CPCSSN Data Dictionary

Version 4.0.3

General Information

Data Types used in this document:

- Bit: Contains 0 (false) or 1 (true) only.
- TinyInt: An integer in the range 0 to 255. One byte in size.
- SmallInt: An integer in the range -32 768 to 32 768. Two bytes in size.
- BigInt: An integer in the range -2^63 to 2^63. Four bytes in size. Generally used as primary keys for data tables and often auto-incremented.
- Date: A pure date in the format yyyy-mm-dd. Only date information is to be input into these fields no additional time information is allowed.
- NVarchar: Variable length unicode text field. The field is assumed to hold 255 characters unless otherwise noted.

Data Constraints:

- Auto: An auto-incrementing value, typically used for primary keys.
- Primary Key: A unique key for the table, typically in the form of an auto-incrementing integer.
- Foreign Key: A field in one table that points to the primary key in another table.
- Unique: Requires all elements of a column to be unique. Applied to columns that are not primary keys.
- Not Null: Field cannot contain a null value.
- Composite: Prepended to 'Primary Key', 'Foreign Key' or 'Unique' where the combination of two or more fields are required to produce a unique primary key, foreign key, or to satisfy a separate uniqueness constraint.

Highlighting

Table fields that are highlighted in blue are filled in by algorithms or are auto-incrementing values and are not filled in by Data Managers. Any values in these fields will be overwritten by the algorithm results.

Table and Column Naming Style Guide

- Short, descriptive names.
- Try not to abbreviate.
- No spaces in names.
- CamelCase for both table and column names.
- Primary and foreign keys are both named as: TableName ID.
- Foreign keys have the same name as the primary key to which they point.
- Columns that contain original text have ,_orig, appended to their name. The field (or fields) into which they are coded have '_orig' replaced with '_calc'.
- The only 'underscore' extensions that are used are 'ID', 'orig', and 'calc'.
- Column names are not preceded by the table name unless they improve readability (or are the primary/foreign key).
- Column names should make sense when read out loud in the "TableName.ColumnName" format.
- No SQL keywords can be used as table/column names.
- No pluralization.

Revision Notes:

POINT TO VERSION 3.0 AND 4.0 TRANSITION DOCUMENTS (WHEN THEY EXIST).

Table: Network 4

Table: Cycle

Table: Provider	(
Table: Site	7
Table: SiteProvider	{
Table: GroupInfo	(
Table: ProviderGroup	10
Table: Patient	11
Table: PatientProvider	12
Table: AllergyIntolerance	13
Table: Billing	18
Table: Encounter	16
Table: EncounterDiagnosis	17
Table: Exam	18
Table: FamilyHistory	19
Table: HealthCondition	21
Table: Image	22
Table: Lab	23
Table: MedicalProcedure	25
Table: Medication	26
Table: PatientDemographic	28
Table: Referral	29
Table: RiskFactor	30
Table: Vaccine	32
Table: DiseaseCase	34

Table: DiseaseCaseIndicator

Table: Network

- This table is filled by Central prior to database distribution amongst data managers.
- Reference table for Network specific information.

Field	Data Type	Constraints	Definition	Field Notes
Network_ID	TinyInt		Network	 Unique number assigned to each network from the central repository e.g. '9' for NS
NetworkName	NVarchar	Not Null	Name of the Network	Name of the Network in Acronym form (e.g., SAPCReN, MaRNet)
GeographicArea	NVarchar		Geographical area of the Network	Examples. Southern Alberta; Northern Alberta; Maritimes, etc.

Table: Cycle

- This table is filled by Central repository prior to database distribution amongst data managers.
- Reference table for Cycle specific information. This table only contains one row for the current cycle.

Field	Data Type	Constraints	Definition	Field Notes
Cycle_ID		Primary Key, Not Null		Follows the regular naming schema2010-Q3, 2010-Q4, 2011-Q1, etc.
CutOffDate	Date		l	 All data occurring before the cut-off date are to be extracted, and data after the cut-off date are to be dropped

Table: Provider

- A master list of all providers whose data has been sent to the central repository.
- This table will be maintained manually at each network.
- New providers are added as they join the project.
- As providers leave the project, previously submitted data will be maintained in the database; however, no new information will be added from that time forward.
- All collected records of all patients of past providers are imported from the databases generated in previous cycles. New records on those patients are ONLY collected if they transfer to a new, participating provider.

Field	Data Type	Constraints	Definition	Field Notes
Provider_ID	BigInt	Primary Key		 Unique number assigned by each network to the providers in its sites e.g. '15'
BirthYear	SmallInt		Provider's year of birth	
Sex	NVarchar		Provider's sex	Permitted values are 'Male' or 'Female'

Table: Site

- A master list of all the sites within the each network whose data has been sent to the central repository.
- This table will be maintained manually at each network.
- New sites are added as they join the project.

Field	Data Type	Constraints	Definition	Field Notes
Network_ID	TinyInt	Composite Primary Key, Foreign Key, Not Null	Unique identifier for each Network	 Only a Network_ID that exists in the Network table can be referenced here Unique number assigned to each network from the central repository e.g. '9' for NS Forms a Composite Primary Key with Site_ID
Site_ID	BigInt	Composite Primary Key, Not Null	Unique identifier for each Site in the Site_ID format	 Site_ID: Unique number assigned by the network to identify each of its sites e.g. '1' for first site Site_ID remains constant across cycles Forms a Composite Primary Key with Network_ID
LocationType	NVarchar	Not Null	Type of location of the provider's practice	 Permitted values enforced by check constraints e.g. 'Primary Care Clinic', 'Walk-in Clinic'
PostalCode	NVarchar	Not Null	Postal code of the Site location	● e.g. 'X2X 2X2'
Province	NVarchar	Not Null	A unique 2-character province name	 Permitted values enforced by check constraints e.g. 'AB', 'NS'
EMRName	NVarchar	Not Null	Name of the EMR used by the participating site	 Permitted values enforced by check constraints Med Access; Wolf; Jonoke; Nightingale; etc.

