ETL Conventions for use with PEDSnet CDM v2.5 OMOP V5.1

The PEDSnet Common Data Model is an evolving specification, based in structure on the OMOP Common Data Model, but expanded to accommodate requirements of both the PCORnet Common Data Model and the primary research cohorts established in PEDSnet.

Version 2.5 of the PEDSnet CDM reflects the ETL processes developed after several iterations of network development. As such, it proposes to align with version 3.1 of the PCORnet CDM.

This document provides the ETL processing assumptions and conventions developed by the PEDSnet data partners that should be used by a data partner for ensuring common ETL business rules. This document will be modified as new situations are identified, incorrect business rules are identified and replaced, as new analytic use cases impose new/different ETL rules, and as the PEDSnet CDM continues to evolve.

Comments on this specification and ETL rules are welcome. Please send email to pedsnetdcc@email.chop.edu, or contact the PEDSnet project management office (details available via http://www.pedsnet.info).

PEDSnet Data Standards and Interoperability Policies:

1. The PEDSnet data network will store data using structures compatible with the PEDSnet Common Data Model (PCDM).
2. The PEDSnet CDM v2.5 is based on the Observational Medical Outcomes Partnership (OMOP) data model, version 5.1.
3. A subset of data elements in the PCDM will be identified as principal data elements (PDEs). The PDEs will be used for population-level queries. Data elements which are NOT PDEs will be marked as Optional (ETL at site discretion) or Non-PDE (ETL required, but data need not be transmitted to DCC), and will not be used in queries without prior approval of site.
4. It is anticipated that PEDSnet institutions will make a good faith attempt to obtain as many of the data elements not marked as Optional as possible.
5. The data elements classified as PDEs and those included in the PCDM will be approved by the PEDSnet Executive Committee (comprised of each PEDSnet institution's site principal investigator).
6. Concept IDs are taken from OMOP 5 vocabularies for PEDSnet CDM v2.5, using the complete (restricted) version that includes licensed terminologies such as CPT and others.
7. PCORnet CDM v3.1 requires data elements that are not currently considered "standard concepts". Vocabulary version 5 has a new vocabulary (vocabulary_id=PCORNet) that was added by OMOP to capture all of the PCORnet concepts that are not in the standard terminologies. We use concept_ids from vocabulary_id=PCORNet

where there are no existing standard concepts. We highlight where we are pulling concept_ids from vocabulary_id=PCORNet in the tables. While terms from vocabulary_id=PCORNet violates the OMOP rule to use only concept_ids from standard vocabularies vocabulary_id=PCORNet is a non-standard vocabulary), this convention enables a clean extraction from PEDSnet CDM to PCORnet CDM.

8. Some source fields may be considered sensitive by data sites. Potential examples include patient_source_value, provider_source_value, care_site_source_value. Many of these fields are used to generate an ID field, such as PERSON.patient_source_value PERSON.person_id, that is used as a primary key in PERSON and a foreign key in many other tables. Sites are free to obfuscate or not provide source values that are used to create ID variables. Sites must maintain a mapping from the ID variable back to the original site-specific value for local re-identification tasks.

    i. Source fields that contain clinical data, such as source condition occurrence, should be included

    ii. The PEDSnet DCC will never release source values to external data partners.

    iii. Source value obfuscation techniques may include replacing the real source value with a random number, an encrypted derivative value/string, or some other site-specific algorithm.

9. The PCORnet CDM has specific definitons for null values (as seen below). For the PEDSNet CDM, please use the following logic on which concept value to use for `source_concept_id` fields where there are null values in the source `*_source_value` .

Null Name	Definition of each field
NULL	A data field is not present in the source system. Note. This is not a 'NULL' string but the NULL value.
'NI' = No Information	A data field is present in the source system, but the source value is null or blank
'UN' = Unknown	A data field is present in the source system, but the source value explicitly denotes an unknown value
'OT' = Other	A data field is present in the source system, but the source value cannot be mapped to the CDM

10.

For populating `'*_source_concept_id'` (where there exists non-null values in the source) use the following Logic :

Populate `'*_source_concept_id'` (i.e. non-zero) if the source_value is drawn from a standard vocabulary in OMOP.

Please use your local system knowledge to determine this or use the following criteria : All the values in the source_value field should be drawn from the concept_code in the concept table (for a given/relevant domain_id and a given vocabulary_id).

ELSE Use 0

(usually the case when the sites need to "manually" map the foo_source_value to foo_concept_id)

11.

For populating `*_source_value` please make a best effort to provide "human readable" values rather than a coded value where possible from the source.

Example for `gender_source_value` , the source value at your site may be `1` for Female and `2` for Male. Please provide the label value of `Female` and `Male` .

ETL Recommendation: Due to PK/FK constraints, the most efficient order for ETL table is location, care_site, provider, person, visit_occurrence, condition_occurrence, observation, procedure_occurrence,measurement,measurement_organism,drug exposure

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Data Extraction Guide

Please use the table headings as a guide in extracting and submitting data. These specifications are indicative of DCC and Network Requirements. All fields must be submitted to the DCC even if you are not submitting data in a field. Here are examples of how the specification should be interpreted:

Field	NOT Null Constraint	Network Requirement	Data Type	Description	PEDSnet Conventions
Field Name	• Yes	• Yes	Data Type	Description	PEDSnet Conventions

- **The above example indicates the data in this field is required by both the DCC and Network. It absolutely must be provided in the data submission.**

Field	NOT Null Constraint	Network Requirement	Data Type	Description	PEDSnet Conventions

Field Name	• No	• Provide When Available	Data Type	Description	PEDSnet Conventions

- **The above example indicates the data in this field is required by Network if it is populated or available at your site. If it is available it must provided in the data submission.**

Field	NOT Null Constraint	Network Requirement	Data Type	Description	PEDSnet Conventions
Field Name	• No	• Site Preference	Data Type	Description	PEDSnet Conventions

- **The above example indicates the data in this field is not required by the DCC or Network. A site may choose to send this information if they desire to do so.**

Field	NOT Null Constraint	Network Requirement	Data Type	Description	PEDSnet Conventions
Field Name	• No	• Optional	Data Type	Description	PEDSnet Conventions

- **The above example indicates the data in this field is truly optional for submission. A site may choose to send this information if they desire to do so.**

1.1 PERSON

The person domain contains records that uniquely identify each patient in the source data who is time at-risk to have clinical observations recorded within the source systems. Each person record has associated demographic attributes, which are assumed to be constant for the patient throughout the course of their periods of observation. All other patient-related data domains have a foreign-key reference to the person domain.

PEDSnet uses a specific definition of an active PEDSnet patient. Only patients who meet the PEDSnet definition of an active patient should be included in this table. The criteria for identifying an active patient are:

- Has a unique identifier AND
- At least 1 "in person" clinical encounter on or after January 1, 2009 AND
- At least 1 coded diagnoses recorded on or after January 1, 2009 AND
- Is not a test patient or a research-only patient

The definition of an "in person" clinical encounter remains heuristic -any encounter type that involves a meaningful **physical** interaction with a clinician that involved clinical content. An encounter for a suture removal or a telephone encounter or a lab blood draw does not meet this definition.

NOTE: While the 1/1/2009 date and "in person" clinical encounter restrictions apply to defining an active PEDSnet patient, once a patient has met this criteria, PEDSnet will extract *ALL* available clinical encounters/clinical data of any type across all available dates. That is, 1/1/2009 and 1 'in person' clinical encounter applies only to defining the active patient cohort. It does NOT apply to data extraction on active patients.

Field	NOT Null Constraint	Network Requirement	Data Type	Description	PEDSnet Conventi

person_id	Yes	Yes	Integer	A unique identifier for each person; this is created by each contributing site.	This is not a value found EHR. PERSON_ID must be un all patients within a sing set. **SITE RESPONSIBILITY: field must remain a sta identifier across submi to the DCC.** A mapping from the per to a real patient ID or M from the source EHR mu kept at the local site. Th mapping is not shared v data coordinating cente used only by the site fo identification for study recruitment or for data review.
gender_concept_id	Yes	Yes	Integer	A foreign key that refers to a standard concept identifier in the Vocabulary for the gender of the person.	Please include valid cor ids (consistent with OM CDMv5.1). Predefined v (valid concept_ids found CONCEPT table select * concept where ((domain_id='Gender' a concept_class_id='Gend (domain_id='Observatio vocabulary_id='PCORNe concept_class_id in ('Gender','Undefined'))) concept_code not in ('S F','Sex-M') and invalid_r is null: • Ambiguous: concep 44814664 • Female: concept_id • Male: concept_id = • No Information: cor = 44814650 (Vocabulary_id='PC • Unknown: concept_ 44814653 • Other: concept_id = 44814649

gender_source_concept_id	Yes	Yes	Integer	A foreign key to the gender concept that refers to the code used in the source.	**If there is not a mappir the source code in the standard vocabulary, u concept_id = 0**
year_of_birth	Yes	Yes	Integer	The year of birth of the person.	For data sources with d birth, the year is extract data sources where the birth is not available, th approximate year of birt derived based on any a group categorization av Please keep all accurate dates (No date shifting)
month_of_birth	No	Provide When Available	Integer	The month of birth of the person.	For data sources that p the precise date of birth month is extracted and in this field. Please keep all accurate dates (No date shifting)
day_of_birth	No	Provide When Available	Integer	The day of the month of birth of the person.	For data sources that p the precise date of birth day is extracted and sto this field. Please keep all accurate dates (No date shifting)
time_of_birth	No	Provide When Available	Datetime	The birth date and time	Do not include timezone Please keep all accurate dates (No date shifting) there is no time associa with the date assert mic
race_concept_id	Yes	Yes	Integer	A foreign key that refers to a standard concept identifier in the Vocabulary for the race of the person.	Details of categorical definitions: • **-American Indian c Alaska Native**: A pe having origins in an original peoples of and South America (including Central America), and who maintains tribal affi or community attac • **-Asian**: A person ha origins in any of the original peoples of East, Southeast Asi the Indian subconti

including, for exam
Cambodia, China, I
Japan, Korea, Mala
Pakistan, the Philip
Islands, Thailand, a
Vietnam.

- **-Black or African American**: A perso
origins in any of the
racial groups of Afr
- **-Native Hawaiian o Pacific Islander**: A
having origins in an
original peoples of
Guam, Samoa, or o
Pacific Islands.
- **-White**: A person h
origins in any of the
original peoples of
the Middle East, or
Africa.

For patients with multip
(i.e. biracial), race is
considered a single con
meaning there is only o
slot. If there are multipl
in the source system,
concatenate all races in
race_source_value (see
and use concept_id cod
'Multiple Race.'

Predefined values (valic
concept_ids found in C
table where ((domain_ic
and vocabulary_id = 'Ra
(vocabulary_id='PCORN
concept_class_id='Unde
or concept_id in
(44814659,44814660))
invalid_reason is null:

- American Indian/Al
Native: concept_id
- Asian: concept_id =
- Black or African Am
concept_id = 8516
- Native Hawaiian or
Pacific Islander: co
= 8557
- White: concept_id =
- Multiple Race: conc
= 44814659
(vocabulary_id='PC

					• Refuse to answer: concept_id = 4481 (vocabulary_id='PC • No Information: cor = 44814650 vocabulary_id='PC • Unknown: concept_ 44814653 • Other: concept_id = 44814649
race_source_concept_id	Yes	Yes	Integer	A foreign key to the race concept that refers to the code used in the source.	**If there is not a mappir the source code in the standard vocabulary, u concept_id = 0**
ethnicity_concept_id	Yes	Yes	Integer	A foreign key that refers to the standard concept identifier in the Vocabulary for the ethnicity of the person.	For PEDSnet, a person Hispanic ethnicity is de "A person of Cuban, Me Puerto Rican, South or American, or other Spar culture or origin, regard race." Please include valid cor ids (consistent with OM CDMv5). Predefined val (valid concept_ids foun CONCEPT table where vocabulary_id ='Ethnicit (vocabulary_id=PCORN concept_class_id='Unde where noted): • Hispanic: concept_i 38003563 • Not Hispanic: conc 38003564 • No Information: cor = 44814650 (vocabulary_id='PC • Unknown: concept_ 44814653 (vocabulary_id='PC • Other: concept_id = 44814649 (vocabulary_id='PC

ethnicity_source_concept_id	Yes	Yes	Integer	A foreign key to the ethnicity concept that refers to the code used in the source.	**If there is not a mappir the source code in the standard vocabulary, u concept_id = 0**
location_id	No	Provide When Available	Integer	A foreign key to the place of residency (ZIP code) for the person in the location table, where the detailed address information is stored.	
provider_id	No	Provide When Available	Integer	Foreign key to the primary care provider the person is seeing in the provider table.	For PEDSnet CDM v2.5. will use site-specific log determine the best prim care provider and docu how that decision was r (e.g., billing provider).
care_site_id	Yes	Yes	Integer	A foreign key to the site of primary care in the care_site table, where the details of the care site are stored	For patients who receiv at multiple care sites, u specific logic to select a site that best represent the patient obtains the m of their recent care. If a specific site within the institution cannot be ide use a care_site_id repre the institution as a whol
pn_gestational_age	No	Provide When Available	Integer	The post-menstrual age in weeks of the person at birth, if known	Use granularity of age i as is recorded in local E

person_source_value	No	Provide When Available	Varchar	An encrypted key derived from the person identifier in the source data.	Insert a unique pseudo-identifier (random numb encrypted identifier) int field. Do not insert the a MRN or PAT_ID from yo A mapping from the pse identifier for person_source_value in field to a real patient ID from the source EHR mu kept at the local site. Th mapping is not shared v data coordinating cente used only by the site fo identification for study recruitment or for data review.
gender_source_value	Yes	Yes	Varchar	The source code for the gender of the person as it appears in the source data.	The person's gender is to a standard gender co in the Vocabulary; the o value is stored here for reference. See gender_concept_id
race_source_value	Yes	Yes	Varchar	The source code for the race of the person as it appears in the source data.	The person race is map standard race concept i Vocabulary and the orig value is stored here for reference. For patients with multip (i.e. biracial), race is considered a single con meaning there is only o slot. If there are multipl in the source system, concatenate all races in source value, and use th concept_id for Multiple
ethnicity_source_value	Yes	Yes	Varchar	The source code for the ethnicity of the person as it appears in the source data.	The person ethnicity is to a standard ethnicity c in the Vocabulary and th original code is, stored reference.

language_concept_id	Yes	Yes	Integer	A foreign key that refers to the standard concept identifier in the Vocabulary for the language of the person.	For PEDSNet, please ma source codes to accept language values in appe **If there is not a mappir the source code in the network language map use concept_id = 4481 (Other PCORNet Vocab**
language_source_concept_id	Yes	Yes	Integer	A foreign key to the language concept that refers to the code used in the source.	**If there is not a mappir the source code in the standard vocabulary, u concept_id = 0**
language_source_value	Yes	Yes	Varchar	The source code for the language of the person as it appears in the source data	The person language is mapped to a standard language concept in the Vocabulary and the orig code is stored here for reference.

