1. Clinical Tables
   1. Person

|  |  |  |
| --- | --- | --- |
| **Field** | Type | Description |
| Person ID | integer | A unique identifier for each person. |
| Gender | integer | A foreign key that refers to an identifier in the CONCEPT table for the unique gender of the person. |
| Year of Birth | integer | The year of birth of the person. For data sources with date of birth, the year is extracted. For data sources where the year of birth is not available, the approximate year of birth is derived based on any age group categorization available. |
| Month of Birth | integer | The month of birth of the person. For data sources that provide the precise date of birth, the month is extracted and stored in this field. |
| Day of Birth | integer | The day of the month of birth of the person. For data sources that provide the precise date of birth, the day is extracted and stored in this field. |
| Birth Date/Time | datetime | The date and time of birth of the person. |
| Death Date/Time | datetime | The date and time of death of the person. |
| Race | integer | A foreign key that refers to an identifier in the CONCEPT table for the unique race of the person, belonging to the 'Race' vocabulary. |
| Ethnicity | integer | A foreign key that refers to the standard concept identifier in the Standardized Vocabularies for the ethnicity of the person, belonging to the 'Ethnicity' vocabulary. |
| Location | integer | A foreign key to the place of residency for the person in the location table, where the detailed address information is stored. |
| Provide ID | integer | A foreign key to the primary care provider the person is seeing in the provider table. |
| Care Site ID | integer | A foreign key to the site of primary care in the care\_site table, where the details of the care site are stored. |

*From <*[*https://github.com/OHDSI/CommonDataModel/wiki/PERSON*](https://github.com/OHDSI/CommonDataModel/wiki/PERSON)*>*

b) Visit Occurrence

|  |  |  |
| --- | --- | --- |
| Field | Type | Description |
| Visit Occurrence Id | integer | A unique identifier for each Person's visit or encounter at a healthcare provider. |
| Person Id | 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 Type | integer | In our case we will mainly have a visit type of **COVID-19 Laboratory Visit** |
| Visit Start Date/Time | date | The start date of the visit. |
| Visit End Date/Time | date | The end date of the visit. If this is a one-day visit the end date should match the start date. In our case Visit Start Date and Visit End Date will be same always |
| Provider | integer | A foreign key to the provider in the provider table who was associated with the visit. |
| Care Site | integer | A foreign key to the care site in the care site table that was visited. For us this will be the Collection Center Code will be the Care Site |
| Discharge To | integer | where the patient was discharged to (discharge disposition). In our case it will always be home, as once the sample is collected the Laboratory Visit will end and the patient will discharged back to the home, and they will have to wait for testing results |
| preceding\_visit\_occurrence\_id | integer | A foreign key to the VISIT\_OCCURRENCE table of the visit immediately preceding this visit. This one can help us to understand and record if a patient had multiple COVID-19 Laboratory Visits for getting tested multiple times |

*From <*[*https://github.com/OHDSI/CommonDataModel/wiki/VISIT\_OCCURRENCE*](https://github.com/OHDSI/CommonDataModel/wiki/VISIT_OCCURRENCE)*>*

