical history and/or current medical conditions, not captured via healthcare problem lists or registry cohorts.	PCORnet (modeled upon VITAL table)
RAW_CONDITION_STATUS	TEXT(x)	.	Optional field for originating value of field, prior to mapping into the PCORnet CDM value set.	PCORnet
RAW_CONDITION	TEXT(x)	.	Optional field for originating value of field, prior to mapping into the PCORnet CDM value set.	PCORnet
RAW_CONDITION_TYPE	TEXT(x)	.	Optional field for originating value of field, prior to mapping into the PCORnet CDM value set.	PCORnet
RAW_CONDITION_SOURCE	TEXT(x)	.	Optional field for originating value of field, prior to mapping into the PCORnet CDM value set.	PCORnet

4.10. Table: PRO_CM (new to v2.0)

> **PRO_CM Domain Description:**
> Patient-reported outcome Common Measures are standardized measures that are defined in the same way across all PCORnet networks. Each measure is recorded at the individual item level: an individual question/statement, paired with its standardized response options.

Relational Framework: DEMOGRAPHIC, optional relationship to ENCOUNTER

Additional Notes:
- The PRO_REPONSE table contains one record per unique combination of PATID, PRO_ITEM, PRO_DATE, and PRO_TIME.
- This table supports the PCORnet Common Measures established by the PCORnet PRO Task Force. Please see the Common Measures Reference Table for information about these measures.

PRO_CM Table Specification

Field Name	Data Type	Predefined Value Sets and Descriptive Text for Categorical Fields	Definition / Comments	Source
PATID	TEXT(x)	.	Arbitrary person-level identifier for the patient for whom the PRO response was captured. Used to link across tables.	MSCDM
ENCOUNTERID	TEXT(x)	.	Arbitrary encounter-level identifier used to link across tables. This is an optional field, and should only be populated if the item was collected as part of a healthcare encounter.	PCORnet (modeled upon VITAL table)

PRO_CM Table Specification

Field Name	Data Type	Predefined Value Sets and Descriptive Text for Categorical Fields	Definition / Comments	Source
PRO_ITEM	TEXT(7)	PN_0001=GLOBAL01 PN_0002=GLOBAL02 PN_0003=GLOBAL06 PN_0004=PFA53 PN_0005=EDDEP29 PN_0006=HI7 PN_0007=SLEEP20 PN_0008=SRPPER11_CAPS PN_0009=PAININ9 PN_0010=3793R1 PN_0011=28676R1 PN_0012=EOS_P_011 PN_0013=PEDSGLOBAL2 PN_0014=PEDSGLOBAL5 PN_0015=PEDSGLOBAL6 PN_0016=GLOBAL03 PN_0017=GLOBAL04 PN_0018=EDANX53 PN_0019=SAMHSA PN_0020=CAHPS 4.0 PN_0021=PA070	PCORnet identifier for the specific Common Measure item. Please see the Common Measures reference table for more details.	PCORnet

PRO_CM Table Specification

Field Name	Data Type	*Predefined Value Sets and Descriptive Text for Categorical Fields*	Definition / Comments	Source
PRO_LOINC	TEXT(10)	.	LOINC code for item context and stem. Please see the reference table for known LOINC codes for each common measure. Logical Observation Identifiers, Names, and Codes (LOINC) from the Regenstrief Institute. Results with local versions of LOINC codes (e.g., LOINC candidate codes) should be included in the RAW_ table field, but the PRO_LOINC variable should be set to missing. Current LOINC codes are from 3-7 characters long but Regenstrief suggests a length of 10 for future growth. The last digit of the LOINC code is a check digit and is always preceded by a hyphen. All parts of the LOINC code, including the hyphen, must be included. Do not pad the LOINC code with leading zeros.	PCORnet (modeled on LAB_RESULT _CM table)
PRO_DATE	TEXT(10): Format as YYYY-MM-DD	.	The date of the response.	PCORnet Source of date format: ISO 8601
PRO_TIME	TEXT(5): Format as HH:MI using 24-hour clock and zero-padding for hour and minute	.	The time of the response.	PCORnet Source of time format: ISO 8601
PRO_RESPONSE	NUMBER(8)	.	The numeric response recorded for the item. Please see the Common Measures reference table for the list of valid responses for each item.	PCORnet