If a field marked as "Provide when available" for the network requirement is not available at your site, please relay this information to the DCC

1.2 DEATH

The death domain contains the clinical event for how and when a person dies. Living patients should not contain any information in the death table.

Field	NOT Null Constraint	Network Requirement	Data Type	Description	PEDSnet Convention
death_cause_id	Yes	Yes	Integer	A unique identifier for each death cause occurrence	This is not a value found i EHR. Sites may choose to sequential value for this fi

Field	NOT Null Constraint	Network Requirement	Data Type	Description	PEDSnet Convention
person_id	Yes	Yes	Integer	A foreign key identifier to the deceased person. The demographic details of that person are stored in the person table.	See PERSON.person_id (primary key)
death_date	Yes	Yes	Date	The date the person was deceased.	If the precise date includi day or month is not know not allowed, December is as the default month, and last day of the month the default day. If no date available, use date record deceased. When the date of death is present in the source data the date the source recor created.
death_time	Yes	Yes	Datetime	The date the person was deceased.	**This field is custom to PEDSnet** If the precise date includi day or month is not know not allowed, December is as the default month, and last day of the month the default day. If no date available, use date record deceased. When the date of death is present in the source data the date the source recor created. If there is no time associated with the date a '23:59:59'.

Field	NOT Null Constraint	Network Requirement	Data Type	Description	PEDSnet Convention
death_type_concept_id	Yes	Yes	Integer	A foreign key referring to the predefined concept identifier in the Vocabulary reflecting how the death was represented in the source data.	Please include valid conce ids (consistent with OMOI CDMv5). Predefined value (valid concept_ids found i CONCEPT table where domain_id ='Death Type') select * from concept whe concept_class_id ='Death yields 9 valid concept_ids none are correct, use concept_id = 0 Note: Most current ETLs a extracting data from EHR. common concept_id to ins here is • 38003569 ("EHR rec patient status "Decea . Please assert • No information: conce = 44814650 where there is no informa the source **Note**: These terms only describe the source from the death was reported. It not describe our certainty/source of the da death, which may have be created by one of the heuristics described in death_date.
cause_concept_id	No	Provide When Available	Integer	A foreign referring to a standard concept identifier in the Vocabulary for conditions.	

Field	NOT Null Constraint	Network Requirement	Data Type	Description	PEDSnet Convention
cause_source_value	No	Provide When Available	Varchar	The source code for the cause of death as it appears in the source. This code is mapped to a standard concept in the Vocabulary and the original code is stored here for reference.	
cause_source_concept_id	No	Provide When Available	Integer	A foreign key to the vocabulary concept that refers to the code used in the source.	This links to the concept i the vocabulary of the cau death concept id as store the source. For example, i cause of death is "Acute myeloid leukemia, without mention of having achieve remission" which has an i code of 205.00 the cause source concept id is 4482 which is the icd9 code co that corresponds to the diagnosis 205.00. **If there is not a mapping the source code in the standard vocabulary, use concept_id = 0**

Field	NOT Null Constraint	Network Requirement	Data Type	Description	PEDSnet Convention
death_impute_concept_id	Yes	Yes	Varchar	A foreign key referring to a standard concept identifier in the vocabulary for death imputation.	p>Please include valid co ids (consistent with OMOI CDMv5). Predefined value (valid concept_ids found i CONCEPT table where concept_class_id ='Death Imput Type') select * from concept wh (concept_class_id ='Death Imput Type' or (vocabulary_id='PCORNet concept_class_id='Undefi and invalid_reason is null 8 valid concept_ids. If nor correct, use concept_id = • Both month and day imputed: 200000003 • Day imputed: 20000(• Month imputed: 2000000036 • Full Date imputed: 2000000038 • Not imputed:200000(• No Information: conce = 44814650 (Vocabulary_id='PCO • Unknown: concept_id 44814653 • Other: concept_id = 44814649

If a field marked as "Provide when available" for the network requirement is not available at your site, please relay this information to the DCC

1.2.1 Additional Notes

- Each Person may have more than one record of death in the source data. It is OK to insert multiple death records for an individual.
- If the Death Date cannot be precisely determined from the data, the best approximation should be used.

1.3 LOCATION

The Location domain represents a generic way to capture physical location or address information. Locations are used to define the addresses for Persons and Care Sites. The most important field is ZIP for location-based queries.

Field	NOT Null Constraint	Network Requirement	Data Type	Description	PEDSnet Conventions

location_id	Yes	Yes	Integer	A unique identifier for each geographic location.	This is not a value found in the EHR. Sites may choose to use a sequential value for this field
state	No	Provide When Available	Varchar	The state field as it appears in the source data.	
zip	No	Provide When Available	Varchar	The zip code. For US addresses, valid zip codes can be 3, 5 or 9 digits long, depending on the source data.	While optional, this is the most important field in this table to support location-based queries.
location_source_value	No	Provide When Available	Varchar	The verbatim information that is used to uniquely identify the location as it appears in the source data.	If location source values are deemed sensitive by your organization, insert a pseudo-identifier (random number, encrypted identifier) into the field. Sites electing to obfuscate location_source_values will keep the mapping between the value in this field and the original clear text location source value. This value is only used for site-level re-identification for study recruitment and for data quality review. Sites may consider using the location_id field value in this table as the pseudo-identifier as long as a local mapping from location_id to the real site identifier is maintained.
address_1	No	NO	Varchar		Do not transmit to DCC
address_2	No	NO	Varchar		Do not transmit to DCC
city	No	NO	Varchar		Do not transmit to DCC
county	No	NO	Varchar		Do not transmit to DCC

If a field marked as "Provide when available" for the network requirement is not available at your site, please relay this information to the DCC

1.3.1 Additional Notes

- Each address or Location is unique and is present only once in the table
- Locations in this table are restricted to locations that are applicable to persons and care_sites in the Pedsnet cohort at each site. When external data is implemented, valid(data containing) locations may be expanded beyond locations of those only present in clinical tables.

1.4 CARE_SITE

The Care Site domain contains a list of uniquely identified physical or organizational units where healthcare delivery is practiced (offices, wards, hospitals, clinics, etc.).

Field	NOT Null Constraint	Network Requirement	Data Type	Description	
care_site_id	Yes	Yes	Integer	A unique identifier for each defined location of care within an organization. Here, an organization is defined as a collection of one or more care sites that share a single EHR database.	This is not a value fo Sites may choose to
care_site_name	No	Provide When Available	Varchar	The description of the care site	
place_of_service_concept_id	No	Provide When Available	Integer	A foreign key that refers to a place of service concept identifier in the Vocabulary	Please include valid c CONCEPT table whe select * from concep Please use the follow • Urgent Care Fac • Rural Health Clin • Outpatient (Exan • Office =8940 • Inpatient Psychia • Inpatient Hospita • Independent Clir • Emergency Roon • Other Place of S • Other Inpatient C • Unknown: conce • Other: concept_i • No information: c

Field	NOT Null Constraint	Network Requirement	Data Type	Description	
location_id	No	Provide When Available	Integer	A foreign key to the geographic location of the administrative offices of the organization in the location table, where the detailed address information is stored.	
care_site_source_value	Yes	Yes	Varchar	The identifier for the organization in the source data, stored here for reference.	If care site source va encrypted identifier) the value in this field identification for stuc For EPIC EHRs, map Sites may consider u from care_site_id to t
place_of_service_source_value	No	Provide When Available	Varchar	The source code for the place of service as it appears in the source data, stored here for reference.	

Field	NOT Null Constraint	Network Requirement	Data Type	Description	
specialty_concept_id	No	Provide When Available	Integer	The specialty of the department linked to a standard specialty concept as it appears in the Vocabulary	Care sites could have **Valid specialty conc (https://github.com/ abms-specialty-cat** **Please use the follo** • If care site speci unknown,null or • If a care site has **as assigned in tl (https://github.c abms-specialty-** listing, please us • If there are multi value on the visit • If there are multi document the st pair for each visi **[appendix] (https://github.c abms-specialty-** If the specialty d provided in the v
specialty_source_value	No	Provide When Available	Varchar	The source code for the specialty as it appears in the source data, stored here for reference.	

If a field marked as "Provide when available" for the network requirement is not available at your site, please relay this information to the DCC

1.4.1 Additional Notes

- Care sites are primarily identified based on the specialty or type of care provided, and secondarily on physical location, if available (e.g. North Satellite Endocrinology Clinic)
- The Place of Service Concepts are based on a catalog maintained by the CMS (see vocabulary for values)

1.5 PROVIDER

The Provider domain contains a list of uniquely identified health care providers. These are typically physicians, nurses, etc.

Field	NOT Null Constraint	Network Requirement	Data Type	Description	
provider_id	Yes	Yes	Integer	A unique identifier for each provider. Each site must maintain a map from this value to the identifier used for the provider in the source data.	This is not a value four **SITE RESPONSIBILITY** A mapping from the pr is not shared with the or for data quality revi Sites should document
provider_name	No	NO	Varchar	A description of the provider	DO NOT TRANSMIT TO
gender_concept_id	No	Provide When Available	Integer	The gender of the provider	A foreign key to the co
specialty_concept_id	No	Provide When Available	Integer	A foreign key to a standard provider's specialty concept identifier in the Vocabulary.	Please map the source of Specialties as seen domain_id='Provider S select * from concept 'ABMS','NUCC','PEDsn If none are correct, use For providers with mor used. For example, site guide please use the A specialty does not cor provided in the vocabu
care_site_id	Yes	Yes	Integer	A foreign key to the main care site where the provider is practicing.	See CARE_SITE.care_s
year_of_birth	No	Provide When Available	Integer	The year of birth of the provider	
NPI	No	Site Preference	Varchar	The National Provider Identifier (NPI) of the provider.	

Field	NOT Null Constraint	Network Requirement	Data Type	Description	
DEA	No	Site Preference	Varchar	The Drug Enforcement Administration (DEA) number of the provider.	
provider_source_value	Yes	Yes	Varchar	The identifier used for the provider in the source data, stored here for reference.	Insert a pseudo-identif from your site. A mapp from the source EHR n is used only by the site Sites may consider usi from provider_id to the
specialty_source_value	No	Provide When Available	Varchar	The source code for the provider specialty as it appears in the source data, stored here for reference.	Optional. May be obfus
specialty_source_concept_id	No	Provide When Available	Integer	A foreign key to a concept that refers to the code used in the source.	If providing this inform **Valid specialty concep (https://github.com/P abms-specialty-categ** listing, please use the **If there is not a mappi**
gender_source_value	No	Provide When Available	Varchar	The source value for the provider gender.	
gender_source_concept_id	No	Provide When Available	Integer	The gender of the provider as represented in the source that maps to a concept in the vocabulary	**If there is not a mappi**

If a field marked as "Provide when available" for the network requirement is not available at your site, please relay this information to the DCC

1.5.1 Additional Notes

- For PEDSnet, a provider is any individual (MD, DO, NP, PA, RN, etc) who is authorized to document care.
- Providers are not duplicated in the table.

1.6 VISIT_OCCURRENCE

The visit occurrence domain contains the spans of time a person continuously receives medical services from one or more providers at a care site in a given setting within the health care system.

Exclusions:

1. Future Vists
2. Cancelled Visits (where the patient was not seen)

Note 1: For Outpatient visits, please use the following logic to assign visit concept ids:

Visit Concept Id	Concept Name	Visit Type Inclusion
9202	Ambulatory Visit (AV)	Outpatient Visits where the patient was seen in person
44814711	Other ambulatory Visit (OA)	All other outpatient visits

Note 2: For Observation Stay visits, please discern what defines an observation visit at your site. However, only map to the observation visit type if the patient leaves the hospital or is discharged from what has been determined to be an observation visit. For sites splitting visits, ED->Observation visits are only to be mapped as Observation Stay Visits. The split in this case is not required.

Field	NOT Null Constraint	Network Requirement	Data Type	Description	PEDSne
visit_occurrence_id	Yes	Yes	Integer	A unique identifier for each person's visits or encounter at a healthcare provider.	This is not a v EHR. VISIT_OCCUF unique for all single data se **SITE RESPON field must re identifier acr the DCC.** A mapping fr occurrence ic encounter fro must be kept This mapping the data coor used only by identification recruitment o review. Do nc encounter ID.
person_id	Yes	Yes	Integer	A foreign key identifier to the person for whom the visit is recorded. The demographic details of that person are stored in the person table.	
visit_start_date	Yes	Yes	Date	The start date of the visit.	No date shifti

Field	NOT Null Constraint	Network Requirement	Data Type	Description	PEDSne
visit_end_date	No	Provide When Available	Date	The end date of the visit.	No date shifti If this is a one date should n If the encoun the time of E null.
visit_start_time	Yes	Yes	Datetime	The start date of the visit.	No date shifti time. **If there associated w midnight for**
visit_end_time	No	Provide When Available	Datetime	The end date of the visit.	No date shifti If this is a one date should n If the encoun the time of E null. Full date **is no time as date assert 1 end time**
provider_id	No	Provide When Available	Integer	A foreign key to the provider in the provider table who was associated with the visit.	Use attendin for this field i multiple provi in the visit. O specific decis provider to as and documen **NOTE: this is OMOP CDM v OMOP CDMv**
care_site_id	No	Provide When Available	Integer	A foreign key to the care site in the care site table that was visited.	See CARE_SI (primary key)
visit_concept_id	Yes	Yes	Integer	A foreign key that refers to a place of service concept identifier in the vocabulary.	**In PEDSnet C was previous place_of_ser** Please includ (consistent w Predefined va concept_ids f table where c (vocabulary_i concept_clas Type') or (vocabulary_i concept_clas

Field	NOT Null Constraint	Network Requirement	Data Type	Description	not concept_ AV') and Inva PEDSne
					select * from domain_id='V (vocabulary_i concept_clas Type' and not ED|-IP|-AV') ((vocabulary_i concept_clas and not conc IP|-AV') and i yields 10 valic If none are cc concept_id = • Inpatient concept_ • Ambulatc = 9202 • Emergen concept_ • Long Ter 4289816 • Other am 4481471 • Non-Acu concept_ • Emergen Admit to Stay (If s split the 2000000 • Observat 2000000 • Unknown 4481465 • Other: cc 4481464 • No inforn 4481465 See note 1 fo See note 2 fo Visits.
visit_type_concept_id	Yes	Yes	Integer	A foreign key to the predefined concept identifier in the standard vocabulary reflecting the type of source data from which the visit record is derived.	select * from concept_clas yields 3 valid If none are cc concept_id=0 visits should derived from is concept_id

Field	NOT Null Constraint	Network Requirement	Data Type	Description	PEDSne
visit_source_value	No	Provide When Available	Varchar	The source code used to reflect the type or source of the visit in the source data. Valid entries include office visits, hospital admissions, etc. These source codes can also be type-of service codes and activity type codes.	
visit_source_concept_id	No	Provide When Available	Integer	A foreign key to a concept that refers to the code used in the source.	If a site is usi their visit sou standard con the particular used here. **If there is no source code vocabulary, u**
preceding_visit_occurrence_id	No	NO	Integer	A foreign key to the VISIT_OCCURRENCE table record of the visit immediately preceding this visit.	Do not transn

Field	NOT Null Constraint	Network Requirement	Data Type	Description	PEDSne
admitting_source_concept_id	No	Optional	Integer	A foreign key to the predefined concept in the Place of Service Vocabulary reflecting the admitting source for a visit.	Please use th concept id se source: • Adult Fos Home=4 • Assisted Facility= • Ambulato • Emergen Departm • Home He • Home / S • Hospice= • Other Ac Hospital= • Nursing H ICF)=448 • Rehabilit Facility= • Residenti Facility= • Skilled N Facility=8 • No inforn • Unknown • Other=4 This list can a

Field	NOT Null Constraint	Network Requirement	Data Type	Description	PEDSne
discharge_to_concept_id	No	Optional	Integer	A foreign key to the predefined concept in the Place of Service Vocabulary reflecting the discharge disposition (destination) for a visit.	Please use th concept id se Destination: • Adult Fos Home=38 • Assisted Facility=3 • Against M Advice=4 • Absent w leave=44 • Expired= • Home He • Home / S • Hospice= • Other Ac Hospital= • Nursing H ICF)=867 • Rehabilita • Residenti Facility=4 • Still In Ho • Skilled Nu Facility=8 • No inform • Unknown • Other=44 This list can a
admitting_source_value	No	Optional	Varchar	The source code for the admitting source as it appears in the source data.	
discharge_to_source_value	No	Optional	Varchar	The source code for the discharge disposition as it appears in the source data.	

