Mapping from generic IDSR COVID-19 data to OMOP 6.0

Section: 03 Specimen Collection

Contents

Source Data Mapping Approach to CDMV6.0

Table name: observation

The OBSERVATION table captures clinical facts about a Person obtained in the context of examination, questioning or a procedure. Any data that cannot be represented by any other domains, such as social and lifestyle facts, medical history, family history, etc. are recorded here. New to CDM v6.0 An Observation can now be linked to other records in the CDM instance using the fields OBSERVATION_EVENT_ID and OBS_EVENT_FIELD_CONCEPT_ID. To link another record to an Observation, the primary key goes in OBSERVATION_EVENT_ID (CONDITION_OCCURRENCE_ID, DRUG_EXPOSURE_ID, etc.) and the Concept representing the field where the OBSERVATION_EVENT_ID was taken from go in the OBS_EVENT_FIELD_CONCEPT_ID.

Reading from who_idsr_synthetic_v1

Destination Field	Source Field	Logic	Comment
observation_id			A unique key given to an Observation record for a Person. Each instance of an observation present in the source data should be assigned this unique key. This is to be an auto generated number (integer) for every recorded inserted. Data type: bigint Required: yes Primary key: yes Foreign key: no Foreign key table: n/a Foreign key domain: n/a
person_id			The PERSON_ID of the Person for whom the Observation is recorded.

			Data type: bigint Required: yes Primary key: no Foreign key: yes Foreign key table: PERSON Foreign key domain: n/a Important note for ETL: This is a foreign key referencing to the person_id in the PERSON table.
observation_concept_id			The CONCEPT_ID that the OBSERVATION_SOURCE_CONCEPT_ID maps to. There is no specified domain that the Concepts in this table must adhere to. The only rule is that records with Concepts in the Condition, Procedure, Drug, Measurement, or Device domains MUST go to the corresponding table. Sample sent to laboratory for test -> 4013828 Data type: integer Required: yes Primary key: no Foreign key: yes Foreign key table: CONCEPT Foreign key domain: Observation Important note for ETL: If no code is found, set it to 0.

observation_date	date_specimen_collected	Populate this with the value with the date the specimen was collected for laboratory test (date_specimen_collected) for testing.	Store it in YYYY-MM-DD format. The date of the Observation. Data type: date Required: no Primary key: no Foreign key: no Foreign key table: n/a Foreign key domain: n/a
observation_datetime	date_specimen_collected	Populate this with the value with the date the specimen was collected for laboratory test (date_specimen_collected) for testing.	Store it in YYYY-MM-DD HH:MM:ss format. Since no time is specified in the source data so set it to midnight (00:00:00). The date of the Observation. If no time is given set to midnight (00:00:00). Data type: datetime (datetime without timezone) Required: no Primary key: no Foreign key: no Foreign key table: n/a Foreign key domain: n/a
observation_type_concept_id			Observation type concept id: 32809 for case report form Data type: integer Required: yes Primary key: no Foreign key: yes Foreign key table: CONCEPT

			Foreign key domain: Type concept Important note for ETL: If no code is found, set it to 0.
value_as_number			This is the numerical value of the Result of the Observation. It is not expected that all Observations will have numeric results, rather, this field is here to house values should they exist. Set it to NULL. Data type: float Required: no Primary key: no Foreign key: no Foreign key table: n/a Foreign key domain: n/a
value_as_string			This is the categorical value of the Result of the Observation, if applicable and available. Set it toNUL. Data type: varchar(60) Required: no Primary key: no Foreign key: no Foreign key table: n/a Foreign key domain: n/a
value_as_concept_id		Sample sent for examination =>	The value of VALUE_AS_CONCEPT_ID may

		4057740	be provided through mapping from a source Concept which contains the content of the Observation. Data type: integer Required: no Primary key: no Foreign key: yes Foreign key table: CONCEPT Foreign key domain: n/a
qualifier_concept_id			This field contains all attributes specifying the clinical fact further, such as as degrees, severities, drug-drug interaction alerts etc. Here we are using it to specify the adequacy of the specimen collected. Set it to NULL. Data type: integer Required: no Primary key: no Foreign key: yes Foreign key table: CONCEPT Foreign key domain: n/a
unit_concept_id			There is no standardization requirement for units associated with OBSERVATION_CONCEPT_IDs. Set it to NULL.