Table: SiteProvider

- This table will be maintained manually at each network.
- As new providers are added to the project or move between sites, changes are made to this table. Only include Site Providers that are participating in CPCSSN.

Field	Data Type	Constraints	Definition	Field Notes
SiteProvider_ID	BigInt	Auto Primary Key	Auto-incrementing integer	
Network_ID	TinyInt	Composite Foreign Key, Composite Unique, Not Null	Foreign Key from the Network table	 Only a Network_ID that exists in the Network table can be referenced here Forms a Composite Foreign Key with Site_ID Forms a Unique constraint with Site_ID and Provider_ID
Site_ID	BigInt	Composite Foreign Key, Composite Unique, Not Null	Foreign Key from the Site table	 Only a Site_ID that exists in the Site table can be referenced here Forms a Composite Foreign Key with Network_ID Forms a Unique constraint with Network_ID and Provider_ID
Provider_ID	BigInt	Foreign Key, Composite Unique, Not Null	Provider_ID from the Provider table	 Only a Provider_ID that exists in the Provider table can be referenced here Forms a Unique constraint with Network_ID and Site_ID
ProviderType	NVarchar	Not Null	Role of this provider	 Permitted values enforced by check constraints e.g. 'Family Physician', 'Nurse Practitioner'
ProviderRole	NVarchar	Not Null	Role of this provider	• For now, Role = ProviderType
StartDate	Date	Not Null	Date that the provider starts participating in CPCSSN at the site	Can either be the date the provider began with CPCSSN or the date that the provider moved to a new site

Table: GroupInfo

Table Notes:

• All defined groups/teams.

Field	Data Type	Constraints	Definition	Field Notes
GroupInfo_ID	BigInt	Auto Primary Key	Auto-incrementing integer	
Network_ID	TinyInt	Composite Foreign Key, Not Null	Foreign Key from the Network table	 Only a Network_ID that exists in the Network table can be referenced here Forms a Composite Foreign Key with Site_ID
Site_ID	BigInt	Composite Foreign Key	Foreign Key from the Site table	 Only a Site_ID that exists in the Site table can be referenced here Forms a Composite Foreign Key with Network_ID
OriginalEMRID	NVarchar		Record ID from the original EMR	Optional
GroupName	NVarchar		Name of the group	e.g. Toronto Family Health Team, ASA Study
GroupType	NVarchar		Type of group	e.g. Family Health Team, Study
PaymentModel	NVarchar		Capitation model	
CareModel	NVarchar		How care is provided	
GovernanceModel	NVarchar		How the group is managed	
Description	NVarchar		Other descriptions that may not fit in the above categories	

Table: ProviderGroup

- All of the Provider-group pairings.
- The Provider_ID, GroupInfo_ID pairing must be unique.

Field	Data Type	Constraints	Definition	Field Notes
ProviderGroup_ID	BigInt	Auto Primary Key	Auto-incrementing integer	
OriginalEMRID	NVarchar		Record ID from the original EMR	Optional
Provider_ID		Foreign Key, Composite Unique, Not Null	Foreign Key from the Provider table	 Only a Provider_ID that exists in the Provider table can be referenced here Forms a Unique constraint with GroupInfo_ID
GroupInfo_ID		Foreign Key, Composite Unique, Not Null	Foreign Key from the GroupInfo table	Only a GroupInfo_ID that exists in the GroupInfo table can be referenced here Forms a Unique constraint with Provider_ID

Table: Patient

Table Notes:

• List of EMR patients whose primary provider is a consenting physician in the CPCSSN project (has an entry in the Provider table).

Field	Data Type	Constraints	Definition	Field Notes
Patient_ID	BigInt	Primary Key		 Assign each patient a meaningless number e.g. '123456'
Sex	NVarchar		Patient's sex	 Permitted values enforced by check constraints e.g. 'Male' or 'Female'
BirthYear	SmallInt		4-digit year of patient's birth date	Must be greater than or equal to 1850
BirthMonth	TinyInt		Numerical value of patient's birth month	
OptedOutDate	Date		Date on which the patient opted out	

Table: PatientProvider

Table Notes:

• This table identifies which patients are assigned to which providers.

Field	Data Type	Constraints	Definition	Field Notes
PatientProvider_ID	BigInt	Auto Primary Key	Auto-incrementing integer	
Network_ID	TinyInt	Composite Foreign Key, Not Null	Foreign Key from the Network table	Only a Network_ID that exists in the Network table can be referenced here Forms a Composite Foreign Key with Site_ID and Provider_ID
Site_ID	BigInt	h	Foreign Key from the Site table	 Only a Site_ID that exists in the Site table can be referenced here Forms a Composite Foreign Key with Network_ID and Provider_ID
Patient_ID	BigInt	Foreign Key, Not Null	Foreign Key from the Patient table	Only a Patient_ID that exists in the Patient table can be referenced here
Provider_ID	BigInt	Composite Foreign Key, Not Null	Foreign Key from the Provider table	Only a Provider_ID that exists in the Provider table can be referenced here Forms a Composite Foreign Key with Network_ID and Site_ID
OriginalEMRID	NVarchar		Record ID from the original EMR	Optional
PatientType	NVarchar		How the patient is identified in the provider's roster	Suggested use as an indicator for rostered patients
StartDate	Date		Date that the provider starts providing care to the patient at this site	

Table: AllergyIntolerance

Table Notes:

• All allergy and intolerance data for the patient.