**If a field marked as "Provide when available" for the network requirement is not available at your site, please relay this information to the DCC

1.6.1 Additional Notes

- The 1/1/2009 date limitation that is used to define a PEDSnet active patient is **NOT** applied to visit_occurrence. All visits, of all types (physical and virtual) are included for an active patient.
- A Visit Occurrence is recorded for each visit to a healthcare facility.

- **If a visit includes moving between different visit_concepts (ED -> inpatient) sites may opt to split the record into separate visit_occurrence records.**

To show the relationship of the split (ED -> inpatient) encounter, use the FACT_RELATIONSHIP table.

An example of this is below:

VISIT_OCCURRENCE

visit_occurrence_id	person_id	visit_start_date	visit_end_date	provider_id	care_site_id	place_of
35022489	209846	2011-11-14 17:36:00-05	2011-11-14 22:25:00-05	2238	322	9203
35022490	209846	2011-11-14 22:25:00-05	2011-11-15 16:33:00-05	2238	43	9201

FACT_RELATIONSHIP

Domain_concept_id_1	fact_id_1	Domain_concept_id_2	fact_id_2	relationship_concept_id
Visit	35022489	Visit	35022490	Occurs before
Visit	35022490	Visit	35022489	Occurs after

| Domain_concept_id_1 | fact_id_1 | Domain_concept_id_2 | fact_id_2 | relationship_concept_id |

Because the domain_concept_id and relationship_concept_id are actually numeric values the following is an example of how the table is stored:

Domain_concept_id_1	fact_id_1	Domain_concept_id_2	fact_id_2	relationship_concept_id
8	35022489	8	35022490	44818881
8	35022490	8	35022489	44818783

- Operating and Anesthesia encounters that occur as apart of the Inpatient stay should be rolled up into one Inpatient encounter.
- Each Visit is standardized by assigning a corresponding Concept Identifier based on the type of facility visited and the type of services rendered.
- At any one day, there could be more than one visit.
- One visit may involve multiple attending or billing providers (e.g. billing, attending, etc), in which case the ETL must specify how a single provider id is selected or leave the provider_id field null.
- One visit may involve multiple care sites, in which case the ETL must specify how a single care_site id is selected or leave the care_site_id field null.

1.7 CONDITION_OCCURRENCE

The condition occurrence domain captures records of a disease or a medical condition based on diagnoses, signs and/or symptoms observed by a provider or reported by a patient.

Conditions are recorded in different sources and levels of standardization. For example:

- Medical claims data include ICD-9-CM diagnosis codes that are submitted as part of a claim for health services and procedures.
- EHRs may capture a person's conditions in the form of diagnosis codes and symptoms as ICD-9-CM or ICD-10-CM codes, but may not have a way to capture out-of-system conditions.
- EHRs may also capture External Injury codes in different place in the source system. These types of codes are also to be included.

For the PEDSNet network, please provide clinical physician based diagnosis as opposed to billing or claim based diangosis data.

Note 1: Please use the following logic to populate the `condition_concept_id`, `condition_source_concept_id` and `condition_source_value` based on what is available in your source system:

Site Information	condition_concept_id	condition_source_concept_id	condition_source_value
Any diagnosis that was captured as a term or name (e.g. IMO to SNOMED)	Corresponding SNOMED concept id	Corresponding concept for site diagnosis captured (must correspond to ICD9/ICD10 concept mapping)	Diagnosis Name "|" Diagnosis Code
Any diagnosis that was captured directly as a code (e.g. ICD9/10) by a coder	Corresponding SNOMED concept id	Corresponding concept for site diagnosis code (must correspond to ICD9/ICD10 concept mapping)	Diagnosis Name "|" Diagnosis Code

Note 2: PEDSNet network, please provide clinical physician based diagnosis as opposed to billing or claim based diangosis data. The clinical physician based diagnosis corresponds to the "Order origin" concept ids for `condition_type_concept_id`. If you are providing billing or claim diagnosis data, please use the "Billing" or "Claim" concept_ids for `condition_type_concept_id`.

Field	NOT Null Constraint	Network Requirement	Data Type	Description	PEDSnet Conve
condition_occurrence_id	Yes	Yes	Integer	A unique identifier for each condition occurrence event.	This is not a value in the EHR. Sites r choose to use a sequential value f field
person_id	Yes	Yes	Integer	A foreign key identifier to the person who is experiencing the condition. The demographic details of that person are stored in the person table.	

Field	NOT Null Constraint	Network Requirement	Data Type	Description	PEDSnet Conve
condition_concept_id	Yes	Yes	Integer	A foreign key that refers to a standard condition concept identifier in the Vocabulary.	Please include val concept ids (cons with OMOP CDMv Predefined value s (valid concept_ids in CONCEPT table vocabulary_id ='SNOMED') select * from conc where vocabulary_ ='SNOMED' yields ~440,000 valid concept_ids. If none are correc concept_id = 0
condition_start_date	Yes	Yes	Date	The date when the instance of the condition is recorded.	No date shifting.
condition_end_date	No	Provide When Available	Date	The date when the instance of the condition is considered to have ended	No date shifting. If this information available, set to N
condition_start_time	Yes	Yes	Datetime	The date and time when the instance of the condition is recorded.	No date shifting. F date and time. **If t no time associate the date assert m for the start time**
condition_end_time	No	Provide When Available	Datetime	The date and time when the instance of the condition is considered to have ended	No date shifting. If this information available, set to N Full date and time **there is no time associated with t assert 11:59:59 p the end time**
condition_type_concept_id	Yes	Yes	Integer	A foreign key to the predefined concept identifier in the Vocabulary reflecting the source data from which the condition was recorded, the level of	Please include val concept ids (cons with OMOP CDMv Predefined value s (valid concept_ids in CONCEPT table concept_class_id ='Condition Type' vocabulary_id='PE select * from conc where concept_cl

Field	NOT Null Constraint	Network Requirement	Data Type	Description	PEDSnet Conve
				standardization, and the type of occurrence. For example, conditions may be defined as primary or secondary diagnoses, problem lists and person statuses.	='Condition Type' vocabulary_id='PE yields 15 valid concept_ids. If none are correc concept_id = 0 **For the primary diagnosis for the inpatient or outpa setting (may be identified as Dx#' source system), I use concepts the following concep** • Outpatient he 1st position - Origin=20000 • Outpatient he 1st position - Origin=20000 • Outpatient he 1st position - Origin=20000 • Inpatient head primary - Ord Origin=20000 • Inpatient head primary - Billi Origin =2000 • Inpatient head primary - Clai Origin= 2000 **All other diagnos is not the primary Dx#1) in the inpat outpatient setting should correspor the following con ids:** • Inpatient head 2nd position - Origin=20000 • Inpatient head 2nd position - Origin = 2000000099 • Inpatient head 2nd position - Origin = 2000000100 • Outpatient he 2nd position -

Field	NOT Null Constraint	Network Requirement	Data Type	Description	PEDSnet Conve
					Origin=20000 • Outpatient he 2nd position - Origin =2000 • Outpatient he 2nd position - Origin =2000 **For diagnosis fro problem list, plea the following con ids:** • EHR problem entry - Order = 200000008 • EHR problem entry - Billing =200000009 • EHR problem entry - Claim =200000009 **SEE NOTE 2 for fu guidance on determining the c**
stop_reason	No	Provide When Available	Varchar	The reason, if available, that the condition was no longer recorded, as indicated in the source data.	Valid values includ discharged, resolv etc. Note that a stop_reason does necessarily imply condition is no lor occurring, and the does not mandate the end date be assigned.
provider_id	No	Provide When Available	Integer	A foreign key to the provider in the provider table who was responsible for determining (diagnosing) the condition.	**In PEDSnet CDM field was previou called associated_provi Any valid provider allowed (see defir providers in PROV table) Make a best-gues document methoc Or leave blank**
visit_occurrence_id	No	Provide When Available	Integer	A foreign key to the visit in the visit table during which the condition was determined (diagnosed).	

Field	NOT Null Constraint	Network Requirement	Data Type	Description	PEDSnet Conve
condition_source_value	Yes	Yes	Varchar	The source code for the condition as it appears in the source data. This code is mapped to a standard condition concept in the Vocabulary and the original code is, stored here for reference.	Condition source are typically ICD-9 ICD-10-CM diagn codes from medic claims or dischar status/visit diagnc codes from EHRs. source_to_concep to translation from source codes to C concept_ids. **Plea include the diagn name and source when populating field, by using th delimiter "|" whe concatenating va** Example: Diagnos Name "|" Diagnos
condition_source_concept_id	No	Provide When Available	Integer	A foreign key to a condition concept that refers to the code used in the source	As a standard con this code must correspond to the ICD9/ICD10 conce mapping of the sc value only. For ex if the condition is myeloid leukemia, without mention o having achieved remission" which icd9 code of 205. condition source c id is 44826430 w the icd9 code con that corresponds diagnosis 205.00. **If there is not a m for the source co the standard vocabulary, use concept_id = 0**
condition_status_concept_id	No	Optional	Integer	A foreign key to the predefined concept in the standard vocabulary reflecting the condition status.	For PEDSnet v2.5 only reporting fina diagnosis, please following concept • Final Diagnosis=42

Field	NOT Null Constraint	Network Requirement	Data Type	Description	PEDSnet Conve
condition_status_source_value	No	Optional	Varchar	The source code for the condition status as it appears in the source data.	

If a field marked as "Provide when available" for the network requirement is not available at your site, please relay this information to the DCC

1.7.1 Additional Notes

- The 1/1/2009 date limitation that is used to define a PEDSnet active patient is **NOT** applied to condition_occurrence. All conditions are included for an active patient. For PEDSnet CDM v2.5, we limit condition_occurrences to final diagnoses only (not reason-for-visit and provisional surgical diagnoses such as those recored in EPIC OPTIME). In EPIC, final diagnoses includes both encounter diagnoses and billing diagnoses, problem lists (all problems, not filtered on "chronic" versus "provisional" unless local practices use this flag as intended). Medical History diagnosis are optional.
- Condition records are inferred from diagnostic codes recorded in the source data by a clinician or abstractionist for a specific visit. In the current version of the CDM, diagnoses extracted from unstructured data (such as notes) are not included.
- Source code systems, like ICD-9-CM, ICD-10-CM, etc., provide coverage of conditions. However, if the code does not define a condition, but rather is an observation or a procedure, then such information is not stored in the CONDITION_OCCURRENCE table, but in the respective tables instead. An example are ICD-9-CM procedure codes. For example, OMOP source-to-concept table uses the MAPPING_TYPE column to distinguish ICD9 codes that represent procedures rather than conditions.
- Condition source values are mapped to standard concepts for conditions in the Vocabulary. For mapping ICD9 Codes to SNOMED, use the concept_relationship table where the icd9_code = concept_id_1 and relationship_id='Maps to'. Concept_id_2 will be the SNOMED concept_id mapping you need to populate the condition_concept_id.
- When the source code cannot be translated into a Standard Concept, a CONDITION_OCCURRENCE entry is stored with only the corresponding source_value and a condition_concept_id of 0.
- Codes written in the process of establishing the diagnosis, such as "question of" of and "rule out", are not represented here.

1.8 PROCEDURE_OCCURRENCE

The procedure occurrence domain contains records of significant activities or processes ordered by and/or carried out by a healthcare provider on the patient to have a diagnostic and/or therapeutic purpose that are not fully captured in another table (e.g. drug_exposure).

Procedures records are extracted from structured data in Electronic Health Records that capture source procedure codes using CPT-4, ICD-9-CM (Procedures),ICD-10 (Procedures), HCPCS or OPCS-4 procedures as orders.

More specifically the procedure occurrence domain is intended to stores information about activity or processes involving a patient that has a billable code. This includes but is not limited to the following:

- LOS Codes ((Eg. 99123) This code may not Not necessarily be a CPT and could require local mapping)
- Lab Procedures (including a Lab Panel Order and Culture Orders)
- Surgery Procedures

- Imaging Procedures

Notes: **Only instantiated procedures are included in this table. Please exclude cancelled procedures For CPT Codes, only include codes that are included in the standard CPT4 vocabulary from the distributed vocabulary**

Note 1: Please use the following logic to populate the `procedure_concept_id`, `procedure_source_concept_id` and `procedure_source_value` based on what is available in your source system:

Site Information	procedure_concept_id	procedure_source_concept_id	procedure_source_value
Procedure codes using CPT-4, ICD-9-CM (Procedures),ICD-10 (Procedures), HCPCS or OPCS-4 procedures as orders	Corresponding CPT-4, ICD-9-CM (Procedures),ICD-10 (Procedures), HCPCS or OPCS-4 concept id	Corresponding CPT-4, ICD-9-CM (Procedures),ICD-10 (Procedures), HCPCS or OPCS-4 concept id	Procedure Name | Procedure Source Code
Custom Procedure Coding (That a site has knowledge of corresponding to a standard code but requires manual mapping)	0	Corresponding CPT-4, ICD-9-CM (Procedures),ICD-10 (Procedures), HCPCS or OPCS-4 concept id	Procedure Name | Custom Procedure Code

Field	NOT Null Constraint	Network Requirement	Data Type	Description	PEDSnet Conventi
procedure_occurrence_id	Yes	Yes	Integer	A system-generated unique identifier for each procedure occurrence	This is not a value fo in the EHR. Sites may choose to use a sequential value for t field
person_id	Yes	Yes	Integer	A foreign key identifier to the person who is subjected to the procedure. The demographic details of that person are stored in the person table.	