c) Condition Occurrence

|  |  |  |
| --- | --- | --- |
| Field | Type | Description |
| Condition Occurrence ID | bigint | A unique identifier for each Condition Occurrence event. |
| Person ID | bigint | A foreign key identifier to the Person who is experiencing the condition. The demographic details of that Person are stored in the PERSON table. |
| Condition Concept ID | integer | A foreign key that refers to a Standard Concept identifier in the Standardized Vocabularies belonging to the 'Condition' domain. |
| Condition Start Date/Time | date | The date when the instance of the Condition is recorded. |
| Condition End Date Time | date | The date when the instance of the Condition is considered to have ended. |
| Condition Type Concept ID | integer | A foreign key to the predefined Concept identifier in the Standardized Vocabularies reflecting the source data from which the Condition was recorded, the level of standardization, and the type of occurrence. These belong to the 'Condition Type' vocabulary In case if the patient dies Condition Type will be set as Death Type. Cause of Death can be stored here    This can include Primary Diagnosis, Secondary Diagnosis, Problems/Symptoms (ICD Codes)  This is how clinical coding will be done for Conditions: <https://www.who.int/classifications/icd/COVID-19-coding-icd10.pdf?ua=1> |
| Provide ID | integer | A foreign key to the Provider in the PROVIDER table who was responsible for capturing (diagnosing) the Condition. |
| Visit Occurrence | integer | A foreign key to the visit in the VISIT\_OCCURRENCE table during which the Condition was determined (diagnosed). |
| Visit Detail ID | integer | A foreign key to the visit in the VISIT\_DETAIL table during which the Condition was determined (diagnosed). |

*From <*[*https://github.com/OHDSI/CommonDataModel/wiki/CONDITION\_OCCURRENCE*](https://github.com/OHDSI/CommonDataModel/wiki/CONDITION_OCCURRENCE)*>*

d) Procedure Occurrence

|  |  |  |
| --- | --- | --- |
| Field | Type | Description |
| Procedure Occurrence | integer | A system-generated unique identifier for each Procedure Occurrence. |
| Person Id | 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. |
| Procedure Concept ID | integer | A foreign key that refers to a standard procedure Concept identifier in the Standardized Vocabularies. |
| Procedure Date/Time | datetime | The date and time on which the Procedure was performed. |
| Quantity | integer | The quantity of procedures ordered or administered. This will always be 1 for a specific visit occurrence id |
| Provide Id | integer | A foreign key to the provider in the PROVIDER table who was responsible for carrying out the procedure. This will be the person collecting sample. This will also be the person who will perform the test. Need to think how can we have 2 values corresponding to this, or shall we have 2 different kind of providers? |
| Visit Occurrence Id | integer | A foreign key to the Visit in the VISIT\_OCCURRENCE table during which the Procedure was carried out. In our case we will mainly have a visit type of **COVID-19 Laboratory Visit in the Visit Occurrence Table** |
| Procedure Source Value | varchar(50) | The source code for the Procedure as it appears in the source data. This code is mapped to a standard procedure Concept in the Standardized Vocabularies and the original code is, stored here for reference. Procedure source codes are typically ICD-9-Proc, CPT-4, HCPCS or OPCS-4 codes. Mostly we will take the codes from ICD-10. |

*From <*[*https://github.com/OHDSI/CommonDataModel/wiki/PROCEDURE\_OCCURRENCE*](https://github.com/OHDSI/CommonDataModel/wiki/PROCEDURE_OCCURRENCE)*>*

e) Measurement (Lets have this table for now, I am not very sure as of now how are we going to use it for storing the results of COVID-19 testing)

