Table Name: Person Table

**Table Description**

This table serves as the central identity management for all Persons in the database. It contains records that uniquely identify each person or patient, and some demographic information.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table Name** | **Column\_Name** | **Column Description** | **FK Table** | **FK Domain** |
| person | **person\_id** | It is assumed that every person with a different unique identifier is in fact a different person and should be treated independently. |  |  |
| person | **gender\_concept\_id** | This field is meant to capture the biological sex at birth of the Person. This field should not be used to study gender identity issues. | CONCEPT | Gender |
| person | **year\_of\_birth** | Compute age using year\_of\_birth. |  |  |
| person | **month\_of\_birth** |  |  |  |
| person | **day\_of\_birth** |  |  |  |
| person | **birth\_datetime** |  |  |  |
| person | **race\_concept\_id** | This field captures race or ethnic background of the person. | CONCEPT | Race |
| person | **ethnicity\_concept\_id** | This field captures Ethnicity as defined by the Office of Management and Budget (OMB) of the US Government: it distinguishes only between “Hispanic” and “Not Hispanic”. Races and ethnic backgrounds are not stored here. | CONCEPT | Ethnicity |
| person | **location\_id** | The location refers to the physical address of the person. This field should capture the last known location of the person. | LOCATION |  |
| person | **provider\_id** | The Provider refers to the last known primary care provider (General Practitioner). | PROVIDER |  |
| person | **care\_site\_id** | The Care Site refers to where the Provider typically provides the primary care. | CARE\_SITE |  |
| person | **person\_source\_value** | Use this field to link back to persons in the source data. This is typically used for error checking of ETL logic. |  |  |
| person | **gender\_source\_value** | This field is used to store the biological sex of the person from the source data. It is not intended for use in standard analytics but for reference only. |  |  |
| person | **gender\_source\_concept\_id** | Due to the small number of options, this tends to be zero. | CONCEPT |  |
| person | **race\_source\_value** | This field is used to store the race of the person from the source data. It is not intended for use in standard analytics but for reference only. |  |  |
| person | **race\_source\_concept\_id** | Due to the small number of options, this tends to be zero. | CONCEPT |  |
| person | **ethnicity\_source\_value** | This field is used to store the ethnicity of the person from the source data. It is not intended for use in standard analytics but for reference only. |  |  |
| person | **ethnicity\_source\_concept\_id** | Due to the small number of options, this tends to be zero. | CONCEPT |  |

Table Name: **observation\_period**

Table Description

This table contains records which define spans of time during which two conditions are expected to hold: (i) Clinical Events that happened to the Person are recorded in the Event tables, and (ii) absence of records indicate such Events did not occur during this span of time.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table Name** | **Column\_Name** | **Column Description** | **FK Table** | **FK Domain** |
| observation\_period | observation\_period\_id | A Person can have multiple discrete Observation Periods which are identified by the Observation\_Period\_Id. |  |  |
| observation\_period | person\_id | The Person ID of the PERSON record for which the Observation Period is recorded. | PERSON |  |
| observation\_period | observation\_period\_start\_date | Use this date to determine the start date of the Observation Period. |  |  |
| observation\_period | observation\_period\_end\_date | Use this date to determine the end date of the period for which we can assume that all events for a Person are recorded. |  |  |
| observation\_period | period\_type\_concept\_id | This field can be used to determine the provenance of the Observation Period as in whether the period was determined from an insurance enrollment file, EHR healthcare encounters, or other sources. | CONCEPT | Type Concept |