Field	NOT Null Constraint	Network Requirement	Data Type	Description	PEDSnet Conventic
procedure_concept_id	Yes	Yes	Integer	A foreign key that refers to a standard procedure concept identifier in the Vocabulary.	Valid Procedure Concepts belong to t "Procedure" domain. Procedure Concepts based on a variety of vocabularies: SNOMI CT (vocabulary_id ='SNOMED'), ICD-9- Procedures (vocabulary_id ='ICD9Proc'),ICD-10- Procedures (vocabulary_id ='ICD10PCS' **NOT YE AVAILABLE**), CPT-4 (vocabulary_id ='CPT), and HCPCS (vocabulary_id ='HCPCS') Procedures are expected to be carrie out within one day. If they stretch over a number of days, such artificial respiration, usually only the initia is reported as a procedure (CPT-4 "Intubation, endotracheal, emergency procedur Procedures could involve the administration of a d in which case the procedure is recorde the procedure table a simultaneously the administered drug in drug table.
modifier_concept_id	No	Provide When Available	Integer	A foreign key to a standard concept identifier for a modifier to the procedure (e.g. bilateral)	Valid Modifier Conce belong to the "Modif concept class. select from concept where concept_class_id like '%Modifier%'.

Field	NOT Null Constraint	Network Requirement	Data Type	Description	PEDSnet Conventio
quantity	No	Provide When Available	Float	The quantity of procedures ordered or administered.	
procedure_date	Yes	Yes	Date	The date on which the procedure was performed.	
procedure_time	Yes	Yes	Datetime	The date and time on which the procedure was performed. If there is no time associated with the date assert midnight.	**This field is a custor PEDSnet field**
procedure_type_concept_id	Yes	Yes	Integer	A foreign key to the predefined concept identifier in the Vocabulary reflecting the type of source data from which the procedure record is derived. (OMOP vocabulary_id = 'Procedure Type')	Please include valid concept ids (consiste with OMOP CDMv5). Predefined value set (valid concept_ids fo in CONCEPT table wl vocabulary_id = 'Procedure Type') select * from concep where vocabulary_id ='Procedure Type' yi 93 valid concept_ids Please map all procedures to the following concept: • EHR order list er 38000275

Field	NOT Null Constraint	Network Requirement	Data Type	Description	PEDSnet Conventic
provider_id	No	Provide When Available	Integer	A foreign key to the provider in the provider table who was responsible for carrying out the procedure.	Any valid provider_id allowed (see definitic of providers in PROVIDER table) Document how selec was made.
visit_occurrence_id	No	Provide When Available	Integer	A foreign key to the visit in the visit table during which the procedure was carried out.	See VISIT.visit_occurrenc (primary key)
procedure_source_value	Yes	Yes	Varchar	The source code for the procedure as it appears in the source data. This code is mapped to a standard procedure concept in the Vocabulary and the original code is stored here for reference.	Procedure_source_va codes are typically IC 9, ICD-10 Proc, CPT- HCPCS, or OPCS-4 codes. All of these codes are acceptable source values.Please also include the procedure name. See Note 1.

Field	NOT Null Constraint	Network Requirement	Data Type	Description	PEDSnet Conventi
procedure_source_concept_id	No	Provide When Available	Integer	A foreign key to a procedure concept that refers to the code used in the source.	For example, if the procedure is "Anesthesia for procedures on eye; l surgery" in the sourc which has a concept code in the vocabula that is 2100658. The procedure source concept id will be 2100658. **If there is not a mapping for the sou code in the standard vocabulary, use concept_id = 0**
modifier_source_value	No	Provide When Available	Varchar	The source code for the modifier as it appears in the source data.	
qualifier_source_value	No	Provider When Available	Varchar	The source code for the qualifier as it appears in the source data.	

If a field marked as "Provide when available" for the network requirement is not available at your site, please relay this information to the DCC

1.8.1 Additional notes

- The 1/1/2009 date limitation that is used to define a PEDSnet active patient is **NOT** applied to procedure_occurrence. All procedures are included for an active patient. For PEDSnet CDM v2.5, we limit procedures_occurrences to billing procedures only (not surgical diagnoses).
- Procedure Concepts are based on a variety of vocabularies: SNOMED-CT, ICD-9-Proc, ICD-10-Proc, CPT-4, HCPCS and OPCS-4.
- Procedures could reflect the administration of a drug, in which case the procedure is recorded in the procedure table and simultaneously the administered drug in the drug table.
- The Visit during which the procedure was performed is recorded through a reference to the VISIT_OCCURRENCE table. This information is not always available.
- The Provider carrying out the procedure is recorded through a reference to the PROVIDER table. This information is not always available.

1.9 OBSERVATION

The observation domain captures clinical facts about a patient obtained in the context of examination, questioning or a procedure. The observation domain supports capture of data not represented by other domains such as

unstructured measurements. For the PEDSnet CDM version 2.4, the observations listed below are extracted from source data. Please assign the specific concept_ids listed in the table below to these observations as observation_concept_ids. Non-standard PCORnet concepts require concepts that have been entered into an OMOP-generated vocabulary (OMOP provided vocabulary_id ='PCORNet').

NOTE: DRG and DRG Type require special logic/processing described below.

- Admitting source (Inpatient and outpatient visit types where available)
- Discharge disposition (Inpatient and outpatient visit types where available)
- Discharge status (Inpatient and outpatient visit types where available)
- DRG (requires special logic - see Note 1 below)
- Tobacco Information (see Note 4)

Use the following table to populate observation_concept_ids for the observations listed above. The vocabulary id 'PCORNet' contains concept specific to PCORNet requirements and standards.

Table 1: Valid Observation concept IDs and Value as concept IDs for PEDSNet v2.5.

Concept Name	Observation concept ID	Vocab ID	Value as concept ID	Concept description	Vocab ID	PCORNet Mapping
Admitting source	4145666		44814670	Adult Foster Home		
Admitting source	4145666		44814671	Assisted Living Facility		
Admitting source	4145666		44814672	Ambulatory Visit		
Admitting source	4145666		8870	Emergency Department		
Admitting source	4145666		44814674	Home Health		
Admitting source	4145666		44814675	Home / Self Care		
Admitting source	4145666		8546	Hospice		
Admitting source	4145666		38004279	Other Acute Inpatient Hospital		
Admitting source	4145666		44814678	Nursing Home (Includes ICF)		
Admitting source	4145666		44814679	Rehabilitation Facility		
Admitting source	4145666		44814680	Residential Facility	PCORNet	
Admitting source	4145666		8863	Skilled Nursing Facility		
Admitting source	4145666		44814650	No information	PCORNet	
Admitting source	4145666		44814653	Unknown	PCORNet	

Concept Name	Observation concept ID	Vocab ID	Value as concept ID	Concept description	Vocab ID	PCORNet Mapping
Admitting source	4145666		44814649	Other	PCORNet	
Discharge status(See Note 3)	44813951	SNOMED	4161979	Discharged alive		
Discharge status	44813951	SNOMED	4216643	Expired		
Discharge status	44813951	SNOMED	44814650	No information	PCORNet	
Discharge status	44813951	SNOMED	44814653	Unknown	PCORNet	
Discharge status	44813951	SNOMED	44814649	Other	PCORNet	
Discharge disposition (see Note 3)	4137274		38004205	Adult Foster Home		
Discharge disposition	4137274		38004301	Assisted Living Facility		
Discharge disposition	4137274		4021968	Against Medical Advice		
Discharge disposition	4137274		44814693	Absent without leave	PCORNet	
Discharge disposition	4137274		4216643	Expired		
Discharge disposition	4137274		38004195	Home Health		
Discharge disposition	4137274		8536	Home / Self Care		
Discharge disposition	4137274		8546	Hospice		
Discharge disposition	4137274		38004279	Other Acute Inpatient Hospital		
Discharge disposition	4137274		8676	Nursing Home (Includes ICF)		
Discharge disposition	4137274		8920	Rehabilitation Facility		
Discharge disposition	4137274		44814701	Residential Facility	PCORNet	
Discharge disposition	4137274		8717	Still In Hospital		

Concept Name	Observation concept ID	Vocab ID	Value as concept ID	Concept description	Vocab ID	PCORNet Mapping
Discharge disposition	4137274		8863	Skilled Nursing Facility		
Discharge disposition	4137274		44814653	Unknown	PCORNet	
Discharge disposition	4137274		44814649	Other	PCORNet	
Discharge disposition	4137274		44814650	No information	PCORNet	
Tobacco	4005823		4005823	Tobacco User		01 = Current user
Tobacco	4005823		45765920	Never used Tobacco		02 = Never
Tobacco	4005823		45765917	Ex-tobacco user		03 = Quit/Former Smoker
Tobacco	4005823		4030580	Non-smoker's second hand smoke syndrome		04 = Passive or environmenta exposure
Tobacco	4005823		2000000040			06 = Not asked
Tobacco	4005823		44814650	No information	PCORNet	NI
Tobacco	4005823		44814653	Unknown	PCORNet	OT
Tobacco	4005823		44814649	Other	PCORNet	UN
Tobacco Type	4219336	Multiple Response allowed	4298794	Smoker		01 = Smoked tobacco only
Tobacco Type	4219336	Multiple Response allowed	4224317	Pipe smoking tobacco		01 = Smoked tobacco only
Tobacco Type	4219336	Multiple Response allowed	4282779	Cigarette smoking tobacco		01 = Smoked tobacco only
Tobacco Type	4219336	Multiple Response allowed	4132133	Cigar smoking tobacco		01 = Smoked tobacco only
Tobacco Type	4219336	Multiple Response allowed	4218197	Snuff tobacco		02 = Non-smoked tobacco only
Tobacco Type	4219336	Multiple Response allowed	4219234	Chewing tobacco		02 = Non-smoked tobacco only

Concept Name	Observation concept ID	Vocab ID	Value as concept ID	Concept description	Vocab ID	PCORNet Mapping
Tobacco Type	4219336		45765920	Never used tobacco		04 = None
Tobacco Type	4219336		45765917	Ex tobacco user		04 = None
Tobacco Type	4219336		4030580	Non-smoker's second hand smoke syndrome		04 = Passive or environmenta exposure/Nor
Tobacco Type	4219336		44814650	No information	PCORNet	NI
Tobacco Type	4219336		44814653	Unknown	PCORNet	OT
Tobacco Type	4219336		44814649	Other	PCORNet	UN
Smoking	4275495		42709996	Smokes tobacco daily		01 = Current everyday smoker
Smoking	4275495		2000000039	Occasional tobacco smoker - SNOMED International Code	PEDSNet	02 = current some day smoker
Smoking	4275495		4310250	Ex-smoker		03 = Former smoker
Smoking	4275495		4144272	Never smoked tobacco		04 = Never smoker
Smoking	4275495		4298794	Smoker		05 = Smoker, current status unknown
Smoking	4275495		4141786	Tobacco smoking consumption(status) unknown		06 = Unknow if ever smoke
Smoking	4275495	**USE AS DEFAULT FOR CATEGORY**	4044778	Chain smoker		07 = Heavy tobacco smoker
Smoking	4275495		4209006	Heavy smoker (over 20 per day)		07 = Heavy tobacco smoker
Smoking	4275495	**USE ONLY IF QUANTITY OF CIGARETTES IS KNOWN**	4209585	Moderate smoker (20 or less per day)		08 = Light tobacco smoker
Smoking	4275495		44814650	No information	PCORNet	NI
Smoking	4275495		44814653	Unknown	PCORNet	OT

Concept Name	Observation concept ID	Vocab ID	Value as concept ID	Concept description	Vocab ID	PCORNet Mapping
Smoking	4275495		44814649	Other	PCORNet	UN

Note 1: For DRG, use the following logic (must use vocabulary version 5):

- The DRG value must be three digits as text. Put into value_as_string in observation
- For all DRGs, set observation_concept_id = 3040464 (hospital discharge DRG)
- To obtain correct value_as_concept_id for the DRG:
  - If the date for the DRG < 10/1/2007, use concept_class_id = "DRG", invalid_date = "9/30/2007", invalid_reason = 'D' and the DRG value=CONCEPT.concept_code to query the CONCEPT table for correct concept_id to use as value_as_concept_id.
  - If the date for the DRG >=10/1/2007, use concept_class_id = "MS-DRG", invalid_reason = NULL and the DRG value = CONCEPT.concept_code to query the CONCEPT table for the correct concept_id to use as value_as_concept_id.
- If your site has **APR-DRGs** please include these in the observation table. We have requested the APR-DRG vocabulary to be incorporated as apart of the OMOP standard vocabulary.

Note 2:

- For each inpatient encounter or in some cases the outpatient encounter, there can be 1 admit source, 1 discharge disposition, 1 discharge status, 1 or more DRG (May not be 1:1:1:1 if patients still admitted (therefore no discharge disposition, discharge details or DRG yet))
- There should **NOT** be discharges without admission.
- For each emergency dept (ED) encounters, these 4 records *may* also be populated but this is *optional*.
- For outpatient encounters (OT, OA), these 4 records may be populated

Note 3: Please provide tobacco information from the primary source of data capture at your site. If tobacco information is available at the visit level, please provide this information. If it is not, sites are welcomed to make a high level assertion about tobacco use and tobacco type information for individuals in the cohort.

Note 4: Below are examples of how the observation table and the fact relationship table would be populated for tobacco, smoking and tobacco type scenarios. In the case where tobacco information is recorded at a visit but there is missing information for tobacco, smoking or tobacco type please assert. The PEDSnet standard relationship concept id for linking tobacco items will be *0*. This concept id was chosen as there was not a specific concept id that exists in the standard vocabulary that adequately defined an appropriate relationship for linking the tobacco items.

Example 1:

Patient 1 smokes 5 cigarettes per day and does not use non-smoked tobacco

Observation table:

Observation ID	Person ID	Observation concept id	Value as concept id
0001	1	4005823	4005823
0002	1	4219336	4282779
0003	1	4275495	4209585

Fact relationship:

Domain_concept_id_1	Fact_id_1	Domain_concept_id_2	Fact_id_2	relationship_concept_id
27	0001	27	0002	0
27	0001	27	0003	0

Example 2: Patient 2 smokes 25-40 cigarettes per day and also chews tobacco

Observation table:

Observation ID	Person ID	Observation concept id	Value as concept id
0004	2	4005823	4005823
0005	2	4219336	4282779
0006	2	4219336	4219234
0007	2	4275495	4209006

Fact relationship:

Domain_concept_id_1	Fact_id_1	Domain_concept_id_2	Fact_id_2	relationship_concept_id
27	0004	27	0005	0
27	0004	27	0006	0
27	0004	27	0007	0

For more examples, or if you have a specific scenario that you have a question about, please contact the DCC.