|  |  |  |
| --- | --- | --- |
| Field | Type | Description |
| Measurement ID | integer | A unique identifier for each Measurement. |
| Person ID | integer | A foreign key identifier to the Person about whom the measurement was recorded. The demographic details of that Person are stored in the PERSON table. |
| measurement\_concept\_id | integer | A foreign key to the standard measurement concept identifier in the Standardized Vocabularies. These belong to the 'Measurement' domain, but could overlap with the 'Observation' domain (see #3 below). |
| measurement\_date | date | The date of the Measurement. |
| measurement\_datetime | datetime | The date and time of the Measurement. Some database systems don't have a datatype of time. To accommodate all temporal analyses, datatype datetime can be used (combining measurement\_date and measurement\_time [forum discussion](http://forums.ohdsi.org/t/date-time-and-datetime-problem-and-the-world-of-hours-and-1day/314)) |
| measurement\_time | varchar(10) | The time of the Measurement. This is present for backwards compatibility and will be deprecated in an upcoming version |
| measurement\_type\_concept\_id | integer | A foreign key to the predefined Concept in the Standardized Vocabularies reflecting the provenance from where the Measurement record was recorded. These belong to the 'Meas Type' vocabulary |
| operator\_concept\_id | integer | A foreign key identifier to the predefined Concept in the Standardized Vocabularies reflecting the mathematical operator that is applied to the value\_as\_number. Operators are <, <=, =, >=, > and these concepts belong to the 'Meas Value Operator' domain. |
| value\_as\_number | float | A Measurement result where the result is expressed as a numeric value. |
| value\_as\_concept\_id | integer | A foreign key to a Measurement result represented as a Concept from the Standardized Vocabularies (e.g., positive/negative, present/absent, low/high, etc.). These belong to the 'Meas Value' domain |
| unit\_concept\_id | integer | A foreign key to a Standard Concept ID of Measurement Units in the Standardized Vocabularies that belong to the 'Unit' domain. |
| range\_low | float | The lower limit of the normal range of the Measurement result. The lower range is assumed to be of the same unit of measure as the Measurement value. |
| range\_high | float | The upper limit of the normal range of the Measurement. The upper range is assumed to be of the same unit of measure as the Measurement value. |
| provider\_id | integer | A foreign key to the provider in the PROVIDER table who was responsible for initiating or obtaining the measurement. |
| visit\_occurrence\_id | integer | A foreign key to the Visit in the VISIT\_OCCURRENCE table during which the Measurement was recorded. |
| visit\_detail\_id | integer | A foreign key to the Visit Detail in the VISIT\_DETAIL table during which the Measurement was recorded. |
| measurement\_source\_value | varchar(50) | 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. |
| measurement\_source\_concept\_id | integer | A foreign key to a Concept in the Standard Vocabularies that refers to the code used in the source. |
| unit\_source\_value | varchar(50) | 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. |
| value\_source\_value | varchar(50) | The source value associated with the content of the value\_as\_number or value\_as\_concept\_id as stored in the source data. |

*From <*[*https://github.com/OHDSI/CommonDataModel/wiki/MEASUREMENT*](https://github.com/OHDSI/CommonDataModel/wiki/MEASUREMENT)*>*

f) Note

|  |  |  |
| --- | --- | --- |
| Field | Type | Description |
| Note ID | integer | A unique identifier for each note. |
| Person ID | integer | A foreign key identifier to the Person about whom the Note was recorded. The demographic details of that Person are stored in the PERSON table. |
| Note Event Id | integer | A foreign key identifier to the event (e.g. Measurement, Procedure, Visit, Drug Exposure, etc) record during which the note was recorded. |
| Note Date Time | datetime | The date and time the note was recorded. |
| Note Text | varchar(MAX) | The content of the Note. |
| Provider Id | integer | A foreign key to the Provider in the PROVIDER table who took the Note. |
| Visit Occurrence Id | integer | A foreign key to the Visit in the VISIT\_OCCURRENCE table when the Note was taken. |

g) Survey Conduct

|  |  |  |
| --- | --- | --- |
| Field | Type | Description |
| Survey Conduct ID | integer | Unique identifier for each completed survey. Every Time we get a questionnaire filled by a person that will have a unique id associated to it |
| Person Id | integer | A foreign key identifier to the Person in the PERSON table about whom the survey was completed. |
| Survey Start Date/Time | datetime | Date and time the survey was started. |
| Survey End Date/Time | datetime | Date and time the survey was completed. |
| Provider Id | integer | A foreign key to the provider in the provider table who was associated with the survey completion. I think in our case it will be 0 since the survey will be filled in by the user |
| Assisted | integer | Whether this was filled in by the patient himself or some other health worker helped them to fill in the data |
| Respondent Type | integer | It can be the patient or a researcher, etc. In our case it will always be patient. |
| Timing | integer | This will give an indication if this a follow up survey. Say for example it can be a 1 month follow up survey after the submitted their sample for getting tested. Test result may or may not be out |
| Collection Method | integer | Paper, Telephone, Electronic Questionnaire??? I think in our case it is going to be electronic |
| Assistance Required | varchar(50) | Example: “Completed without assistance”, ”Completed with assistance”. Not so important in our case as in UI we are not capturing this record |
| Respondent Type | varchar(100) | role of person who completed the survey. In our case it will always be the patient. This field is NOT a must have. Can be skipped. |
| Survey Name | varchar(100) | Only of 1 type: COVID-19 Questionnaire. Let's have only of one type. |
| Survey Version Number | varchar(20) | Version number of the questionnaire or survey used. In case if we are updating our questionnaire. Say addition of new symptoms |
| Visit Occurrence Id | integer | A foreign key to the VISIT\_OCCURRENCE table during which the survey was completed |
| Response Visit Occurrence Id | integer | A foreign key to the visit in the VISIT\_OCCURRENCE table during which treatment was carried out that relates to this survey. |