			Data type: integer Required: no Primary key: no Foreign key: yes Foreign key table: CONCEPT Foreign key domain: n/a
provider_id			This is a foreign key referencing to the provider_id in the PROVIDER table. Data type: bigint Required: no Primary key: no Foreign key: yes Foreign key table: Provider Foreign key domain: n/a
visit_occurrence_id			The visit during which the condition occurred or has been reported. This is a foreign key referencing to the visit_occurrence_id in the VISIT_OCCURRENCE table. Data type: bigint Required: no Primary key: no Foreign key: Yes Foreign key table: VISIT_OCCURRENCE Foreign key domain: n/a
visit_detail_id			The VISIT_DETAIL record during which the condition occurred or has been reported. This is a foreign key

			referencing to the visit_detail_id in the VISIT_DETAIL table. Data type: bigint Required: no Primary key: no Foreign key: Yes Foreign key table: VISIT_DETAIL Foreign key domain: n/a
observation_source_value			This field houses the verbatim value from the source data representing the Observation that occurred. Data type: varchar(50) Required: no Primary key: no Foreign key: no Foreign key table: n/a Foreign key domain: n/a
observation_source_concept_id			If the OBSERVATION_SOURCE_VALUE is coded in the source data using an OMOP supported vocabulary put the concept id representing the source value here. If not available, set to 0. 1) Complete -> 4112431 2) Not complete -> 4256478 (Stopped before completion) 3) No code found -> 0

unit_source_value			Data type: integer Required: yes Primary key: no Foreign key: yes Foreign key table: CONCEPT Foreign key domain: n/a This field houses the verbatim value from the source data representing the unit of the Observation that occurred. This code is mapped to a Standard Condition Concept in the Standardized Vocabularies and the original code is stored here for reference. Set it to NULL. Data type: varchar(50) Required: no Primary key: no Foreign key: no Foreign key table: n/a Foreign key domain: n/a
qualifier_source_value			This field houses the verbatim value from the source data representing the qualifier of the Observation that occurred. This code is mapped to a Standard Condition Concept in the Standardized Vocabularies and the original code is stored here for reference. Set it to NULL.

observation_event_id			Data type: varchar(50) Required: no Primary key: no Foreign key: no Foreign key table: n/a Foreign key domain: n/a If the Observation record is related to another record in the database, this field is the primary key of the linked record. Set it to NULL Data type: bigint Required: no Primary key: no Foreign key: no Foreign key table: n/a Foreign key domain: n/a
obs_event_field_concept_id			If the Observation record is related to another record in the database, this field is the CONCEPT_ID that identifies which table the primary key of the linked record came from. Set it to 0 (zero). Data type: bigint Required: no Primary key: no Foreign key: Yes Foreign key table: CONCEPT

			Foreign key domain: n/a
value_as_datetime			It is possible that some Observation records might store a result as a date value. Set it to NULL. Data type: datetime (datetime without timezone) Required: no Primary key: no Foreign key: no Foreign key table: n/a Foreign key domain: n/a

Table name: specimen

The specimen domain contains the records identifying biological samples from a person.

Reading from who_idsr_synthetic_v1

Destination Field	Source Field	Logic	Comment
specimen_id			Unique identifier for each specimen. This is to be an auto generated number (integer) for every recorded inserted. Data type: bigint Required: yes Primary key: yes Foreign key: no Foreign key table: n/a Foreign key domain: n/a
person_id			The person from whom the specimen is collected. Data type: bigint Required: yes Primary key: no Foreign key: yes Foreign key table: PERSON Foreign key domain: n/a Important note for ETL: This is a foreign key referencing to the person_id in the

		PERSON table.
specimen_concept_id		The standard CONCEPT_ID that the SPECIMEN_SOURCE_VALUE maps to in the specimen domain. Here the specimen is of Nasopharyngeal swab and Oropharyngeal swab for COVID-19 test. Nasopharyngeal swab (NP Swab) -> 4122259 Oropharyngeal swab (OP Swab) -> 42606036 Take two instances of each collection for this specimen. Data type: integer Required: yes Primary key: no Foreign key: yes Foreign key table: CONCEPT Foreign key domain: Specimen
specimen_type_concept_id		Put the source of the specimen record, as in an EHR system. Case report form = 32809 Data type: integer Required: yes Primary key: no Foreign key: yes