Field	NOT Null Constraint	Network Requirement	Data Type	Description	PEDSnet Cor
observation_id	Yes	Yes	Integer	A unique identifier for each observation.	This is not a va in the EHR. Sit choose to use sequential valu field
person_id	Yes	Yes	Integer	A foreign key identifier to the person about whom the observation was recorded. The demographic details of that person are stored in the person table.	
observation_concept_id	Yes	Yes	Integer	A foreign key to the standard observation concept identifier in the Vocabulary.	Lab results an are not stored table in V5 but stored in the Measurement
observation_date	Yes	Yes	Date	The date of the observation.	No date shiftir date and time. no time associ the date asser midnight.

Field	NOT Null Constraint	Network Requirement	Data Type	Description	PEDSnet Cor
observation_time	No	Provide When Available	Datetime	The time of the observation.	No date shiftir date and time. no time associ the date asser midnight.
observation_type_concept_id	Yes	Yes	Integer	A foreign key to the predefined concept identifier in the Vocabulary reflecting the type of the observation.	Please include concept ids (c with OMOP CD Predefined val (valid concept in CONCEPT t where vocabu ='Observation select * from c where vocabu 'Observation T yields 11 valid concept_ids. FOR PEDSnet all of our obse are coming fro electronic hea records so *set to concept_id 38000280* (ob recorded from When we get c patients, we w the concept_ic 44814721
value_as_number	No (see convention)	Provide When Available	Float	The observation result stored as a number. This is applicable to observations where the result is expressed as a numeric value.	Value must be represented a one of {value_as_num value_as_strin values_as_con There are a fe exceptions in vocabulary id where all three value_as_* fiel NULL.

Field	NOT Null Constraint	Network Requirement	Data Type	Description	PEDSnet Cor
value_as_string	No (see convention)	Provide When Available	Varchar	The observation result stored as a string. This is applicable to observations where the result is expressed as verbatim text.	Value must be represented as one of {value_as_num value_as_strin values_as_con There are a fe exceptions in vocabulary id where all three value_as_* fiel NULL.
value_as_concept_id	No (see convention)	Provide When Available	Integer	A foreign key to an observation result stored as a concept identifier. This is applicable to observations where the result can be expressed as a standard concept from the Vocabulary (e.g., positive/negative, present/absent, low/high, etc.).	Value must be represented as one of {value_as_num value_as_strin values_as_con There are a fe exceptions in vocabulary id where all three value_as_* fiel NULL.
qualifier_concept_id	No	Provide When Available	Integer	A foreign key to standard concept identifier for a qualifier (e.g severity of drug-drug interaction alert)	Predefined val (valid concept in CONCEPT t where domain_id='Ob and concept_c ='Qualifier Val select * from c where domain_id='Ob and concept_c ='Qualifier Val 10496 valid concept_ids. If none are cor concept_id = 0

Field	NOT Null Constraint	Network Requirement	Data Type	Description	PEDSnet Cor
unit_concept_id	No	Provide When Available	Integer	A foreign key to a standard concept identifier of observation units in the Vocabulary.	Please include concept ids (c with OMOP CD Predefined val (valid concept in CONCEPT t where domain and vocabular ='UCUM') select * from c where domain and vocabular ='UCUM' yield valid concept_ If none are cor concept_id = 0
provider_id	No	Provide When Available	Integer	A foreign key to the provider in the provider table who was responsible for making the observation.	
visit_occurrence_id	No	Provide When Available	Integer	A foreign key to the visit in the visit table during which the observation was recorded.	
observation_source_value	No	Provide When Available	Varchar	The observation code as it appears in the source data. This code is mapped to a standard concept in the Vocabulary and the original code is, stored here for reference.	
observation_source_concept_id	No	Provide When Available	Integer	A foreign key to a concept that refers to the code used in the source.	**If there is not mapping for t code in the st vocabulary, u concept_id =**

Field	NOT Null Constraint	Network Requirement	Data Type	Description	PEDSnet Cor
unit_source_value	No	Provide When Available	Integer	The source code for the unit as it appears in the source data. This code is mapped to a standard unit concept in the Vocabulary and the original code is, stored here for reference.	
qualifier_source_value	No	Provide When Available	Varchar	The source value associated with a qualifier to characterize the observation	

If a field marked as "Provide when available" for the network requirement is not available at your site, please relay this information to the DCC

1.9.1 Additional Notes

- The 1/1/2009 date limitation that is used to define a PEDSnet active patient is **NOT** applied to observations. All observations are included for an active patient. For PEDSnet CDM v2.5, we limit observations to only those that appear in Table 1.
- Observations have a value represented by one of a concept ID, a string, **OR** a numeric value.
- The Visit during which the observation was made is recorded through a reference to the VISIT_OCCURRENCE table. This information is not always available.
- The Provider making the observation is recorded through a reference to the PROVIDER table. This information is not always available.
- Observations obtained using standardized methods (e.g. laboratory assays) that produce discrete results are recorded by preference in the MEASUREMENT table.

1.10 OBSERVATION PERIOD

The observation period domain is designed to capture the time intervals in which data are being recorded for the person. An observation period is the span of time when a person is expected to have a clinical fact represented in the PEDSNet version 2.3 data model. This table is used to generate the PCORnet CDM enrollment table.

While analytic methods can be used to calculate gaps in observation periods that will generate multiple records (observation periods) per person, for PEDSnet, the logic has been simplified to generate a single observation period row for each patient. This logic can be found [here] (https://github.com/PEDSnet/dcc-loader/blob/master/load-data/generate_obs_period.psql)

Field	NOT Null Constraint	Network Requirement	Data Type	Description	PEDSnet Conventions

Observation_period_id	Yes	Yes	Integer	A system-generate unique identifier for each observation period	This is not a value found in the EHR. Sites may choose to use a sequential value for this field.
person_id	Yes	Yes	Integer	A foreign key identifier to the person who is experiencing the condition. The demographic details of that person are stored in the person table.	
Observation_period_start_date	Yes	Yes	Date	The start date of the observation period for which data are available from the data source	Use the earliest clinical fact date available for this patient. No date shifting.
Observation_period_end_date	Yes	Yes	Date	The end date of the observation period for which data are available from the source.	Use the latest clinical fact date available for this patient. If there exists one or more records in the DEATH table for this patient, use the latest date recorded in that table.
Observation_period_start_time	Yes	Yes	Datetime	The start date of the observation period for which data are available from the data source	Use the earliest clinical fact time available for this patient. No date shifting. Full date and time. **If there is no time associated with the date assert midnight for the start time**

Observation_period_end_time	Yes	Yes	Datetime	The end date of the observation period for which data are available from the source.	Use the latest clinical fact time available for this patient. If there exists one or more records in the DEATH table for this patient, use the latest date recorded in that table. For patients who are still in the hospital or ED or other facility at the time of data extraction, leave this field NULL. Full date and time. **If there is no time associated with the date assert 11:59:59 pm for the end time**

If a field marked as "Provide when available" for the network requirement is not available at your site, please relay this information to the DCC

1.10.1 Additional Notes

- Because the 1/1/2009 date limitation for "active patients" is not used to limit visit_occurrence, the start_date of an observation period for an active PEDSnet patient may be prior to 1/1/ 2009.

1.11 DRUG EXPOSURE

The drug exposure domain captures any biochemical substance that is introduced in any way to a patient. This can be evidence of prescribed, over the counter, administered (IV, intramuscular, etc), immunizations or dispensed medications. These events could be linked to procedures or encounters where they are administered or associated as a result of the encounter.

EHRs may store medications in different vocabularies (GPI,NDC etc).

Exclusions:

1. Cancelled Medication Orders
2. Missed Medication administrations

Note 1: The `effective_drug_dose` is the dose basis.(E.g. 45 mg/kg/dose). This is the discrete dose value from the source data if available. If the discrete dose value is **not** available from the source data, then compute the dose basis by looking for a weight observation **+/- 60 days of the date of the medication**. (E.g. Total Amount/**(divided by)**Weight) (Dose per kg)

The dose_unit_concept_id is the unit of the effective dose.

Please use the following logic to populate the effective_dose and dose unit based on what is available in your source system:

Site Information	Effective Drug Dose	Dose Unit Concept Id	Dose Unit Source Value
Pre-calculated effective dose available (E.g. 90 mg/kg)	90	Corresponding concept for unit (E.g. mg/kg = 9562)	mg/kg
Site is able to compute effective dose (E.g. Dose 500 mg and Available Weight +/- 60 days is 54.43 kg)	9.18	Corresponding concept for unit (E.g. mg/kg = 9562)	mg
Site is not able to compute effective dose(E.g. Site Only has dose (E.g. 450 mg))	450	Corresponding Concept for unit (E.g. mg = 8576)	mg
No discrete dosing information		0	

Note 2: The quantity is the actual dose given. (E.g. 450 mg for 10 kg patient) Extract numbers as much as possible , full value should be a part of the xml sig field.

Note 3: For dispensing records, compute the dose basis by looking for a weight observation +/- 60 days of the dispensed date.

Note 4: For the sig, encode the value using XML.

- Element 1: Actual SIG from source data
- Element 2: Raw "Supply/Quantity" (Examples: "1 bottle" "10 ml Bottle" "1 pack"
- Element 3: Refills

```
<XML>
<SIG>1/2 capful in 4 oz clear liquid</SIG>
<QUANTITY>1 jar</QUANTITY>
<REFILLS>2</REFILLS>
</XML>
```

Note 5: If there are multiple RxNorm mappings associate with a mapping, choose the mapping in the following order and stop when you find your first match.

1. BPCK (Branded Pack)
2. GPCK (Clinical Pack)
3. SBD (Branded Drug, Quant Branded Drug)
4. SCD (Clinical Drug, Quant Clinical Drug)
5. SBDF (Branded Drug Form)
6. SCDF (Clinical Drug Form)
7. MIN (Ingredient)
8. SBDC
9. SCDC
10. PIN (Ingredient)
11. IN (Ingredient)

Note 6: Please use the following table as a guide to determine how to populate the `drug_source_value` , `drug_source_concept_id` and `drug_concept_id` for Drug Exposure Values

You have in your source system	Drug_source_value	Drug_source_conept_id	Drug_concept_id

Drug code is GPI/Multum/Other code	• GPI/Multum/Other Code • Local name | GPI/Multum/Other (any above are OK)	OMOP's concept_id for GPI/Multum/Other code	RxNorm code that corresponds to a mapping from `concept_relationship`
Drug code is RxNorm	• RxNorm Code • Local name or • Local name | RxNorm code (any above are OK)	Corresponding RxNorm concept_id mapping	Corresponding RxNorm concept_id mapping

Note 7: For medication administration events, please store all events as single drug exposure entries.

Field	NOT Null Constraint	Network Requirement	Data Type	Description	PEDSnet Conventi
drug_exposure_id	Yes	Yes	Integer	A system-generated unique identifier for each drug exposure	This is not a value fc in the EHR. Sites ma choose to use a sequential value for field.
person_id	Yes	Yes	Integer	A foreign key identifier to the person who is experiencing the condition. The demographic details of that person are stored in the person table.	
drug_concept_id	Yes	Yes	Integer	A foreign key that refers to a standard drug concept identifier in the Vocabulary.	Valid drug concept I are mapped to RxNo using the source to concept map table t transform source co (GPI, NDC etc to the RxNorm target). In th event of multiple RxNorm mappings please see Note 5. S note 6 for guide.

Field	NOT Null Constraint	Network Requirement	Data Type	Description	PEDSnet Conventi
drug_exposure_start_date	Yes	Yes	Date	The start date of the utilization of the drug. The start date of the prescription, the date the prescription was filled, the date a drug was dispensed or the date on which a drug administration procedure was recorded are acceptable.	If the start date of th drug is null in the so system, use the orde date as the start dat No date shifting.
drug_exposure_end_date	No	Provide When Available	Date	The end date of the utilization of the drug	No date shifting.
drug_exposure_order_date	No	Provider When available	Date	The order date of the drug	No date shifting.
drug_exposure_start_time	Yes	Yes	Datetime	The start date and time of the utilization of the drug. The start date of the prescription, the date the prescription was filled, the date a drug was dispensed or the date on which a drug administration procedure was recorded are acceptable.	No date shifting. Ful date and time. **If the no time associated the date assert midnight for the sta time**
drug_exposure_end_time	No	Provide When Available	Datetime	The end date and time of the utilization of the drug	No date shifting. Ful date and time. **If the no time associated the date assert 11:59:59 pm for the time**

Field	NOT Null Constraint	Network Requirement	Data Type	Description	PEDSnet Conventi
drug_exposure_order_time	No	Provider When available	Datetime	The order date and time of the drug	If the start datetime the drug is null in the source system, use t ordering datetime as start datetime. No da shifting.Full date and time. **If there is no ti associated with the date assert midnigh for the start time**
drug_type_concept_id	Yes	Yes	Integer	A foreign key to a standard concept identifier of the type of drug exposure in the Vocabulary as represented in the source data	Please include valid concept ids (consist with OMOP CDMv5). Predefined value set (valid concept_ids fo in CONCEPT table w concept_class_id ='D Type') select * from concep where domain_id ='D Type' yields 13 valid concept_ids. If none are correct, u concept_id = 0. For the PEDSnet dru types listed above, u the following concept_ids: • Prescription dispensed in pharmacy (dispensed med pharma information): concept_id = 38000175 • Inpatient administration (I entries): concep = 38000180 • Prescription writ concept_id = 38000177

Field	NOT Null Constraint	Network Requirement	Data Type	Description	PEDSnet Conventi
stop_reason	No	Provide When Available	Varchar	The reason, if available, where the medication was stopped, as indicated in the source data.	Valid values include therapy completed, changed, removed, s effects, etc. Note tha stop_reason does no necessarily imply tha the medication is no longer being used at and therefore does r mandate that the en date be assigned.
refills	No	Provide When Available	Integer	The number of refills after the initial prescription	See Note 2. Extract numbers as much as possible , full value should be a part of t xml sig field.
quantity	No	Provide When Available	Integer	The quantity of the drugs as recorded in the original prescription or dispensing record	See Note 2. Extract numbers as much as possible , full value should be a part of t xml sig field.
days_supply	No	Provide When Available	Integer	The number of days of supply the medication as recorded in the original prescription or dispensing record	
sig	No	Provide When Available	CLOB (XML Structure)	The directions on the drug prescription as recorded in the original prescription (and printed on the container) or the dispensing record	See Note 4