*From <*[*https://github.com/OHDSI/CommonDataModel/wiki/SURVEY\_CONDUCT*](https://github.com/OHDSI/CommonDataModel/wiki/SURVEY_CONDUCT)*>*

Conventions

|  |  |
| --- | --- |
| No. | Convention Description |
| 1 | Patient responses to survey questions are stored in the OBSERVATION table. Each record in the OBSERVATION table represents a single question/response pair and is linked to a specific SURVEY/questionnaire using OBSERVATION.OBSERVATION\_EVENT\_ID and SURVEY\_CONDUCT.SURVEY\_CONDUCT\_ID. |
| 2 | Each response record is the response to a specific question identified by the OBSERVATION\_CONCEPT\_ID. This concept ID is a unique question contained in the CONCEPT table. |
| 3 | An individual survey question can have multiple responses to a question (e.g. which of these items relate to you, a, b, c ,…?). Each response is stored as a separate record in the OBSERVATION table.   * The name (question) is stored as OBSERVATION\_CONCEPT\_ID and the value (answer) is stored as OBSERVATION\_AS\_CONCEPT\_ID where the answer is categorical and is defined as a concept in the concept table, OBSERVATION\_AS\_NUMBER where the answer is numeric, OBSERVATION\_AS\_STRING where the answer is a free text string or OBSERVATION\_AS\_DATETIME. |
| 4 | The question / answer observation record is linked to the patient questionnaire used for collecting the data using two new fields in the OBSERVATION table; DOMAIN\_ID and DOMAIN\_OCCURRENCE\_ID.   * DOMAIN\_ID for any survey related observations contains the text ‘Survey’ and DOMAIN\_OCCURRENCE\_ID contains the SURVEY\_OCCURRENCE\_ID of the specific survey. * This domain construct can be used for other observation groupings. |
| 5 | The OBSERVATION table can also store survey scoring results. Many validated PRO questionnaires have scoring algorithms (many of which proprietary) that return an overall patient score based on the answers provided.   * Survey scores are identified by their OBSERVATION\_CONCEPT\_ID and are linked back to the scored survey using the same DOMAIN construct described. |

 h) Observation (clinical facts that can be generated without any standardized test or any other activity. Observations can be medical history, family history, socio-economic conditions, lifestyle choices. If the clinical fact observed determines a sign, symptom, diagnosis of a disease or other medical condition it will go to the condition occurrence table)

|  |  |  |
| --- | --- | --- |
| Field | Type | Description |
| Observation Id | integer | A unique identifier for each observation. |
| Person Id | 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 Date/Time | datetime | The date and time of the observation. |
| Value as Number | float | The observation result stored as a number. This is applicable to observations where the result is expressed as a numeric value. |
| Value as String | varchar(60) | The observation result stored as a string. This is applicable to observations where the result is expressed as verbatim text. |
| Provider Id | integer | A foreign key to the provider in the PROVIDER table who was responsible for making the observation. |
| Visit Occurrence Id | integer | A foreign key to the visit in the VISIT\_OCCURRENCE table during which the observation was recorded. |
| Visit Detail Id | integer | A foreign key to the visit in the VISIT\_DETAIL table during which the observation was recorded. |
| Value as Date/Time | datetime | The observation result stored as a datetime value. This is applicable to observations where the result is expressed as a point in time. |