Field	Data Type	Constraints	Definition	Field Notes
AllergyIntolerance_ID	BigInt	Auto Primary Key	Auto-incrementing integer	
Network_ID	TinyInt	Composite Foreign Key, Not Null	Foreign Key from the Network table	 Only a Network_ID that exists in the Network table can be referenced here Forms a Composite Foreign Key with Site_ID
Site_ID	BigInt	Composite Foreign Key, Not Null	Foreign Key from the Site table	Only a Site_ID that exists in the Site table can be referenced here Forms a Composite Foreign Key with Network_ID
Patient_ID	BigInt	Foreign Key, Not Null	Foreign Key from Patient table	Only a Patient_ID that exists in the Patient table can be referenced here
OriginalEMRID	NVarchar		Original record ID from the EMR	Optional
Encounter_ID	BigInt	Foreign Key	Foreign Key from Encounter table	Only an Encounter_ID that exists in the Encounter table can be used May be null if the EMR does not have the data
StartDate	Date		Date that the allergy was first identified	
StopDate	Date		Date that the allergy noted as inactive	• If an allergy is inactive and StopDate cannot be found, Status field must still be set to 'Inactive'
DIN	NVarchar		DIN for the medication	Extract this where available
Name_orig	NVarchar		Name of the allergy exactly as it appears in the EMR	
Name_calc	NVarchar		Name_orig recoded into consistent text	To be coded in the future
CodeType_orig	NVarchar		Allergy CodeType of the allergy exactly as it appears in the EMR	● e.g. 'ATC'
CodeType_calc	NVarchar		Code set name for the Name_calc entry	To be coded in the future
Code_orig	NVarchar		Allergy code exactly as it appears in the EMR	
Code_calc	NVarchar		Allergy code in the CodeType_calc code set	To be coded in the future
Category	NVarchar		The category of the allergy	 Permitted values enforced by check constraints e.g. 'Medication', 'Non-Medication', 'Medication Intolerance'
Severity	NVarchar		The severity of the reaction	 Permitted values enforced by check constraints e.g. 'Mild', 'Moderate', 'Severe'

AllergyStatus	NVarchar		 Permitted values enforced by check constraints (e.g. 'Active', 'Inactive') If allergy is inactive, this field is always filled, even if no StopDate exists
ReactionType	NVarchar	Type of reaction that occurs with allergy	• e.g. 'Rash', 'Anaphylaxis', etc.
DateCreated	Date	EMR date stamp of the record	

Table: Billing

Table Notes:

• All billing data submitted to the province for the patient.

Field	Data Type	Constraints	Definition	Field Notes
Billing_ID	BigInt	Auto Primary Key	Auto-incrementing integer	
Network_ID	TinyInt	Composite Foreign Key, Not Null	Foreign Key from the Network table	 Only a Network_ID that exists in the Network table can be referenced here Forms a Composite Foreign Key with Site_ID
Site_ID	BigInt	Composite Foreign Key, Not Null	Foreign Key from the Site table	Only a Site_ID that exists in the Site table can be referenced here Forms a Composite Foreign Key with Network_ID
Patient_ID	BigInt	Foreign Key, Not Null	Foreign Key from Patient table	Only a Patient_ID that exists in the Patient table can be referenced here
OriginalEMRID	NVarchar		Original record ID from the EMR	Optional
Encounter_ID	BigInt	Foreign Key	Foreign Key from Encounter table	 Only an Encounter_ID that exists in the Encounter table can be used May be null if the EMR does not have the data
ServiceDate	Date		Date the billing was performed/submitted	
ServiceCode	NVarchar		Service code associated with the billing	● e.g. '03.03A' in Alberta
DiagnosisText_orig	NVarchar		Text exactly as it appears in the EMR	
DiagnosisText_calc	NVarchar		DiagnosisText_orig recoded into consistent text	To be coded in future
DiagnosisCodeType_orig	NVarchar		Type of code for any diagnosis codes attached to the billing as it appears in the EMR	● e.g. 'ICD9'
DiagnosisCodeType_calc	NVarchar		DiagnosisCodeType_orig recoded into consistent text	To be coded in future
DiagnosisCode_orig	NVarchar		Diagnosis code associated with the billing as it appears in the EMR	● e.g. '250.0'
DiagnosisCode_calc	NVarchar		DiagnosisCode_orig recoded into consistent text	To be coded in future
DateCreated	Date		EMR date stamp of the record	

Table: Encounter

- All encounters of the patient.
- An encounter is an interaction of the patient with a provider in some fashion. The provider does not need to be a participating provider.

Field	Data Type	Constraints	Definition	Field Notes
Encounter_ID	BigInt	Auto Primary Key	Auto-incrementing integer	
Network_ID	TinyInt	Composite Foreign Key, Not Null	Foreign Key from the Network table	 Only a Network_ID that exists in the Network table can be referenced here Forms a Composite Foreign Key with Site_ID and Provider_ID
Site_ID	BigInt	Composite Foreign Key, Not Null	Foreign Key from the Site table	Only a Site_ID that exists in the Site table can be referenced here Forms a Composite Foreign Key with Network_ID and Provider_ID
Patient_ID	BigInt	Foreign Key, Not Null	Foreign Key from the Patient table	Only a Patient_ID that exists in the Patient table can be referenced here
OriginalEMRID	NVarchar		Original record ID from the EMR	Optional
Provider_ID	BigInt	Composite Foreign Key	Responsible provider for this encounter	 The composite foreign key requires that the Network_ID, Site_ID, and Provider_ID MUST be in the SiteProvider table. If the provider for the encounter is not a CPCSSN sentinel, assign NULL Forms a Composite Foreign Key with Network_ID and Site_ID
EncounterDate	Date		Date the encounter occurred	
Reason_orig	NVarchar		Text exactly as it appears in the EMR	• If there is more than one source of this data, then precede the entry with 'Patient: ' and 'Provider: ' as appropriate
Reason_calc	NVarchar		Re-coded or cleaned version of Reason_orig	We will recode this in a future cycle, do not fill in Permitted values NOT enforced by check constraints, they are the name of the coding set
EncounterType	NVarchar		How or where the encounter was conducted	 Permitted values enforced by check constraints e.g. 'Phone', 'Walk-In', 'ER Visit' Extract this data if available If recording is not straightforward, populate with original text and indicate this in the extraction notes
DateCreated	Date		Date the record was created in the EMR	

Table: EncounterDiagnosis

Table Notes:

• All diagnoses resulting from an encounter with the patient.