Field	NOT Null Constraint	Network Requirement	Data Type	Description	PEDSnet Conventi
route_concept_id	No	Provide When Available	Integer	A foreign key that refers to a standard administration route concept identifier in the Vocabulary.	Please include valid concept ids (consist with OMOP CDMv5). Predefined value set (valid concept_ids fc in CONCEPT table w domain_id='Route') select * from concep where domain_id='Route' a invalid_reason is null yields 70 valid concept_ids. If none are correct, u concept_id = 0.
effective_drug_dose	No	Provide When Available	Float	Numerical value of drug dose for this drug_exposure record	See note 1
eff_drug_dose_source_value	No	Provide When Available	Varchar	The drug dose for this drug_exposure record as it appears in the source	
dose_unit_concept_id	No	Provide When Available	Integer	A foreign key to a predefined concept in the Standard Vocabularies reflecting the unit the effective drug_dose value is expressed	**See note 1** Please include valid concept ids (consist with OMOP CDMv5). Predefined value set (valid concept_ids fc in CONCEPT table w vocabulary_id = UCU select * from concep where vocabulary_id 'UCUM' yields 971 va concept_ids.
lot_number	No	Site preference	Varchar	An identifier to determine where the product originated	

Field	NOT Null Constraint	Network Requirement	Data Type	Description	PEDSnet Conventi
provider_id	No	Provide When Available	Integer	A foreign key to the provider in the provider table who initiated (prescribed) the drug exposure	Any valid provider_ic allowed (see definiti of providers in PROVIDER table) Document how selec was made.
visit_occurrence_id	No	Provide When Available	Integer	A foreign key to the visit in the visit table during which the drug exposure initiated.	See VISIT.visit_occurrenc (primary key)
drug_source_value	No	Provide When Available	Varchar	The source drug value as it appears in the source data. The source is mapped to a standard RxNorm concept and the original code is stored here for reference.	Please be sure to include your source code and the drug n in this field. This will useful in the event th there is no RxNorm mapping for your loc medication code. Ple use the pipe delimite when concatenating values. See note 6.
drug_source_concept_id	No	Provide When Available	Integer	A foreign key to a drug concept that refers to the code used in the source	In this case, if you ar transforming drugs f GPI or NDC to RXNo The concept id that corresponds to the C or NDC value for the drug belongs here. S note 6. **If there is not a mapping for the sou code in the standar vocabulary, use concept_id = 0**
route_source_value	No	Provide When Available	Varchar	The information about the route of administration as detailed in the source	

Field	NOT Null Constraint	Network Requirement	Data Type	Description	PEDSnet Conventi
dose_unit_source_value	No	Provide When Available	Varchar	The information about the dose unit as detailed in the source	
frequency	No	Optional	Varchar	The frequency information as available from the source	

If a field marked as "Provide when available" for the network requirement is not available at your site, please relay this information to the DCC

1.11.1 Additional Notes

- The 1/1/2009 date limitation that is used to define a PEDSnet active patient is **NOT** applied to drug exposures. All drug exposures are included for an active patient.
- The Visit during which the drug exposure was initiated by is recorded through a reference to the VISIT_OCCURRENCE table. This information is not always available.
- The Provider initiating the drug exposure is recorded through a reference to the PROVIDER table. This information is not always available.

1.12 MEASUREMENT

The measurement domain captures measurement orders and measurement results. The measurement domain can contain laboratory results and vital signs.

Specifically this table includes:

- Height/length in cm (use numeric precision as recorded in EHR)
- Height/length type
- Weight in kg (use numeric precision as recorded in EHR)
- Body Mass Index
- Temperature in degrees Celsius
- Head Circumference in cm (use numeric precision as recorded in EHR)
- FVC in liters
- FVC pre (if recorded differently) in liters
- FVC post in liters
- FEV 1 in liters
- FEV 1 pre (if recorded differently) in liters
- FEV 1 post in liters
- FEF 25-75 in liters per minute
- FEF 25-75 pre (if recorded differently) in liters per minute
- FEF 25-75 post in liters per minute
- Peak Flow (PF) in milliteres per second
- Peak Flow post in milliteres per second
- Body mass index in kg/m^2 (extracted only if height and weight are not present)
- Systolic blood pressure in mmHg

    - Where multiple readings are present on the same encounter, create measurement records for **ALL** readings
- Diastolic blood pressure in mmHg
    - Where multiple readings are present on the same encounter, create measurement records for **ALL** readings
- Blood pressure position is described by the selection of a concept_id that contains the BP position as describe below. For example, in Table 1, concept_id 3018586 is Systolic Blood Pressure, Sitting. This concept_id identifies both the measurement (Systolic BP) and the BP position (sitting).
- Vital source
- Component Level Labs. The Lab Listing and PEDSNet LOINC Mapping can be found [here] (https://github.com/PEDSnet/Data_Models/blob/master/PEDSnet/docs/PEDSnet_Component_Loinc_Mapping.xlsx)

Table 3: Measurement concept IDs for PCORnet concepts. Concept_ids from vocabulary_id 99 are non-standard codes.

Domain id	Observation concept ID	Vocab ID	Value as concept ID	Concept description	Vocab ID
Vital	3013762		See Note 1	Weight	
Vital	3023540		See Note 1	Height	
Vital	3038553		See Note 3	BMI kg/m^2	
Vital	3034703		See Note 2	Diastolic Blood Pressure - Sitting	
Vital	3019962		See Note 2	Diastolic Blood Pressure - Standing	
Vital	3013940		See Note 2	Diastolic Blood Pressure - Supine	
Vital	3012888		See Note 2	Diastolic BP Unknown/Other	
Vital	3018586		See Note 2	Systolic Blood Pressure - Sitting	
Vital	3035856		See Note 2	Systolic Blood Pressure - Standing	
Vital	3009395		See Note 2	Systolic Blood Pressure - Supine	
Vital	3004249		See Note 2	Systolic BP Unknown/Other	
Vital	2000000041		See Note 3	Weight for age z score NHANES	
Vital	2000000042		See Note 3	Height for age z score NHANES	
Vital	2000000043		See Note 3	BMI for age z score NHANES	
Vital	2000000044		See Note 3	Weight for age z score WHO	
Vital	2000000045		See Note 3	Height for age z score WHO	
Vital	2000000046		See Note 3	Systolic BP for age/height Z score NCBPEP	

Domain id	Observation concept ID	Vocab ID	Value as concept ID	Concept description	Vocab ID
Vital	2000000047		See Note 3	Diastolic BP for age/height Z score NCBPEP	
Vital	3020891		See Note 1	Temperature	
Vital	3001537		See Note 1	Head Circumference	
Vital	3020158		See Note 1	FVC	
Vital	3037879		See Note 1	FVC pre (if recorded differently)	
Vital	3001668		See Note 1	FVC post	
Vital	3024653		See Note 1	FEV 1	
Vital	3005025		See Note 1	FEV 1 pre (if recorded differently)	
Vital	3023550		See Note 1	FEV 1 post	
Vital	42868460		See Note 1	FEF 25-75	
Vital	42868461		See Note 1	FEF 25-75 pre (if recorded differently)	
Vital	42868462		See Note 1	FEF 25-75 post	
Vital	3023329		See Note 1	Peak Flow (PF)	
Vital	2000000064		See Note 1	Peak Flow post	
Measurement Type	44818704	Measurement Type	See Note 3	Patient reported	
Measurement Type	2000000032	Measurement Type	See Note 3	Vital sign from device direct feed	
Measurement Type	2000000033	Measurement Type	See Note 3	Vital sign from healthcare delivery setting	
Measurement Type	44818702	Measurement Type	See Note 4	Lab Result	

Note 1: For height, weight, temperature, head circumference, BMI and Pulmary Function measurements, insert the recorded measurement into the value_as_number field.

Note 2: Systolic and diastolic pressure measurements will generate two observation records one for storing the systolic blood pressure measurement and a second for storing the diastolic blood pressure measurement. Select the right SBP or DBP concept code that also represents the CORRECT recording position (supine, sitting, standing, other/unknown). To tie the two measurements together (the systolic BP measurement and the diastolic BP measurement records), use the FACT_RELATIONSHIP table.

Example: Person_id = 12345 on visit_occurrence_id = 678910 had orthostatic blood pressure measurements performed in the healthcare delivery setting as follows:

- Supine: Systolic BP 120; Diastolic BP 60
- Standing: Systolic BP 144; Diastolic BP 72

Four rows will be inserted into the measurement table. Showing only the relevant columns:

Measurement_id | Person_id | Visit_occurrence_id | measurement_concept_id | measurement_type_concept_id | Value_as_Number | Value_as_Concept_ID --- | --- | --- | --- | --- | --- | --- | --- 66661 | 12345 | 678910 | 3009395 | 2000000033| 120 | | 66662 | 12345 | 678910 | 3013940 | 2000000033 | 60 | | 66663 | 12345 | 678910 | 3035856 | 2000000033 | 144 | | 66664 | 12345 | 678910 | 3019962 | 2000000033 | 72 | |

- Measurement_concept_id = 3009395 = systolic BP - supine; measurement_concept_id = 3013940 = diastolic BP supine
- Measurement_concept_id = 3035856 = systolic BP standing; measurement_concept_id = 3019962 = diastolic BP standing
- measurement_type_concept_id = 2000000033 (Vital Sign from healthcare delivery setting).

To link these two values, use the fact relationship table:

Domain_concept_id_1	fact_id_1	Domain_concept_id_2	fact_id_2	relationship_concept_id
Measurement	66661	Measurement	66662	Asso with finding
Measurement	66662	Measurement	66661	Asso with finding
Measurement	66663	Measurement	66664	Asso with finding
Measurement	66664	Measurement	66663	Asso with finding

Because the domain concept id and relationship concept id are integers the following is an example of how this data will be represented:

Domain_concept_id_1	fact_id_1	Domain_concept_id_2	fact_id_2	relationship_concept_id
21	66661	21	66662	44818792
21	66662	21	66661	44818792
21	66663	21	66664	44818792
21	66664	21	66663	44818792

- Two rows in the FACT_RELATIONSHIP table link the *supine* diastolic BP to the supine systolic BP.
- Two rows in the FACT_RELATIONSHIP table link the *standing* diastolic BP to the standing systolic BP.

Note 3: Measurement type concept_ids are used as values for the measurement_type_concept_id field. In addition, the following observations are derived via the DCC (concept_ids to be assigned in future version of this document. However, concept_ids are not needed for ETL since these observations will be derived/calculated using scripts developed by DCC):

- Body mass index in kg/m^2 if not directly extracted
- Height/length z score for age/sex using NHANES 2000 norms for measurements at which the person was <240 months of age. In the absence of a height/length type for the measurement, recumbent length is assumed for ages <24 months, and standing height thereafter.
- Weight z score for age/sex using NHANES 2000 norms for measurements at which the person was <240 months of age.
- BMI z score for age/sex using NHANES 2000 norms for visits at which the person was between 20 and 240 months of age.
- Systolic BP z score for age/sex/height using NHBPEP task force fourth report norms.
- Diastolic BP z score for age/sex/height using NHBPEP task force fourth report norms.

Note 4: Please use the following table as a guide to determine how to populate the `measurement_source_value`, `measurement_source_concept_id` and `measurement_concept_id` for LAB Values

You have in your source system	Measurement_source_value	Measurement_source_concept_id	measurement_concept_id
Lab code is institutional-specific code (not CPT/not LOINC)	• Local code or • Local name or • Local name | Local code/li> (any above are OK)	0 (zero)	PEDSnet LOINC code's concept_id (provided by DCC)
Lab code is CPT code	• CPT Code • Local name or • Local name |CPT code (any above are OK)	OMOP's concept_id for CPT code	PEDSnet's LOINC code's concept_id (provided by DCC)
Lab code is LOINC code that is same as PEDSnet's LOINC code	• LOINC Code • Local name or • Local name | LOINC code (any above are OK)	PEDSnet's LOINC code's concept_id (provided by DCC)	PEDSnet's LOINC code's concept_id (provided by DCC)
Lab code is LOINC code that is different than PEDSnet LOINC	Same as above	OMOP's concept_id for your LOINC code	PEDSnet's LOINC code's concept_id (provided by DCC)

Note 5: Please use the following table as a guide to determine how to populate the `range_low` , `range_low_source_value` , `range_low_operator_concept_id` , `range_high` , `range_high_source_value` and `range_low_operator_concept_id` for LAB Values

You have in your source system	range high/ range low	range high source value / range low source value	range low/high operator concept id
Numerical value `Examples: 7,8.2,100`	Numerical Value `Examples: 7,8.2,100`	Numerical value `Examples: 7,8.2,100`	0
Limits `Examples: <2, >100, less than 5`	Numerical Value of the limit `Examples: 2, 100, 5`	Limits `Examples: <2, >100, less than 5`	Corresponding concept to the modifier `Examples:4171756,4172704,4171756`
You have in your source system	**range high/ range low**	**range high source value / range low source value**	**w/high operator concept id**
Categorical/Qualitative Value `Examples: HIGH,LOW,POSITIVE,NEGATIVE`		Categorical/Qualitative Value `Examples: HIGH,LOW,POSITIVE,NEGATIVE`	0

Note 6: Please only include final Lab Results.

Exclusions:

1. Cancelled Lab orders
2. Lab orders that are 'NOT DONE' or 'INCOMPLETE'

Field	NOT Null Constraint	Network Requirement	Data Type	Description	
measurement_id	Yes	Yes	Integer	A system-generated unique identifier for each measurement	Th EH a s fie
person_id	Yes	Yes	Integer	A foreign key identifier to the person who the measurement is being documented for. The demographic details of that person are stored in the person table.	