*From <*[*https://github.com/OHDSI/CommonDataModel/wiki/OBSERVATION*](https://github.com/OHDSI/CommonDataModel/wiki/OBSERVATION)*>*

1. Specimen

|  |  |  |
| --- | --- | --- |
| Field | Type | Description |
| Specimen ID | integer | A unique identifier for each specimen. Sample collected for the patient |
| Person Id | integer | A foreign key identifier to the Person for whom the Specimen is recorded. |
| Specimen Date/Time | datetime | The date and time on the date when the Specimen was obtained from the person. |
| quantity | float | The amount of specimen collection from the person during the sampling procedure. |
| Quantity Unit |  |  |
| Testing Type | integers | Example: 1 can be for RT-PCR method that is being used currently |
| Site from where specimen was collected | integer | 1: Sample collected from throat, 2: Sample collected from Nose, 3: Sample collected from deep airways |
| Disease Status of specimen collection | integer | Examples: 1 for COVID-19 suspected without symptoms, |

*From <*[*https://github.com/OHDSI/CommonDataModel/wiki/SPECIMEN*](https://github.com/OHDSI/CommonDataModel/wiki/SPECIMEN)*>*

1. Fact Relationship

This table is used to establish relationships. In our project we will require the following relationships:

1. Testing Center Linked to Collection Center
2. Measurement Linked to Specimen
3. Person 1 linked to Person 2 (parent/child/husband/wife/siblings relationship)
4. Usage relationship (devices during the course of associated procedure)

PS: Green Highlighted ones are the most important ones………….

1. Health System Tables
   1. Location Table: to capture physical location or address information of Persons and Collection Centers and Testing Centers

The LOCATION table represents a generic way to capture physical location or address information of Persons and Care Sites.

|  |  |  |
| --- | --- | --- |
| Field | Type | Description |
| Location ID | integer | A unique identifier for each geographic location. |
| Address 1 | varchar(50) | The address field 1, typically used for the street address, as it appears in the source data. |
| Address 2 | varchar(50) | The address field 2, typically used for additional detail such as buildings, suites, floors, as it appears in the source data. |
| City | varchar(50) | The city field as it appears in the source data. |
| State | varchar(2) | The state field as it appears in the source data. |
| Zip | varchar(9) | The zip or postal code. |
| Country | varchar(100) | The country |
| latitude | float | The geocoded latitude |
| longitude | float | The geocoded longitude |

* 1. Location History: The LOCATION HISTORY table stores relationships between Persons or Care Sites and geographic locations over time.

*From <*[*https://github.com/OHDSI/CommonDataModel/wiki/LOCATION\_HISTORY*](https://github.com/OHDSI/CommonDataModel/wiki/LOCATION_HISTORY)*>*

Say for example the location of the patient changes over time

As of now I believe this table can be skipped????

* 1. Provider: They are the healthcare providers. In our workflow they will either be the person collecting the patient sample or the person performing test on the patient's sample

|  |  |  |
| --- | --- | --- |
| Field | Type | Description |
| Provider Id | integer | A unique identifier for each Provider. |
| Provider Name | varchar(255) | A description of the Provider. |
| Care Site Indicator | integer | A foreign key to the main Care Site where the provider is practicing. |
| Year of Birth | integer | The year of birth of the Provider. |
| Gender | integer | The gender of the Provider. |
| Speacialty | varchar(50) | We can auto populate this: Sample collector and tester |

*From <*[*https://github.com/OHDSI/CommonDataModel/wiki/PROVIDER*](https://github.com/OHDSI/CommonDataModel/wiki/PROVIDER)*>*