PRO_CM Table Specification

Field Name	Data Type	Predefined Value Sets and Descriptive Text for Categorical Fields	Definition / Comments	Source
PRO_METHOD	TEXT(2)	PA=Paper EC=Electronic PH=Telephonic IV=Telephonic with interactive voice response (IVR) technology NI=No information UN=Unknown OT=Other	Method of administration. Electronic includes responses captured via a personal or tablet computer, at web kiosks, or via a smartphone.	PCORnet
PRO_MODE	TEXT(2)	SF=Self without assistance SA= Self with assistance PR=Proxy without assistance PA=Proxy with assistance NI=No information UN=Unknown OT=Other	The person who responded on behalf of the patient for whom the response was captured. A proxy report is a measurement based on a report by someone other than the patient reporting as if he or she is the patient, such as a parent responding for a child, or a caregiver responding for an individual unable to report for themselves. Assistance excludes providing interpretation of the patient's response.	PCORnet
PRO_CAT	TEXT(2)	Y=Yes N=No NI=No information UN=Unknown OT=Other	Indicates whether Computer Adaptive Testing (CAT) was used to administer the survey or instrument that the item was part of. May apply to electronic (EC) and telephonic (PH or IV) modes.	PCORnet
RAW_PRO_CODE	TEXT(x)	.	Optional field for originating code, such as LOINC candidate codes that have not yet been adopted	PCORnet
RAW_PRO_RESPONSE	TEXT(x)	.	Optional field for originating value of field, prior to mapping into the PCORnet CDM value set.	PCORnet

Reference Table 4: PRO Common Measures

This table is based upon the Final Report from the PCORnet Patient-reported Outcomes (PRO) Common Measures Working Group (CMWG), October 25, 2014.

Domain	Item Text	Value Set	PCORnet Unique Identifier	Item Code	Item Bank	PCORnet PRO TF Recommendation	LOINC # for Item Bank / Domain	LOINC # for Item Context + Stem (2014)	SNOMED SCTID for domain (2010)
General Health	In general, would you say your health is	5=Excellent 4=Very good 3=Good 2=Fair 1=Poor	PN_0001	GLOBAL 01	PROMIS Global	Core Item (Adult and Pediatric)	Parent panel: 75418-4 Panel: 75421-8	61577-3	406221003
Quality of Life	In general, would you say your quality of life is	5=Excellent 4=Very good 3=Good 2=Fair 1=Poor	PN_0002	GLOBAL 02	PROMIS Global	Core Item (Adult and Pediatric)	Parent panel: 75418-4 Panel: 75421-8	61578-1	406221003
Physical Function (alternate)	To what extent are you able to carry out your everyday physical activities such as walking, climbing stairs, carrying groceries, or moving a chair?	5=Completely 4=Mostly 3=Moderately 2=A little 1=Not at all	PN_0003	GLOBAL 06	PROMIS Global	Core Adult Item	Parent panel: 75418-4 Panel: 75421-8	61582-3	Not available
Physical Function	Are you able to run errands and shop?	5=Without any difficulty 4=With a little difficulty 3=With some difficulty 2=With much difficulty 1=Unable to do	PN_0004	PFA53	PROMIS Physical Function	Core Adult Item	Parent panel: 75418-4 Panel: 75421-8	61635-9	364665006
Depression	In the past 7 days…I felt depressed	1=Never 2=Rarely 3=Sometimes 4=Often 5=Always	PN_0005	EDDEP29	PROMIS Emotional Distress-Depression	Core Adult Item	Parent panel: 75418-4 Panel: 75421-8	61967-6	405049007

Reference Table 4: PRO Common Measures

This table is based upon the Final Report from the PCORnet Patient-reported Outcomes (PRO) Common Measures Working Group (CMWG), October 25, 2014.

Domain	Item Text	Value Set	PCORnet Unique Identifier	Item Code	Item Bank	PCORnet PRO TF Recommendation	LOINC # for Item Bank / Domain	LOINC # for Item Context + Stem (2014)	SNOMED SCTID for domain (2010)
Fatigue	During the past 7 days…I feel fatigued	1=Not at all 2=A little bit 3=Somewhat 4=Quite a bit 5=Very much	PN_0006	HI7	PROMIS Fatigue	Core Adult Item	Parent panel: 75418-4 Panel: 75421-8	61878-5	440398005
Sleep Disturbance	In the past 7 days…I had a problem with my sleep	1=Not at all 2=A little bit 3=Somewhat 4=Quite a bit 5=Very much	PN_0007	SLEEP20	PROMIS Sleep Disturbance	Core Adult Item	Parent panel: 75418-4 Panel: 75421-8	61998-1	248254009
Social Roles & Activities	I have trouble doing all of my regular leisure activities with others	5=Never 4=Rarely 3=Sometimes 2=Usually 1=Always	PN_0008	SRPPER11_CaPS	PROMIS Social Role Participation	Core Adult Item	Parent panel: 75418-4 Panel: 75421-8	75417-6	405073004
Pain Interference	In the past 7 days…How much did pain interfere with your day to day activities?	1=Not at all 2=A little bit 3=Somewhat 4=Quite a bit 5=Very much	PN_0009	PAININ9	PROMIS Pain Interference	Core Adult Item	Parent panel: 75418-4 Panel: 75421-8	61758-9	405160001
Pain Interference	In the past 7 days…I had trouble sleeping when I had pain	0=Never 1=Almost Never 2=Sometimes 3=Often 4=Almost Always	PN_0010	3793R1	PROMIS Peds - Pain Interference	Core Pediatric Item	Parent panel: 75418-4 Panel: 75420-0	62144-1	405160001
Fatigue	In the past 7 days…I got tired easily	0=Never 1=Almost Never 2=Sometimes 3=Often 4=Almost Always	PN_0011	2876R1	PROMIS Peds - Fatigue	Core Pediatric Item	Parent panel: 75418-4 Panel: 75420-0	62104-5	440398005