Field	NOT Null Constraint	Network Requirement	Data Type	Description	
measurement_concept_id	Yes	Yes	Integer	A foreign key to the standard measurement concept identifier in the Vocabulary.	Va be do Co th so SN Me ob co fin re nu str th Th Vo me La Lo Na (V (F ma **Mu Cl** Vo Hi Qu SN co (v La fo)V All ob (V Fo fr sit pl
measurement_date	Yes	Yes	Date	The date of the measurement.	Fo th No

Field	NOT Null Constraint	Network Requirement	Data Type	Description	
measurement_time	Yes	Yes	Datetime	The time of the measurement.	Fo th No tin as as
measurement_order_date	No	Provide When Available	Date	This field applies to Lab Orders only. This is the date the lab was ordered in the source.	No
measurement_order_time	No	Provide When Available	Datetime	This field applies to Lab Orders only. This is the time the lab was ordered in the source.	No tin as as
measurement_result_date	No	Provide When Available	Date	This field applies to Lab Orders only. This is the date the lab resulted in the source.	No
measurement_result_time	No	Provide When Available	Datetime	This field applies to Lab Orders only. This is the time the lab resulted in the source.	No tin as as

Field	NOT Null Constraint	Network Requirement	Data Type	Description	
measurement_type_concept_id	Yes	Yes	Integer	A foreign key to the predefined concept identifier in the Vocabulary reflecting the type of the measurement.	Pl ids CD (va CC vo co Ty se vo co yie Fo us •
operator_concept_id	No	Provide When Available	Integer	A foreign key identifier to the mathematical operator that is applied to the value_as_number.Operators are <, ≤, =, ≥, >	Va fo se do Op co •
value_as_number	No (see convention)	Provide When Available	Float	The measurement result stored as a number. This is applicable to measurements where the result is expressed as a numeric value.	Va at {va va va

Field	NOT Null Constraint	Network Requirement	Data Type	Description	
value_as_concept_id	No (see convention)	Provide When Available	Integer	A foreign key to a measurement result stored as a concept identifier. This is applicable to measurements where the result can be expressed as a standard concept from the Vocabulary (e.g., positive/negative, present/absent, low/high, etc.).	Va at {va va va co co se dc co Va sta 18
unit_concept_id	No	Provide When Available	Integer	A foreign key to a standard concept identifier of measurement units in the Vocabulary.	Ple ids CD (va CC vo se vo 97 If co Fo me us

Field	NOT Null Constraint	Network Requirement	Data Type	Description	
range_low	No	Provide When Available	Float	The lower limit of the normal range of the measurement. It is not applicable if the measurement results are non-numeric or categorical, and must be in the same units of measure as the measurement value.	
range_low_source_value	No	Provide When Available	Varchar	The lower limit of the normal range of the measurement as it appears in the source.	Se
range_low_operator_concept_id	No	Optional	Integer	A foreign key to the modifier of lower limit of the normal range of the measurement as it appears in the source as a concept identifier.	Se
range_high	No	Provide When Available	Float	The upper limit of the normal range of the measurement. It is not applicable if the measurement results are non-numeric or categorical, and must be in the same units of measure as the measurement value.	
range_high_source_value	No	Provide When Available	Varchar	The upper limit of the normal range of the measurement as it appears in the source.	Se
range_high_operator_concept_id	No	Optional	Integer		A of ra it co
provider_id	No	Provide When Available	Integer	A foreign key to the provider in the provider table who was responsible for making the measurement.	
visit_occurrence_id	No	Provide When Available	Integer	A foreign key to the visit in the visit table during which the observation was recorded.	

Field	NOT Null Constraint	Network Requirement	Data Type	Description	
measurement_source_value	Yes	Yes	Varchar	The measurement name as it appears in the source data. This code is mapped to a standard concept in the Standardized Vocabularies and the original code is, stored here for reference.	Th as sy de co va
measurement_source_concept_id	No	Provide When Available	Integer	A foreign key to a concept that refers to the code used in the source.	Th ma th **If th st co**
unit_source_value	No	Provide When Available	Varchar	The source code for the unit as it appears in the source data. This code is mapped to a standard unit concept in the Standardized Vocabularies and the original code is, stored here for reference.	Ra et No
value_source_value	Yes	Yes	Varchar	The source value associated with the structured value stored as numeric or concept. This field can be used in instances where the source data are transformed	Fo La thi re
specimen_source_value	No	Provide When Available	Varchar	This field is applicable for lab values only. This source value for the specimen source as it appears in the source	

Field	NOT Null Constraint	Network Requirement	Data Type	Description	
priority_concept_id	No	Provide When Available	Integer	This field applies to Lab Orders only. A foreign key to a concept that refers to the lab priority as described in the source	Pl ids CD (va CC do vo co Va se (d vo co Va (v co yie Fo us • • • • • • •
priority_source_value	No	Provide When Available	Varchar	This field applies to Lab Orders only. The lab priority as described in the source	

If a field marked as "Provide when available" for the network requirement is not available at your site, please relay this information to the DCC

1.12.1 Additional Notes

- The 1/1/2009 date limitation that is used to define a PEDSnet active patient is **NOT** applied to measurements. All measurements are included for an active patient. For PEDSnet CDM v2.5, we limit measurements to only those that appear in Table 3 (for vital signs).
- Measurements have a value represented by one of a concept ID, a string, **OR** a numeric value.
- The Visit during which the measurement was made is recorded through a reference to the VISIT_OCCURRENCE table. This information is not always available.

- The Provider making the measurement is recorded through a reference to the PROVIDER table. This information is not always available.

1.13 FACT RELATIONSHIP

The fact relationship domain contains details of the relationships between facts within one domain or across two domains, and the nature of the relationship. Examples of types of possible fact relationships include: person relationships (mother-child linkage), care site relationships (representing the hierarchical organization structure of facilities within health systems), drug exposures provided due to associated indicated condition, devices used during the course of an associated procedure, and measurements derived from an associated specimen. All relationships are directional, and each relationship is represented twice symmetrically within the fact relationship table.

Field	NOT Null Constraint	Network Requirement	Data Type	Description	PEDSnet Conventions
Domain_concept_id_1	Yes	Yes	Integer	The concept representing the domain of fact one, from which the corresponding table can be inferred.	Predefined value set: • Visit domain (ED->Inpatient linking) = 8 • Measurement domain (blood pressure linking) = 21 • Observation domain (tobacco linking) = 27
Fact_id_1	Yes	Yes	Integer	The unique identifier in the table corresponding to the domain of fact one.	
Domain_concept_id_2	Yes	Yes	Integer	The concept representing the domain of fact two, from which the corresponding table can be inferred.	Predefined value set: • Visit domain (ED->Inpatient linking) = 8 • Measurement domain (blood pressure linking) = 21 • Observation domain (tobacco linking) = 27

Field	NOT Null Constraint	Network Requirement	Data Type	Description	PEDSnet Conventions
Fact_id_2	Yes	Yes	Integer	The unique identifier in the table corresponding to the domain of fact two.	
Relationship_concept_id	Yes	Yes	Integer	A foreign key to a standard concept identifier of relationship in the Standardized Vocabularies.	Predefined value set: • Occurs before (ED Visit) = 44818881 • Occurs after (Inpatient Visit) = 44818783 • Associated with finding (blood pressures) = 44818792 • No matching concept (tobacco) = 0

If a field marked as "Provide when available" for the network requirement is not available at your site, please relay this information to the DCC

1.13.1 Additional Notes

- Blood Pressure Systolic and Diastolic Blood Pressure Values will be mapped using the fact relationship table. See Note 2 in the Measurement section for instructions.
- ER Visits that result in an Inpatient Encounter will be mapped using the fact relationship table. See Additional Notes in the Visit Occurrence section for instructions.
- Tobacco, smoking and tobacco type associations will be mapped using the fact relationship table. See Note 4 in the Observation section for instructions.

1.14 VISIT_PAYER

The visit payer table documents insurance information as it relates to a visit in visit_occurrence. For this reason the key of this table will be visit_occurrence_id and visit_payer_id. **This table is CUSTOM to Pedsnet.**

Note 1: There can be multiple payers (primary/secondary) for a single visit. If you are able to obtain multiple payer information at your site please populate the visit payer table with this information. If you are not able to obtain secondary or additional payers for your visit occurrences at your site, please populate the primary payer and inform the DCC.

Field	NOT Null Constraint	Network Requirement	Data Type	Description	PEDSnet Conventions

visit_payer_id	Yes	Yes	Integer	A system-generated unique identifier for each visit payer relationship.	This is not a value found in the EHR. Sites may choose to use a sequential value for this field.
visit_occurrence_id	Yes	Yes	Integer	A foreign key to the visit in the visit table where the payer was billed for the visit.	
plan_name	Yes	Yes	Varchar	The untransformed payer/plan name from the source data	
plan_type	No	Provide When Available	Varchar	A standardized interpretation of the plan structure	Please only map your plan type to the following categories: • HMO • PPO • POS • Fee for service • Other/Unknown If the categories are unclear, please work with your billing department or local experts to determine how to map plans to these values.
plan_class	Yes	Yes	Varchar	A list of the "payment sources" most often used in demographic analyses	Please map your plan type to the following categories: • Private/Commercial • Medicaid/sCHIP • Medicare • Other public • Self-pay • Other/Unknown Please work with your billing department or local experts to determine how to map plans to these values.

If a field marked as "Provide when available" for the network requirement is not available at your site, please relay this information to the DCC

1.14.1 Additional Notes

- If you cannot map your plan to any of the above values for plan_type or plan_class, please map them to Other/unknown, and inform the DCC if the above list of values is not complete or sufficient.

1.15 MEASUREMENT_ORGANISM

The measurement organism table contains organism information related to laboratory culture results in the measurement table. **This table is CUSTOM to Pedsnet.**

Note 1: There can be multiple organisms for a single culture laboratory result.

Field	NOT Null Constraint	Network Requirement	Data Type	Description	PEDSnet Conventions
meas_organism_id	Yes	Yes	Integer	A system-generated unique identifier for each organism culture relationship.	This is not a value found in the EHR. Sites may choose to use a sequential value fo this field.
measurement_id	Yes	Yes	Integer	A foreign key to the lab result in the measurement table where the organism was observed.	
person_id	Yes	Yes	Integer	A foreign key identifier to the person who the measurement is being documented for. The demographic details of that person are stored in the person table.	
visit_occurrence_id	No	Provide When Available	Integer	A foreign key to the visit where the culture lab was ordered	

Field	NOT Null Constraint	Network Requirement	Data Type	Description	PEDSnet Conventions
organism_concept_id	Yes	Yes	Integer	A foreign key to a standard concept identifier for the organism in the Vocabulary.	Please include valid concep ids (consistent with OMOP CDMv5). Predefined value set (valid concept_ids found in CONCEPT table where vocabulary_id = SNOMED and concept_class_id= Organism and standard_concept=S) select * from concept wher vocabulary_id ='SNOMED' and concept_class_id='Organisr and standard_concept='S' yields 33039 valid concept_ids.
organism_source_value	Yes	Yes	Varchar	The organism value as it appears in the source.	
positivity_time	No	Optional	Datetime	The estimated date and time of initial growth as reported in the source.	

If a field marked as "Provide when available" for the network requirement is not available at your site, please relay this information to the DCC

1.15.1 Additional Notes

- The time to positivity field is marked as optional. Please inform the DCC in the provenance files if this data is available at your site.

1.16 ADT_OCCURRENCE

The adt_occurrence table contains information about distinct admission, discharge, or transfer events that occur as part of a clinical visit. The typical use case is to identify portions of an inpatient admission that represent different levels of care or locations within a facility, but it can be used for additional characteristics of a visits (e.g. specialty consultation). The time of each event must fall between the start and end times of the associated visit_occurrence. **This table is CUSTOM to Pedsnet.**

Field	NOT Null Constraint	Network Requirement	Data Type	Description	PEDSnet Conventions

adt_occurrence_id	Yes	Yes	Integer	A unique identifier for each ADT event.	This is not a value found in the EHR. Sites may choose to use a sequential value for this field
person_id	Yes	Yes	Integer	A foreign key identifier to the person for whom the visit is recorded.	
visit_occurrence_id	Yes	Yes	Integer	A foreign key identifier to the visit containing this event.	
adt_date	Yes	Yes	Date	The date of the adt event	
adt_time	Yes	Yes	Datetime	The datetime of the adt event	No date shifting. Full dat and time. If there is no time associated with the date assert midnight for the start time.
care_site_id	No	Provide when available	Integer	A foreign key to the care site in which this adt event occurred.	
service_concept_id	Yes	Yes	Integer	A foreign key that refers to a adt event service concept identifier in the vocabulary. This concept describes the type of service associated with this adt event.	select * from concept where vocabulary_id ='PEDSnet' and concept_class_id='Servic Type' and standard_concept='S' yields 14 valid concept_ids. **In PEDSnet CDM v2.5, only the NICU,CICU and PICU services are included.** The value set available fc PEDSnet includes: • CICU (cardiac care) = 2000000079 • NICU (neonatal care) = 2000000080 • PICU (all other ICU) = 2000000078 • Critical care = 2000000067 • Intermediate care = 2000000068

					• Acute care = 2000000069 • Observation care = 2000000070 • Surgical site (include OR, ASC) = 2000000071 • Procedural service = 2000000072 • Behavioral health = 2000000073 • Rehabilitative service (includes PT, OT, ST = 2000000074 • Specialty service = 2000000075 • Radiology = 2000000076 • Hospital Outpatient = 2000000077 li>Unknown: concept_id = 44814653 • Other: concept_id = 44814649 • No information: concept_id = 44814650
adt_type_concept_id	No	Provide when available	Integer	A foreign key that refers to an adt event type concept identifier in the vocabulary. This concept describes the type of the adt event.	select * from concept where vocabulary_id ='PEDSnet' and concept_class_id='ADT Event Type' yields 5 valid concept_ids. The value set for PEDSne includes: • Admission = 2000000083 • Discharge = 2000000084 Transfer in = 2000000085 • Transfer out = 2000000086 • Census = 2000000087

prior_adt_occurrence_id	No	Provide when available	Integer	Foreign key into the adt_occurrence table pointing to the ADT record immediately preceding this record in the event stream for the visit. Must be populated for all but the first ADT even within a visit.	
next_adt_occurrence_id	No	Provide when available	Integer	Foreign key into the adt_occurrence table pointing to the ADT record immediately following this record in the event stream for the visit. Must be populated for all but the last ADT even within a visit.	
service_source_value	No	Provide when available	Varchar	The source data used to derive the service type for this event. It will typically be a department code from the ADT event.	
adt_type_source_value	No	Provide when available	Varchar	The source data used to identify the adt event type	

1.16.1 Additional Notes

- If a site is splitting (ED->Inpatient) encounters into two records in visit_occurrence, the ADT_OCCURRENCE.visit_occurence_id should link to the Inpatient visit_occurrence_id.