Field	Data Type	Constraints	Definition	Field Notes
EncounterDiagnosis_ID	BigInt	Auto Primary Key	Auto-incrementing integer	
Network_ID	TinyInt	Composite Foreign Key, Not Null	Foreign Key from Network table	 Only a Network_ID that exists in the Network table can be referenced here Forms a Composite Foreign Key with Site_ID
Site_ID	BigInt	Composite Foreign Key, Not Null	Foreign Key from Site table	Only a Site_ID that exists in the Site table can be referenced here Forms a Composite Foreign Key with Network_ID
Patient_ID	BigInt	Foreign Key, Not Null	Foreign Key from Patient table	Only a Patient_ID that exists in the Patient table can be referenced here
OriginalEMRID	NVarchar		Original record ID from the EMR	Optional
Encounter_ID	BigInt	Foreign Key	Foreign Key from Encounter table	Only an Encounter_ID that exists in the Encounter table can be used May be null if the EMR does not have the data
DiagnosisText_orig	NVarchar		Text exactly as it appears in the EMR	This is the final physician diagnosis, not the presenting complaint of the visit
DiagnosisText_calc	NVarchar		DiagnosisText_orig recoded into consistent text	 To be coded in the future Permitted values NOT enforced by check constraints, they are from the associated coding set
DiagnosisCodeType_orig	NVarchar		Name of the code set from which the original diagnosis code was taken	 Populate this field ONLY if there is a value in the DiagnosisCode_orig field for this record e.g. 'ICD9', 'SNOMED'
DiagnosisCodeType_calc	NVarchar		DiagnosisCodeType_orig recoded into consistent text	 To be coded in the future Permitted values NOT enforced by check constraints, they are from the associated coding set
DiagnosisCode_orig	NVarchar		Original diagnosis code from EMR	Populate this only if it is already available in the EMR. Do not clean any data
DiagnosisCode_calc	NVarchar		DiagnosisCode_orig recoded into consistent text	 To be coded in the future Permitted values NOT enforced by check constraints, they are from the associated coding set
DateCreated	Date		EMR date stamp of the record	

Table: Exam

- Results of physical exams performed on the patient.
- Extract only the designated physical exams (see the check constraints).

Field	Data Type	Constraints	Definition	Field Notes
Exam_ID	BigInt	Auto Primary Key	Auto-incrementing integer	
Network_ID	TinyInt	Composite Foreign Key, Not Null	Foreign Key from Network table	 Only a Network_ID that exists in the Network table can be referenced here Forms a Composite Foreign Key with Site_ID
Site_ID	BigInt	Composite Foreign Key, Not Null	Foreign Key from Site table	Only a Site_ID that exists in the Site table can be referenced here Forms a Composite Foreign Key with Network_ID
Patient_ID	BigInt	Foreign Key, Not Null	Foreign Key from Patient table	Only a Patient_ID that exists in the Patient table can be referenced here
OriginalEMRID	NVarchar		Original record ID from the EMR	Optional
Encounter_ID	BigInt	Foreign Key	Foreign Key from Encounter table	Only Encounter_IDs existing in the Encounter table can be used May be null if the EMR does not have the data
Exam1	NVarchar		Name of the physical exam; recoded into consistent text	 Permitted values enforced by check constraints e.g. 'BMI (kg/m^2)', 'dBP (mmHg)', 'Foot Exam', 'sBP (mmHg)'
Result1_orig	NVarchar		Result of the physical exam	Use consistent units. Units are contained in the 'Exam' name
Result1_calc	NVarchar		Re-coding of Result1_orig	Populated by Exam Coding algorithm
Exam2	NVarchar		Name of the paired physical exam	 Currently the only paired exam is blood pressure 'Exam1' must be 'sBP (mmHg)' and 'Exam2' must be 'dBP (mmHg)'
Result2_orig	NVarchar		Second result of paired physical exam	 Currently the only paired exam is blood pressure 'Result1' must be a systolic value and 'Result2' must be a diastolic value
Result2_calc	NVarchar		Re-coding of Result2_orig	Populated by Exam Coding algorithm
UnitOfMeasure_orig	NVarchar		Units that accompany the ExamResult	Use consistent units. Units are contained in the 'Exam' name
UnitOfMeasure_calc	NVarchar		Re-coding of UnitOfMeasure_orig	Populated by Exam Coding algorithm
PairingMethod	NVarchar		PairingMethod for physical exam	 Permitted values enforced by check constraints PairingMethod is only filled in for exams that have paired results, e.g. blood pressures, and both Exam1 and Exam2 fields are populated e.g. 'Algorithm', 'Pre-paired'
DateCreated	Date		EMR date stamp of the record	

Table: FamilyHistory

Table Notes:

• Family history of the patient.