Reference Table 4: PRO Common Measures

This table is based upon the Final Report from the PCORnet Patient-reported Outcomes (PRO) Common Measures Working Group (CMWG), October 25, 2014.

Domain	Item Text	Value Set	PCORnet Unique Identifier	Item Code	Item Bank	PCORnet PRO TF Recommendation	LOINC # for Item Bank / Domain	LOINC # for Item Context + Stem (2014)	SNOMED SCTID for domain (2010)
Stress	In the past 7 days…I felt stressed	1=Never 2=Almost Never 3=Sometimes 4=Often 5=Almost Always	PN_0012	EOS_P_011	PROMIS Peds - Stress	Core Pediatric Item	Parent panel: 75418-4 Panel: 75420-0	62095-5	73595000
Depression	How often do you feel really sad	1=Never 2=Rarely 3=Sometimes 4=Often 5=Always	PN_0013	PEDGLOBAL2	PROMIS Peds - Global	Core Pediatric Item	Parent panel: 75418-4 Panel: 75420-0	75416-8	35489007
Peer Relationships	How often do you have fun with friends	1=Never 2=Rarely 3=Sometimes 4=Often 5=Always	PN_0014	PEDGLOBAL5	PROMIS Peds - Global	Core Pediatric Item	Parent panel: 75418-4 Panel: 75420-0	75415-0	225598002
Family Relationships	How often do your parents listen to your ideas?	1=Never 2=Rarely 3=Sometimes 4=Often 5=Always	PN_0015	PEDGLOBAL6	PROMIS Peds - Global	Core Pediatric Item	Parent panel: 75418-4 Panel: 75420-0	75414-3	225598002
Global Physical Health	In general, how would you rate your physical health?	5=Excellent 4=Very good 3=Good 2=Fair 1=Poor	PN_0016	GLOBAL03	PROMIS Global	Recommended Item (Adult and Pediatric)	Parent panel: 75418-4 Panel: 75419-2	61579-9	406221003
Global Mental Health	In general, how would you rate your mental health including your mood and your ability to think?	5=Excellent 4=Very good 3=Good 2=Fair 1=Poor	PN_0017	GLOBAL04	PROMIS Global	Recommended Item (Adult and Pediatric)	Parent panel: 75418-4 Panel: 75419-2	61580-7	406221003

Reference Table 4: PRO Common Measures

This table is based upon the Final Report from the PCORnet Patient-reported Outcomes (PRO) Common Measures Working Group (CMWG), October 25, 2014.

Domain	Item Text	Value Set	PCORnet Unique Identifier	Item Code	Item Bank	PCORnet PRO TF Recommendation	LOINC # for Item Bank / Domain	LOINC # for Item Context + Stem (2014)	SNOMED SCTID for domain (2010)
Anxiety	In the past 7 days…I felt uneasy	1=Never 2=Rarely 3=Sometimes 4=Often 5=Always	PN_0018	EDANX53	PROMIS Emotional Distress-Anxiety	Recommended Item (Adult and Pediatric)	Parent panel: 75418-4 Panel: 75419-2	61949-4	405051006
Medication Adherence	In the past 7 days…"People often miss a dose of their medicines from time to time. How many days in the past week did you miss taking one or more of your medications?"	Range between 0-7	PN_0019	SAMHSA	Core Psychosocial & Behavioral	Recommended Item (Adult)	Parent panel: 75418-4 Panel: 75419-2	68513-1	418633004
Experience of Care (Evaluation of Care/"Treatment Satisfaction")	Past 12 months…Using any number from 0 to 10, where 0 is the worst health care possible and 10 is the best health care possible, what number would you use to rate all your health care in the last 12 months?	Range between 0-10	PN_0020	CAHPS 4.0	CAHPS Experience of Care	Recommended Item (Adult and Pediatric)	Parent panel: 75418-4 Panel: 75419-2	75412-7	Not available
Life Satisfaction	I have a good life	1=Strongly disagree 2=Disagree 3=Neither agree nor disagree 4=Agree 5=Strongly agree	PN_0021	PA070	Toolbox Psychological Well-Being – Life Satisfaction	Recommended Item (Adult and Pediatric)	Parent panel: 75418-4 Panel: 75419-2	75413-5	405152002