Table Name: Visit\_Occurence

**Table Description**

This table serves as the central identity management for all Persons in the database. It contains records that uniquely identify each person or patient, and some demographic information.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table Name** | **Column Name** | **Column Description** | **FK Table** | **FK Domain** |
| visit\_occurrence | **visit\_occurrence\_id** | Use this to identify unique interactions between a person and the health care system. This identifier links across the other CDM event tables to associate events with a visit. |  |  |
| visit\_occurrence | **person\_id** |  | PERSON |  |
| visit\_occurrence | **visit\_concept\_id** | This field contains a concept id representing the kind of visit, like inpatient or outpatient. All concepts in this field should be standard and belong to the Visit domain. | CONCEPT | Visit |
| visit\_occurrence | **visit\_start\_date** | For inpatient visits, the start date is typically the admission date. For outpatient visits the start date and end date will be the same. |  |  |
| visit\_occurrence | **visit\_start\_datetime** |  |  |  |
| visit\_occurrence | **visit\_end\_date** | For inpatient visits the end date is typically the discharge date. |  |  |
| visit\_occurrence | **visit\_end\_datetime** |  |  |  |
| visit\_occurrence | **visit\_type\_concept\_id** | Use this field to understand the provenance of the visit record, or where the record comes from. | CONCEPT | Type Concept |
| visit\_occurrence | **provider\_id** | There will only be one provider per visit record and the ETL document should clearly state how they were chosen (attending, admitting, etc.). If there are multiple providers associated with a visit in the source, this can be reflected in the event tables (CONDITION\_OCCURRENCE, PROCEDURE\_OCCURRENCE, etc.) or in the VISIT\_DETAIL table. | PROVIDER |  |
| visit\_occurrence | **care\_site\_id** | This field provides information about the Care Site where the Visit took place. | CARE\_SITE |  |
| visit\_occurrence | **visit\_source\_value** | This field houses the verbatim value from the source data representing the kind of visit that took place (inpatient, outpatient, emergency, etc.) |  |  |
| visit\_occurrence | **visit\_source\_concept\_id** |  | CONCEPT |  |
| visit\_occurrence | **admitting\_source\_concept\_id** | Use this field to determine where the patient was admitted from. This concept is part of the visit domain and can indicate if a patient was admitted to the hospital from a long-term care facility, for example. | CONCEPT | Visit |
| visit\_occurrence | **admitting\_source\_value** |  |  |  |
| visit\_occurrence | **discharge\_to\_concept\_id** | Use this field to determine where the patient was discharged to after a visit. This concept is part of the visit domain and can indicate if a patient was discharged to home or sent to a long-term care facility, for example. | CONCEPT | Visit |
| visit\_occurrence | **discharge\_to\_source\_value** |  |  |  |
| visit\_occurrence | **preceding\_visit\_occurrence\_id** | Use this field to find the visit that occurred for the person prior to the given visit. There could be a few days or a few years in between. | VISIT\_OCCURRENCE |  |

Table Name: visit\_detail

**Table Description**

The VISIT\_DETAIL table is an optional table used to represents details of each record in the parent VISIT\_OCCURRENCE table. A good example of this would be the movement between units in a hospital during an inpatient stay or claim lines associated with a one insurance claim. For every record in the VISIT\_OCCURRENCE table there may be 0 or more records in the VISIT\_DETAIL table with a 1:n relationship where n may be 0. The VISIT\_DETAIL table is structurally very similar to VISIT\_OCCURRENCE table and belongs to the visit domain.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table Name** | **Column\_Name** | **Column Description** | **FK Table** | **FK Domain** |
| visit\_detail | **visit\_detail\_id** | Use this to identify unique interactions between a person and the health care system. This identifier links across the other CDM event tables to associate events with a visit detail. |  |  |
| visit\_detail | **person\_id** |  | PERSON |  |
| visit\_detail | **visit\_detail\_concept\_id** | This field contains a concept id representing the kind of visit detail, like inpatient or outpatient. All concepts in this field should be standard and belong to the Visit domain. | CONCEPT | Visit |
| visit\_detail | **visit\_detail\_start\_date** | This is the date of the start of the encounter. This may or may not be equal to the date of the Visit the Visit Detail is associated with. |  |  |
| visit\_detail | **visit\_detail\_start\_datetime** |  |  |  |
| visit\_detail | **visit\_detail\_end\_date** | This the end date of the patient-provider interaction. |  |  |
| visit\_detail |
| visit\_detail |
| visit\_detail | **visit\_detail\_end\_datetime** |  |  |  |
| visit\_detail | **visit\_detail\_type\_concept\_id** | Use this field to understand the provenance of the visit detail record, or where the record comes from. | CONCEPT | Type Concept |
| visit\_detail | **provider\_id** | There will only be one provider per **visit** record and the ETL document should clearly state how they were chosen (attending, admitting, etc.). This is a typical reason for leveraging the VISIT\_DETAIL table as even though each VISIT\_DETAIL record can only have one provider, there is no limit to the number of VISIT\_DETAIL records that can be associated to a VISIT\_OCCURRENCE record. | PROVIDER |  |
| visit\_detail | **care\_site\_id** | This field provides information about the Care Site where the Visit Detail took place. | CARE\_SITE |  |
| visit\_detail | **visit\_detail\_source\_value** | This field houses the verbatim value from the source data representing the kind of visit detail that took place (inpatient, outpatient, emergency, etc.) |  |  |
| visit\_detail | **visit\_detail\_source\_concept\_id** |  | CONCEPT |  |
| visit\_detail | **admitting\_source\_value** |  |  |  |
| visit\_detail | **admitting\_source\_concept\_id** | Use this field to determine where the patient was admitted from. This concept is part of the visit domain and can indicate if a patient was admitted to the hospital from a long-term care facility, for example. | CONCEPT | Visit |
| visit\_detail | **discharge\_to\_source\_value** |  |  |  |
| visit\_detail | **discharge\_to\_concept\_id** | Use this field to determine where the patient was discharged to after a visit detail record. This concept is part of the visit domain and can indicate if a patient was discharged to home or sent to a long-term care facility, for example. | CONCEPT | Visit |
| visit\_detail | **preceding\_visit\_detail\_id** | Use this field to find the visit detail that occurred for the person prior to the given visit detail record. There could be a few days or a few years in between. | VISIT\_DETAIL |  |
| visit\_detail | **visit\_detail\_parent\_id** | Use this field to find the visit detail that subsumes the given visit detail record. This is used in the case that a visit detail record needs to be nested beyond the VISIT\_OCCURRENCE/VISIT\_DETAIL relationship. | VISIT\_DETAIL |  |
| visit\_detail | **visit\_occurrence\_id** | Use this field to link the VISIT\_DETAIL record to its VISIT\_OCCURRENCE. | VISIT\_OCCURRENCE |  |