Field	Data Type	Constraints	Definition	Field Notes
FamilyHistory_ID	BigInt	Auto Primary Key	Auto-incrementing integer	
Network_ID	TinyInt	Composite Foreign Key, Not Null	Foreign Key from Network table	 Only a Network_ID that exists in the Network table can be referenced here Forms a Composite Foreign Key with Site_ID
Site_ID	BigInt	Composite Foreign Key, Not Null	Foreign Key from Site table	Only a Site_ID that exists in the Site table can be referenced here Forms a Composite Foreign Key with Network_ID
Patient_ID	BigInt	Foreign Key, Not Null	Foreign Key from Patient table	Only a Patient_ID that exists in the Patient table can be referenced here
OriginalEMRID	NVarchar		Original record ID from the EMR	Optional
Encounter_ID	BigInt	Foreign Key	Foreign Key from Encounter table	 Only an Encounter_ID that exists in the Encounter table can be used May be null if EMR does not have the data
DiagnosisText_orig	NVarchar		Text exactly as it appears in the EMR	
DiagnosisText_calc	NVarchar		DiagnosisText_orig recoded into consistent text	 Filled by health condition coding algorithm Values are from the associated coding set, NOT enforced by check constraints
DiagnosisCodeType_orig	NVarchar		Name of the code set from which the original diagnosis code was taken	 Populate this field ONLY if there is a value in the DiagnosisCode_orig field for this record e.g. 'ICD9', 'SNOMED'
DiagnosisCodeType_calc	NVarchar		DiagnosisCodeType_orig recoded into consistent text	Filled by health condition coding algorithm
DiagnosisCode_orig	NVarchar		Original diagnosis code from EMR	Populate this only if it is available in the EMR. Do not clean any data
DiagnosisCode_calc	NVarchar		DiagnosisCode_orig recoded into consistent text	 Filled by health condition coding algorithm Values are from the associated coding set, NOT enforced by check constraints
Relationship_orig	NVarchar		Original relationship from the EMR	
RelationshipSide_calc	NVarchar		Coding of side of the relationship	● e.g. 'Maternal' or 'Paternal'
RelationshipDegree_calc	TinyInt		Genetic degree of the relationship	Relationship degree defined here: http://www.cdc.gov/genomics/resources/diseases/breast_ovarian_cancer/risk_categories.htm
AgeAtOnset	TinyInt		Age of onset of the condition	
VitalStatus	NVarchar		Whether relative is alive or	

		deceased	
WasCauseOfDeath	Bit	Was this condition the cause of death	
AgeAtDeath	TinyInt	Relation's age at death	
DateCreated	Date	EMR date stamp of the record	

Table: HealthCondition

Table Notes:

• All health conditions of the patient.

Field	Data Type	Constraints	Definition	Field Notes
HealthCondition_ID	BigInt	Auto Primary Key	Auto-incrementing integer	
Network_ID	TinyInt	Composite Foreign Key, Not Null		 Only a Network_ID that exists in the Network table can be referenced here Forms a Composite Foreign Key with Site_ID
Site_ID	BigInt	Composite Foreign Key, Not Null		Only Site_IDs that exist in the Site table can be referenced Forms a Composite Foreign Key with Network_ID
Patient_ID	BigInt	Foreign Key, Not Null		Only a Patient_ID that exists in the Patient table can be referenced here
OriginalEMRID	NVarchar		Original record ID from the EMR	Optional
Encounter_ID	BigInt	Foreign Key		 Only an Encounter_ID that exists in the Encounter table can be used May be null if the EMR does not have the data
DiagnosisText_orig	NVarchar (4000)		Text exactly as it appears in the EMR	
DiagnosisText_calc	NVarchar			Populated by health condition coding algorithmValues are from the associated coding set
DiagnosisCodeType_orig	NVarchar		the original diagnosis code was	 Populate this field ONLY if there is a value in the DiagnosisCode_orig field for this record e.g. 'ICD9', 'SNOMED'
DiagnosisCodeType_calc	NVarchar		DiagnosisCodeType_orig recoded into consistent text	Populated by health condition coding algorithm
DiagnosisCode_orig	NVarchar			Populate this only if it is already available in the EMR. Do not clean any data
DiagnosisCode_calc	NVarchar			 Populated by health condition coding algorithm Values are from the associated coding set
DateOfOnset	Date		Date that the health condition began	
SignificantNegativeFlag	Bit		l	'True': does not have this condition 'False'/NULL: has this condition
ActiveInactiveFlag	NVarchar		active at the time of data extraction.	 Permitted values enforced by check constraints If it is in the problem list, it is likely to be Active. If it is in the Past Medical History, it is likely to be Inactive
DateCreated	Date		EMR date stamp of the record	

Table: Image

Table Notes:

• Information on imaging that the patient has undergone.

Field	Data Type	Constraints	Definition	Field Notes
Image_ID	BigInt	Auto Primary Key	Auto-incrementing integer	
Network_ID	TinyInt	Composite Foreign Key, Not Null	Foreign Key from Network table	 Only a Network_ID that exists in the Network table can be referenced here Forms a Composite Foreign Key with Site_ID
Site_ID	BigInt	Composite Foreign Key, Not Null	Foreign Key from Site table	 Only a Site_ID that exists in the Site table can be referenced here Forms a Composite Foreign Key with Network_ID
Patient_ID	BigInt	Foreign Key, Not Null	Foreign Key from Patient table	Only a Patient_ID that exists in the Patient table can be referenced here
OriginalEMRID	NVarchar		Original record ID from the EMR	
Encounter_ID	BigInt	Foreign Key	Foreign Key from Encounter table	Only an Encounter_ID that exists in the Encounter table can be used May be null if the EMR does not have the data
PerformedDate	Date		Date on which imaging was completed	
Name_orig	NVarchar			
Name_calc	NVarchar		Name_orig recoded into consistent text	 To be coded in the future Values are from the associated coding set, NOT enforced by check constraints
ImageType	NVarchar			
ImageArea	NVarchar			
DateCreated	Date		EMR date stamp of the record	

Table: Lab

- Results of lab tests relevant to Index Diseases.
- Extract only the designated lab tests (enforced by check constraints).
 - Currently the collected lab tests are only applicable to diabetes mellitus, but may be expanded in the future.