##APPENDIX

PEDSnet-specific is supported by OMOP-supported Vocabulary id=PCORNet, which contains all of the additional concept_id codes needed in PEDSnet for PCORnet CDM V1.0 and 2.0

A1. ABMS Specialty Category to OMOP V5 Specialty Mapping

http://www.abms.org/member-boards/specialty-subspecialty-certificates/

ABMS Specialty Category	OMOP Supported Concept for Provider ID	OMOP Concept_name	Domain_id	Vocabulary id
Addiction Psychiatry	38004498	Addiction Medicine	Provider Specialty	Specialty
Adolescent Medicine	45756747	Adolescent Medicine	Provider Specialty	ABMS
Adult Congenital Heart Disease	45756748	Adult Congenital Heart Disease	Provider Specialty	ABMS
Advanced Heart Failure and Transplant Cardiology	45756749	Advanced Heart Failure and Transplant Cardiology	Provider Specialty	ABMS
Aerospace Medicine	45756750	Aerospace Medicine	Provider Specialty	ABMS
Allergy and Immunology	38004448	Allergy/Immunology	Provider Specialty	Specialty
Anesthesiology	38004450	Anesthesiology	Provider Specialty	Specialty
Anesthesiology Critical Care Medicine	45756751	Anesthesiology Critical Care Medicine	Provider Specialty	Specialty
Blood Banking/Transfusion Medicine	45756752	Blood Banking/Transfusion Medicine	Provider Specialty	ABMS
Brain Injury Medicine	45756753	Brain Injury Medicine	Provider Specialty	ABMS
Cardiology	38004451	Cardiology	Provider Specialty	Specialty
Cardiovascular Disease	45756754	Cardiovascular Disease	Provider Specialty	ABMS
Child Abuse Pediatrics	45756755	Child Abuse Pediatrics	Provider Specialty	ABMS
Child and Adolescent Psychiatry	45756756	Child and Adolescent Psychiatry	Provider Specialty	ABMS
Clinical Biochemical Genetics	45756757	Clinical Biochemical Genetics	Provider Specialty	ABMS
Clinical Cardiac Electrophysiology	45756758	Clinical Cardiac Electrophysiology	Provider Specialty	ABMS
Clinical Cytogenetics	45756759	Clinical Cytogenetics	Provider Specialty	ABMS

ABMS Specialty Category	OMOP Supported Concept for Provider ID	OMOP Concept_name	Domain_id	Vocabulary id
Clinical Genetics (MD)	45756760	Clinical Genetics (MD)	Provider Specialty	ABMS
Clinical Informatics	45756761	Clinical Informatics	Provider Specialty	ABMS
Clinical Molecular Genetics	45756762	Clinical Molecular Genetics	Provider Specialty	ABMS
Clinical Neurophysiology	45756763	Clinical Neurophysiology	Provider Specialty	ABMS
Colon and Rectal Surgery	38004471	Colorectal Surgery	Provider Specialty	Specialty
Complex General Surgical Oncology	45756764	Complex General Surgical Oncology	Provider Specialty	ABMS
Congenital Cardiac Surgery	45756765	Congenital Cardiac Surgery	Provider Specialty	ABMS
Critical Care Medicine	38004500	Critical care (intensivist)	Provider Specialty	Specialty
Cytopathology	45756766	Cytopathology	Provider Specialty	ABMS
Dermatology	38004452	Dermatology	Provider Specialty	Specialty
Dermatopathology	45756767	Dermatopathology	Provider Specialty	ABMS
Developmental-Behavioral Pediatrics	45756768	Developmental-Behavioral Pediatrics	Provider Specialty	ABMS
Diagnostic Radiology	45756769	Diagnostic Radiology	Provider Specialty	ABMS
Emergency Medical Services	45756770	Emergency Medical Services	Provider Specialty	ABMS
Emergency Medicine	38004510	Emergency Medicine	Provider Specialty	Specialty
Endocrinology, Diabetes and Metabolism	45756771	Endocrinology, Diabetes and Metabolism	Provider Specialty	ABMS
Epilepsy	45756772	Epilepsy	Provider Specialty	ABMS
General Family Medicine	38004453	Family Practice	Provider Specialty	Specialty
Female Pelvic Medicine and Reconstructive Surgery	45756773	Female Pelvic Medicine and Reconstructive Surgery	Provider Specialty	ABMS
Forensic Psychiatry	45756775	Forensic Psychiatry	Provider Specialty	ABMS

ABMS Specialty Category	OMOP Supported Concept for Provider ID	OMOP Concept_name	Domain_id	Vocabulary id
Gastroenterology	38004455	Gastroenterology	Provider Specialty	Specialty
General Pediatrics (Primary Care)*	2000000063	General Pediatrics	Provider Specialty	PEDSNet
Geriatric Medicine	38004478	Geriatric Medicine	Provider Specialty	Specialty
Geriatric Psychiatry	45756776	Geriatric Psychiatry	Provider Specialty	ABMS
Gynecologic Oncology	38004513	Gynecology/Oncology	Provider Specialty	Specialty
Hematology	38004501	Hematology	Provider Specialty	Specialty
Hospice and Pallative Medicine	45756777	Hospice and Pallative Medicine	Provider Specialty	ABMS
Infectious Disease	38004484	Infectious Disease	Provider Specialty	Specialty
General Internal Medicine	38004456	Internal Medicine	Provider Specialty	Specialty
Internal Medicine - Critical Care Medicine	45756778	Internal Medicine - Critical Care Medicine	Provider Specialty	ABMS
Interventional Cardiology	45756779	Interventional Cardiology	Provider Specialty	ABMS
Interventional Radiology and Diagnostic Radiology	38004511	Interventional Radiology	Provider Specialty	Specialty
Maternal and Fetal Medicine	45756780	Maternal and Fetal Medicine	Provider Specialty	ABMS
Medical Biochemical Genetics	45756781	Medical Biochemical Genetics	Provider Specialty	ABMS
Medical Genetics and Genomics	45756782	Medical Genetics and Genomics	Provider Specialty	ABMS
Medical Oncology	38004507	Medical Oncology	Provider Specialty	Specialty
Medical Physics	45756783	Medical Physics	Provider Specialty	ABMS
Medical Toxicology	45756784	Medical Toxicology	Provider Specialty	ABMS
Molecular Genetic Pathology	45756785	Molecular Genetic Pathology	Provider Specialty	ABMS
Neonatal-Perinatal Medicine	45756786	Neonatal-Perinatal Medicine	Provider Specialty	ABMS

ABMS Specialty Category	OMOP Supported Concept for Provider ID	OMOP Concept_name	Domain_id	Vocabulary id
Nephrology	38004479	Nephrology	Provider Specialty	Specialty
Neurodevelopmental Disabilities	45756787	Neurodevelopmental Disabilities	Provider Specialty	ABMS
Neurological Surgery	38004459	Neurosurgery	Provider Specialty	Specialty
General Neurology	38004458	Neurology	Provider Specialty	Specialty
Neurology with Special Qualification in Child Neurology	45756788	Neurology with Special Qualification in Child Neurology	Provider Specialty	ABMS
Neuromuscular Medicine	45756789	Neuromuscular Medicine	Provider Specialty	ABMS
Neuropathology	45756790	Neuropathology	Provider Specialty	ABMS
Neuroradiology	45756791	Neuroradiology	Provider Specialty	ABMS
Neurotology	45756792	Neurotology	Provider Specialty	ABMS
Nuclear Medicine	38004476	Nuclear Medicine	Provider Specialty	Specialty
Nuclear Radiology	45756793	Nuclear Radiology	Provider Specialty	ABMS
Obstetrics and Gynecology	38004461	Obstetrics/Gynecology	Provider Specialty	Specialty
Occupational Medicine	38004492	Occupational Therapy	Provider Specialty	Specialty
Ophthalmology	38004463	Ophthalmology	Provider Specialty	Specialty
Orthopaedic Sports Medicine	45756794	Orthopaedic Sports Medicine	Provider Specialty	ABMS
Orthopedics/Orthopaedic Surgery	38004465	Orthopedics/Orthopedic Surgery	Provider Specialty	Specialty
Otolaryngology	38004449	Otolaryngology	Provider Specialty	Specialty
Pain Medicine	38004494	Pain Management	Provider Specialty	Specialty
Pathology	38004466	Pathology	Provider Specialty	Specialty
Pathology - Anatomic	45756795	Pathology - Anatomic	Provider Specialty	ABMS

ABMS Specialty Category	OMOP Supported Concept for Provider ID	OMOP Concept_name	Domain_id	Vocabulary id
Pathology - Chemical	45756796	Pathology - Chemical	Provider Specialty	ABMS
Pathology - Clinical	45756797	Pathology - Clinical	Provider Specialty	ABMS
Pathology - Forensic	45756798	Pathology - Forensic	Provider Specialty	ABMS
Pathology - Hematology	45756799	Pathology - Hematology	Provider Specialty	ABMS
Pathology - Medical Microbiology	45756800	Pathology - Medical Microbiology	Provider Specialty	ABMS
Pathology - Molecular Genetic	45756801	Pathology - Molecular Genetic	Provider Specialty	ABMS
Pathology - Pediatric	45756802	Pathology - Pediatric	Provider Specialty	ABMS
Pathology-Anatomic/Pathology-Clinical	45756803	Pathology-Anatomic/Pathology-Clinical	Provider Specialty	ABMS
Pediatric Medicine**	38004477	Pediatric Medicine	Provider Specialty	Specialty
Pediatric Anesthesiology	45756804	Pediatric Anesthesiology	Provider Specialty	ABMS
Pediatric Cardiology	45756805	Pediatric Cardiology	Provider Specialty	ABMS
Pediatric Critical Care Medicine	45756806	Pediatric Critical Care Medicine	Provider Specialty	ABMS
Pediatric Dermatology	45756807	Pediatric Dermatology	Provider Specialty	ABMS
Pediatric Emergency Medicine	45756808	Pediatric Emergency Medicine	Provider Specialty	ABMS
Pediatric Endocrinology	45756809	Pediatric Endocrinology	Provider Specialty	ABMS
Pediatric Gastroenterology	45756810	Pediatric Gastroenterology	Provider Specialty	ABMS
Pediatric Hematology-Oncology	45756811	Pediatric Hematology-Oncology	Provider Specialty	ABMS
Pediatric Infectious Diseases	45756812	Pediatric Infectious Diseases	Provider Specialty	ABMS
Pediatric Nephrology	45756813	Pediatric Nephrology	Provider Specialty	ABMS
Pediatric Otolaryngology	45756814	Pediatric Otolaryngology	Provider Specialty	ABMS

ABMS Specialty Category	OMOP Supported Concept for Provider ID	OMOP Concept_name	Domain_id	Vocabulary id
Pediatric Pulmonology	45756815	Pediatric Pulmonology	Provider Specialty	ABMS
Pediatric Radiology	45756816	Pediatric Radiology	Provider Specialty	ABMS
Pediatric Rehabilitation Medicine	45756817	Pediatric Rehabilitation Medicine	Provider Specialty	ABMS
Pediatric Rheumatology	45756818	Pediatric Rheumatology	Provider Specialty	ABMS
Pediatric Surgery	45756819	Pediatric Surgery	Provider Specialty	ABMS
Pediatric Transplant Hepatology	45756820	Pediatric Transplant Hepatology	Provider Specialty	ABMS
Pediatric Urology	45756821	Pediatric Urology	Provider Specialty	ABMS
Physical Medicine and Rehabilitation	38004468	Physical Medicine And Rehabilitation	Provider Specialty	Specialty
Plastic Surgery	38004467	Plastic And Reconstructive Surgery	Provider Specialty	Specialty
Plastic Surgery Within the Head and Neck	45756822	Plastic Surgery Within the Head and Neck	Provider Specialty	ABMS
Preventative Medicine	38004503	Preventive Medicine	Provider Specialty	Specialty
Psychiatry	38004469	Psychiatry	Provider Specialty	Specialty
Psychosomatic Medicine	45756823	Psychosomatic Medicine	Provider Specialty	ABMS
Public Health and General Preventive Medicine	45756824	Public Health and General Preventive Medicine	Provider Specialty	ABMS
Pulmonary Disease	38004472	Pulmonary Disease	Provider Specialty	Specialty
Radiation Oncology	38004509	Radiation Oncology	Provider Specialty	Specialty
Radiology	45756825	Radiology	Provider Specialty	ABMS
Reproductive Endocrinology/Infertility	45756826	Reproductive Endocrinology/Infertility	Provider Specialty	ABMS
Rheumatology	38004491	Rheumatology	Provider Specialty	Specialty
Sleep Medicine	45756827	Sleep Medicine	Provider Specialty	ABMS

ABMS Specialty Category	OMOP Supported Concept for Provider ID	OMOP Concept_name	Domain_id	Vocabulary id
Spinal Cord Injury Medicine	concept id requested	Spinal Cord Injury Medicine	Provider Specialty	ABMS
Sports Medicine	45756828	Sports Medicine	Provider Specialty	ABMS
General Surgery	38004447	General Surgery	Provider Specialty	Specialty
Surgery of the Hand	38004480	Hand Surgery	Provider Specialty	Specialty
Surgical Critical Care	45756829	Surgical Critical Care	Provider Specialty	ABMS
Thoracic Surgery	38004473	Thoracic Surgery	Provider Specialty	Specialty
Thoracic and Cardiac Surgery	45756830	Thoracic and Cardiac Surgery	Provider Specialty	ABMS
Transplant Hepatology	45756831	Transplant Hepatology	Provider Specialty	ABMS
Undersea and Hyperbaric Medicine	45756832	Undersea and Hyperbaric Medicine	Provider Specialty	ABMS
Urology	38004474	Urology	Provider Specialty	Specialty
Vascular and Interventional Radiology	45756833	Vascular and Interventional Radiology	Provider Specialty	ABMS
Vascular Neurology	45756834	Vascular Neurology	Provider Specialty	ABMS
Vascular Surgery	38004496	Vascular Surgery	Provider Specialty	Specialty

NOTES:

- General Pediatrics refers to Primary Care
- Pediatric Medicine refers to the default assignment if a site is unable to distinguish which pediatric specialty the care site or provider has an assigned

A2. PEDSNet Person Language Concept Mapping Values

The below langauge listing is representative of the top 10 spoken languages of each of the 8 contributing sites. This list standard list will be used to map language values for consistency.

Language|concept_id|concept_name|domain_id|concept_class_id|standard_concept ---|---|---|---|---|---|---|---|---|---|---|---|--- Amharic|4182354|Amharic language|Observation|Qualifier Value|S Arabic|4181374|Arabic language|Observation|Qualifier Value|S Bengali|4052786|Bengali language|Observation|Qualifier Value|S Burmese|4181727|Burmese language|Observation|Qualifier Value|S Bosnian|40481563|Bosnian language|Observation|Qualifier Value|S Cape Verde Creole|44814649 | Other | Observation | Undefined | | Chinese|4182948|Chinese Language|Observation|Qualifier Value|S Chinese(Cantonese)|4177463|Cantonese Chinese dialect|Observation|Qualifier Value|S Chinese(Mandarin)| 4181724| Mandarin dialect | Observation|Qualifier Value|S English|4180186|English Language|Observation|Qualifier Value|S French|4180190|French

Language|Observation|Qualifier Value|S Haitian/Creole|44802876| Haitian Creole Language|Observation|Qualifier Value|S Japanese|4181524|Japanese Language|Observation|Qualifier Value|S Korean|4175771|Korean Language|Observation|Qualifier Value|S Mandarin| 4181724| Mandarin dialect | Observation|Qualifier Value|S Nepali|4175908|Nepali language|Observation|Qualifier Value|S No information| 44814650 | No information|Observation | Undefined|S
None|44814650 | No information|Observation | Undefined|S
null|44814650 | No information|Observation | Undefined|S
Other|44814649 | Other | Observation | Undefined | | Other Language|44814649 | Other | Observation | Undefined | | | Other/Unknown|44814649 | Other | Observation | Undefined | | Portuguese|4181536 | Portuguese language | Observation | Qualifier Value | S Russian|4181539 | Russian language | Observation | Qualifier Value | S Sign|40483152 | Sign language | Observation | Qualifier Value | S Sign Language|40483152 | Sign language | Observation | Qualifier Value | S Somali|4182350 | Somali language | Observation | Qualifier Value | S Spanish|4182511 | Spanish language | Observation | Qualifier Value | S Unable to Collect| 44814650 | No information|Observation | Undefined|S
Unknown | 44814653 | Unknown| Observation | Undefined|S
Vietnamese|4181526 | Vietnamese language | Observation | Qualifier Value | S