			Foreign key table: CONCEPT Foreign key domain: Type concept
specimen_date	date_specimen_collected	Populate this with the value from date of sample specimen collection (date_specimen_collected).	Store it in YYYY-MM-DD format. The date the specimen was collected. Data type: date Required: no Primary key: no Foreign key: no Foreign key table: n/a Foreign key domain: n/a
specimen_datetime	date_specimen_collected	Populate this with the value from date of sample specimen collection (date_specimen_collected).	Store it in YYYY-MM-DD HH:MM:ss format. Since no time is specified in the source data so set it to midnight (00:00:00). The date and time the specimen was collected. Data type: datetime (without time zone) Required: yes Primary key: no Foreign key: no Foreign key table: n/a Foreign key domain: n/a
quantity			The amount of specimen collected from the person. Set it to NULL.

unit_concept_id		Data type: float Required: no Primary key: no Foreign key: no Foreign key table: n/a Foreign key domain: n/a The unit for the quantity of the specimen. Map the UNIT_SOURCE_VALUE to a Standard Concept in the Unit domain. Set it to NULL. Data type: integer Required: no Primary key: no Foreign key: yes Foreign key table: CONCEPT Foreign key domain: n/a
anatomic_site_concept_ id		This is the site on the body where the specimen is from. Map the ANATOMIC_SITE_SOURCE_VALUE to a Standard Concept in the Spec Anatomic Site domain. This should be coded at the lowest level of granularity. Set it to 0 (zero). Data type: integer Required: yes

		Primary key: no Foreign key: yes Foreign key table: CONCEPT Foreign key domain: n/a
disease_status_concept_id		Set it to 0 (zero). Data type: integer Required: yes Primary key: no Foreign key: yes Foreign key table: PERSON Foreign key domain: n/a
specimen_source_id		This is the identifier for the specimen from the source system. Set it to NULL. Data type: varchar(50) Required: no Primary key: no Foreign key: no Foreign key table: n/a Foreign key domain: n/a
specimen_source_value		Set it to NULL. Data type: varchar(50) Required: no Primary key: no Foreign key: no Foreign key table: n/a

		Foreign key domain: n/a
unit_source_value		This unit for the quantity of the specimen, as represented in the source. Set it to NULL. Data type: varchar(50) Required: no Primary key: no Foreign key: no Foreign key table: n/a Foreign key domain: n/a
anatomic_site_source_v alue		This is the site on the body where the specimen was taken from, as represented in the source. Set it to NULL. Data type: varchar(50) Required: no Primary key: no Foreign key: no Foreign key table: n/a Foreign key domain: n/a
disease_status_source_v alue		Set it to NULL. Data type: varchar(50) Required: no Primary key: no Foreign key: no

		Foreign key table: n/a Foreign key domain: n/a

Appendix: source tables

Table: who_idsr_synthetic_v1

Field	Type	Most freq. value	Comment
recnr	bigint		
rec_identifier	text		
report_country	character varying	Wakanda	
report_province	character varying	Northern	
report_district	character varying	Mena Ngai	
report_site	character varying	Public Healthcare Services Center	
diagnosis	character varying		
patient_type	character varying	Out-Patient	
date_health_facility	date	2022-03-25	
patient_name	character varying	Baba P	
patient_dob	date	2003-12-29	
age_years	integer	21	
age_months	integer	0	
age_days	integer	15	
patient_sex	character varying	Male	
patient_residence	character varying	Lion cult	
patient_town_city	character varying		
patient_district	character varying	Mena Ngai	
patient_area_type	character varying	Urban	
patient_address	character varying		
patient_occupation	character varying		
date_onset_symptoms	date	2021-01-08	
travel_history	character varying	No	
travel_destination	character varying		
vaccine_doses_received	integer	99	
date_last_vaccine	date		
vaccine_name	character varying		

date_specimen_collected	date	2020-08-15	
date_specimen_sent_lab	date	2021-07-03	
lab_result	character varying	Negative	
outcome	character varying	Transferred out	
final_classification	character varying		
date_form_sent_district	date	2022-05-18	
date_facility_notified_district	date	2022-08-19	
person_form_complete	character varying	Everett Ross	