Field	Data Type	Constraints	Definition	Field Notes
Lab_ID	BigInt	Auto Primary Key	Auto-incrementing integer	
Network_ID	TinyInt	Composite Foreign Key, Not Null	Foreign Key from Network table	 Only a Network_ID that exists in the Network table can be referenced here Forms a Composite Foreign Key with Site_ID
Site_ID	BigInt	Composite Foreign Key, Not Null	Foreign Key from Site table	Only a Site_ID that exists in the Site table can be referenced here Forms a Composite Foreign Key with Network_ID
Patient_ID	BigInt	Foreign Key, Not Null	Foreign Key from Patient table	Only a Patient_ID that exists in the Patient table can be referenced here
OriginalEMRID	NVarchar		Original record ID from the EMR	Optional
Encounter_ID	BigInt	Foreign Key	Foreign Key from Encounter table	Only an Encounter_ID that exists in the Encounter table can be used May be null if EMR does not have the data
PerformedDate	Date		Date that the lab test was done	
Name_orig	NVarchar		Text exactly as it appears in the EMR	
Name_calc	NVarchar		Name_orig recoded into consistent text	Permitted values enforced by check constraints Populated by lab result coding algorithm
CodeType_orig	NVarchar		CodeType text exactly as it appears in the EMR	
CodeType_calc	NVarchar		CodeType_orig recoded into consistent text	 Populated by lab result coding algorithm Values are the name of the coding set (NOT enforced by check constraints) e.g. 'LOINC', 'Life Labs Proprietary'
Code_orig	NVarchar		Code text exactly as it appears in the EMR	
Code_calc	NVarchar		Code_orig orig recoded into consistent text	 Populated by lab result coding algorithm Values are from the associated coding set
TestResult_orig	NVarchar		Result of the lab test	
TestResult_calc	NVarchar		TestResult_orig recoded into consistent text	
UpperNormal	NVarchar		Highest lab result value that is considered normal	May not be available

LowerNormal	NVarchar	Lowest lab result value th considered normal	at is May not be available
NormalRange	NVarchar	Original text containing up lower lab ranges in one rethe EMR	
UnitOfMeasure_orig	NVarchar	Unit of measure for the va Name_orig field	lue in • May not be available
UnitOfMeasure_calc	NVarchar	UnitOfMeasure_orig reco consistent text	ded into
DateCreated	Date	EMR date stamp of the re	cord

Table: MedicalProcedure

Table Notes:

• All procedures performed on the patient.

Field	Data Type	Constraints	Definition	Field Notes
MedicalProcedure_ID	BigInt	Auto Primary Key	Auto-incrementing integer	
Network_ID		Composite Foreign Key, Not Null	Foreign Key from Network table	 Only a Network_ID that exists in the Network table can be referenced here Forms a Composite Foreign Key with Site_ID
Site_ID	BigInt	Composite Foreign Key, Not Null	Foreign Key from Site table	 Only a Site_ID that exists in the Site table can be referenced here Forms a Composite Foreign Key with Network_ID
Patient_ID	BigInt	Foreign Key, Not Null	Foreign Key from Patient table	Only a Patient_ID that exists in the Patient table can be referenced here
OriginalEMRID	NVarchar		Record ID from the original EMR	Optional
Encounter_ID	BigInt	Foreign Key	Foreign Key from Encounter table	Only an Encounter_ID that exists in the Encounter table can be used May be null if EMR does not have the data
PerformedDate	Date		Date that the procedure was performed	
Name_orig	NVarchar		Procedure text exactly as it appears in the EMR	
Name_calc	NVarchar		Name_orig recoded into consistent text	Re-coding will be done in a future cycle
DateCreated	Date		EMR date stamp of the record	

Table: Medication

Table Notes:

• All medications prescribed for the patient.

Field	Data Type	Constraints	Definition	Field Notes
Medication_ID	BigInt	Auto Primary Key	Auto-incrementing integer	
Network_ID	TinyInt	Composite Foreign Key, Not Null	Foreign Key from Network table	 Only a Network_ID that exists in the Network table can be referenced here Forms a Composite Foreign Key with Site_ID
Site_ID	BigInt	Composite Foreign Key, Not Null	Foreign Key from Site table	Only a Site_ID that exists in the Site table can be referenced here Forms a Composite Foreign Key with Network_ID
Patient_ID	BigInt	Foreign Key, Not Null	Foreign Key from Patient table	Only a Patient_ID that exists in the Patient table can be referenced here
OriginalEMRID	NVarchar		Original record ID from the EMR	Optional
Encounter_ID	BigInt	Foreign Key	Foreign Key from Encounter table	Only an Encounter_ID that exists in the Encounter table can be used May be null if EMR does not have the data
StartDate	Date		Date that the Patient started taking the medication	
StopDate	Date		Date that the Patient stopped taking the medication	
Reason	NVarchar		Reason that Patient was prescribed the medication	Exact text as in the EMR, no cleaning for now
DIN	NVarchar		DIN number for the medication	Extract this where available
Name_orig	NVarchar (4000)		Text exactly as it appears in the EMR	
Name_calc	NVarchar		Name_orig recoded into consistent text	 Populated by medication coding algorithm Values are from the associated coding set, NOT enforced by check constraints
CodeType_orig	NVarchar		Original code set used in the EMR	● e.g. 'ATC'
CodeType_calc	NVarchar		CodeType_orig recoded into consistent text	 Populated by medication coding algorithm. Values are from the associated coding set, NOT enforced by check constraints
Code_orig	NVarchar		Original code used in the EMR	
Code_calc	NVarchar		Code_orig recoded into consistent text	 Populated by medication coding algorithm Values are from the associated coding set, NOT enforced by check constraints
Strength	NVarchar		Concentration of the medication	● e.g. 40

Dose	NVarchar	Number of units of the medication to be taken	● e.g. 2
UnitOfMeasure	NVarchar	Units of medication strength	● e.g. mg, ml
Frequency	NVarchar	Frequency at which medication to be taken	● e.g. bid, tid, q4hr
DurationCount	NVarchar	Length of time that the patient should take the medication	● e.g. 10
DurationUnit	NVarchar	The units of measure for the DurationCount	● e.g. 'days'
DispensedCount	NVarchar	Number of units (as defined in DispensedForm) to be dispensed	● e.g. 90
DispensedForm	NVarchar	Form of dispensed medication	● e.g. 'Vial', 'Tab', 'Capsule'
RefillCount	NVarchar	Number of refills	● e.g. 3
DateCreated	Date	EMR date stamp of the record	

Table: PatientDemographic

Table Notes:

• Changeable characteristics/demographics of the patients are stored here.

Field	Data Type	Constraints	Definition	Field Notes
PatientDemographic_ID		Auto Primary Key	Auto-incrementing integer	
Network_ID	TinyInt	Composite Foreign Key, Not Null	Foreign Key from Network table	 Only a Network_ID that exists in the Network table can be referenced here Forms a Composite Foreign Key with Site_ID
Site_ID	BigInt	Composite Foreign Key, Not Null	Foreign Key from Site table	Only a Site_ID that exists in the Site table can be referenced here Forms a Composite Foreign Key with Network_ID
Patient_ID	BigInt	Foreign Key, Not Null	Foreign Key from Patient table	Only a Patient_ID that exists in the Patient table can be referenced here
OriginalEMRID	NVarchar		Original record ID from the EMR	Optional
Occupation	NVarchar		Patient's occupation	Extract this from the EMR if it is available
HighestEducation	NVarchar		Patient's highest education	Extract this from the EMR if it is available
HousingStatus	NVarchar		Patient's housing status	Extract this from the EMR if it is available
ResidencePostalCode	NVarchar		Postal code of the patient	● e.g. 'X2X 2X2'
PatientStatus_orig	NVarchar		Status of the patient	 e.g: deceased, expired, active, hospital, transient, senior clinic If both codes and description of codes are available(e.g. code=1, description=active), only enter the description
PatientStatus_calc	NVarchar		PatientStatus_orig recoded into consistent text	Permitted values are enforced by check constraintse.g. 'Active', 'Deceased', etc.
PrimaryLanguage	NVarchar		Patient's primary language	
Ethnicity	NVarchar		Patient's ethnicity	Extract this from the EMR if it is available
DeceasedYear	SmallInt		The year in which the patient became deceased	
DateCreated	Date		EMR date stamp of the record	

Table: Referral

- All referrals made for the patient.
- Include only referrals made by this provider/practice. Exclude referrals made by specialists to another provider.

Field	Data Type	Constraints	Definition	Field Notes
Referral_ID	BigInt	Auto Primary Key	Auto-incrementing integer	
Network_ID	TinyInt	Composite Foreign Key, Not Null	Foreign Key from Network table	 Only a Network_ID that exists in the Network table can be referenced here Forms a Composite Foreign Key with Site_ID
Site_ID	BigInt	Composite Foreign Key, Not Null	Foreign Key from Site table	Only a Site_ID that exists in the Site table can be referenced here Forms a Composite Foreign Key with Network_ID
Patient_ID	BigInt	Foreign Key, Not Null	Foreign Key from Patient table	Only a Patient_ID that exists in the Patient table can be referenced here
OriginalEMRID	NVarchar		Original record ID from the EMR	Optional
Encounter_ID	BigInt	Foreign Key	Foreign Key from Encounter table	 Only an Encounter_ID that exists in the Encounter table can be used May be null if EMR does not have the data
CompletedDate	Date		Date when the patient saw the provider to whom they were referred	Extract if available in your EMR
Name_orig	NVarchar		Referral Text exactly as it appears in the EMR	We want the reason for referral, not the entire referral letter
Name_calc	NVarchar		Name_orig recoded into consistent text	Populated by the Referral Cleaning algorithm
ConceptCode_calc	BigInt		SNOMED concept code	Populated by the Referral Cleaning algorithm
DateCreated	Date		EMR date stamp of the record	

Table: RiskFactor

- Risk factors recorded for the patient.
- Extract only the designated risk factors (see the MasterLookup RiskFactor list).

Field	Data Type	Constraints	Definition	Field Notes
RiskFactor_ID	BigInt	Auto Primary Key	Auto-incrementing integer	
Network_ID	TinyInt	Composite Foreign Key, Not Null	Foreign Key from Network table	 Only a Network_ID that exists in the Network table can be referenced here Forms a Composite Foreign Key with Site_ID
Site_ID	BigInt	Composite Foreign Key, Not Null	Foreign Key from Site table	Only a Site_ID that exists in the Site table can be referenced here Forms a Composite Foreign Key with Network_ID
Patient_ID	BigInt	Foreign Key, Not Null	Foreign Key from Patient table	Only a Patient_ID that exists in the Patient table can be referenced here
OriginalEMRID	NVarchar		Original record ID from the EMR	Optional
Encounter_ID	BigInt	Foreign Key	Foreign Key from Encounter table	 Only an Encounter_ID that exists in the Encounter table can be used May be null if EMR does not have the data
StartDate	Date		Date that the risk factor began	
EndDate	Date		Date that the risk factor ended	
Name_orig	NVarchar		Risk factor name exactly as it appears in the EMR	
Name_calc	NVarchar		Name_orig recoded into consistent text	 Permitted values are enforced by check constraints Re-coding is currently performed by the individual Data Managers
Value_orig	NVarchar		Measure of the risk factor	● For example, if Risk Factor is 'smoker', value might be '3 pk/week' or '7/day'
Value_calc	NVarchar		Value_orig recoded into consistent text	
Status_orig	NVarchar		Original value denoting whether the risk is current, past, never, etc.	
Status_calc	NVarchar		Coded value of the status	Permitted values are enforced by check constraints
Frequency	NVarchar		How often the patient is currently affected by the specified risk factor	• For example, if the person currently smokes less than 3 packs per day, value would be "3"
FrequencyType	NVarchar		For entries where a specific value is not provided, allows a comparative description of frequency length	 Possible values: Greater than; Less than For example, if the person currently smokes less than 3 packs per day, value would be "Less than"
FrequencyUnit	NVarchar		Frequency Unit of Measure	• For example, if the person currently smokes less than 3 packs per day, value would be "Packs per day"
Duration	NVarchar		Amount of time that the person has been	• For example, if the person has been smoking for more than 10 years,

		affected by the specified risk factor	value would be "10"
DurationType	NVarchar		 Possible values: Greater than; Less than For example, if the person has been smoking for more than 10 years, value would be "Greater than"
DurationUnit	NVarchar	Duration Unit of Measure	● For example, if the person has been smoking for more than 10 years, value would be "Years"
EndDuration	NVarchar		• For example, if the person has not had a drink for more than 5 years, value would be "5"
EndDurationType	NVarchar		 Possible values: Greater than; Less than For example, if the person has not had a drink for more than 5 years, value would be "Greater than"
EndDurationUnit	NVarchar	EndDuration Unit of Measure	• For example, if the person has not had a drink for more than 5 years, value would be "Years"
RiskDetails	NVarchar	Any additional details regarding the risk factor	Possible entries: details regarding cessation attempts and type; relevant details to risk which currently may not fit structured fields, etc.
DateCreated	Date	EMR date stamp of the record	

Table: Vaccine

Table Notes:

• All vaccinations given to the patient.

Field	Data Type	Constraints	Definition	Field Notes
Vaccine_ID	BigInt	Auto Primary Key	Auto-incrementing integer	
Network_ID	TinyInt	Composite Foreign Key, Not Null	Foreign Key from Network table	 Only a Network_ID that exists in the Network table can be referenced here Forms a Composite Foreign Key with Site_ID
Site_ID	BigInt	Composite Foreign Key, Not Null	Foreign Key from Site table	Only a Site_ID that exists in the Site table can be referenced here Forms a Composite Foreign Key with Network_ID
Patient_ID	BigInt	Foreign Key, Not Null	Foreign Key from Patient table	Only a Patient_ID that exists in the Patient table can be referenced here
OriginalEMRID	NVarchar		Original record ID from the EMR	Optional
Encounter_ID	BigInt	Foreign Key	Foreign Key from Encounter table	Only an Encounter_ID that exists in the Encounter table can be used May be null if EMR does not have the data
GivenDate	Date		Date of vaccine administration.	
ExpiryDate	Date		Vaccine expiry date.	• The vaccine-batch expiry date, NOT the end-date of vaccine efficacy
Name_orig	NVarchar		Text exactly as it appears in the EMR	
Name_calc	NVarchar		Name_orig recoded into consistent text	Populated by vaccine coding algorithm
CodeType_orig	NVarchar		Original code set used in the EMR	● e.g. 'ATC'
CodeType_calc	NVarchar		CodeType_orig recoded into consistent text	Populated by vaccine coding algorithm
Code_orig	NVarchar		Original code used in the EMR	
Code_calc	NVarchar		Code_orig recoded into consistent text	Populated by vaccine coding algorithm
DIN	NVarchar		DIN number for the vaccine	Extract this where available
Dose	NVarchar		Number of units/volumes of the administered vaccine	● e.g. 0.1
UnitOfMeasure	NVarchar		Units used for the vaccine	● e.g. mL
NotGiven	Bit		Identifies if vaccination was prevented	● e.g. 'Yes'=1, 'No'=0
NotGivenReason	NVarchar		Represents the reason a vaccine was not administered to a patient	e.g. 'Patient Objection', 'Allergy', 'history of severe reaction'
Reaction	NVarchar		Adverse reaction related to immunization	• e.g. 'Allergic', 'idiosyncratic', 'Intolerance', 'Overdose'
AdminSite	NVarchar		Site of vaccine administration	● e.g. 'Left deltoid', 'Right gluteus'
Route	NVarchar		Route of vaccine administration	• e.g. 'PO', 'IM', 'SC'
Lot	NVarchar		The vaccine lot number	• e.g. 'C2274AA', 'M005060'

DateCreated	Doto	EMP data stamp of the record	
DateCreated	Date	EMR date stamp of the record	

Table: DiseaseCase

- Patients in the Patient table who have one or more of the Index Diseases.
- Populated by the case detection algorithm.

Field	Data Type	Constraints	Definition	Field Notes
DiseaseCase_ID	BigInt	Auto Primary Key	Auto-incrementing integer	
Patient_ID		Foreign Key, Not Null		Only a Patient_ID that exists in the Patient table can be referenced here
Disease	NVarchar		The Patient's chronic condition of interest to this database	 Valid values are diseases with CPCSSN case definitions e.g. 'COPD', 'Depression', 'Diabetes Mellitus'
DateOfOnset	Date		Date that the health condition began	

Table: DiseaseCaseIndicator

- Collects all of the reasons that a patient has been identified as having an index disease.
- Populated by the case detection algorithm.

Field	Data Type	Constraint s	Definition	Field Notes
DiseaseCaseIndicator_ID	BigInt	Auto Primary Key	Auto-incrementing integer	
Patient_ID		Foreign Key, Not Null	Foreign Key from Patient table	Only a Patient_ID that exists in the Patient table can be referenced here
Disease	NVarchar	Not Null	The Patient's chronic condition of interest to this database	 Valid values are diseases with CPCSSN case definitions e.g. 'COPD', 'Depression', 'Diabetes Mellitus'
IndicatorType	NVarchar		General category that the indicator falls under	 Values are the names of the table where the original record can be found e.g. "HealthCondition", "Medication", etc.
IndicatorValue	NVarchar		Data value from the original record	
TableName	NVarchar		Name of the table storing the original record	
TableKey	BigInt		Primary key of the original record in the original table	
DateCreated	Date		EMR date stamp of the original record	
ExcludeFlag	Tinyint		Flag for whether an indicator was excluded	
ExcludeReason	NVarchar		Reason an indicator was excluded	