Table Name: condition\_occurrence

**Table Description**

This table contains records of Events of a Person suggesting the presence of a disease or medical condition stated as a diagnosis, a sign, or a symptom, which is either observed by a Provider or reported by the patient.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table Name** | **Column Name** | **Column Description** | **FK Table** | **FK Domain** |
| condition\_occurrence | **condition\_occurrence\_id** | The unique key given to a condition record for a person. Refer to the ETL for how duplicate conditions during the same visit were handled. |  |  |
| condition\_occurrence | **person\_id** | The PERSON\_ID of the PERSON for whom the condition is recorded. | PERSON |  |
| condition\_occurrence | **condition\_concept\_id** | The CONDITION\_CONCEPT\_ID field is recommended for primary use in analyses, and must be used for network studies. This is the standard concept mapped from the source value which represents a condition | CONCEPT | Condition |
| condition\_occurrence | **condition\_start\_date** | Use this date to determine the start date of the condition |  |  |
| condition\_occurrence | **condition\_start\_datetime** |  |  |  |
| condition\_occurrence | **condition\_end\_date** | Use this date to determine the end date of the condition |  |  |
| condition\_occurrence | **condition\_end\_datetime** |  |  |  |
| condition\_occurrence | **condition\_type\_concept\_id** | This field can be used to determine the provenance of the Condition record, as in whether the condition was from an EHR system, insurance claim, registry, or other sources. | CONCEPT | Type Concept |
| condition\_occurrence | **condition\_status\_concept\_id** | This concept represents the point during the visit the diagnosis was given (admitting diagnosis, final diagnosis), whether the diagnosis was determined due to laboratory findings, if the diagnosis was exclusionary, or if it was a preliminary diagnosis, among others. | CONCEPT | Condition Status |
| condition\_occurrence | **stop\_reason** | The Stop Reason indicates why a Condition is no longer valid with respect to the purpose within the source data. Note that a Stop Reason does not necessarily imply that the condition is no longer occurring. |  |  |
| condition\_occurrence | **provider\_id** | The provider associated with condition record, e.g. the provider who made the diagnosis or the provider who recorded the symptom. | PROVIDER |  |
| condition\_occurrence | **visit\_occurrence\_id** | The visit during which the condition occurred. | VISIT\_OCCURRENCE |  |
| condition\_occurrence | **visit\_detail\_id** | The VISIT\_DETAIL record during which the condition occurred. For example, if the person was in the ICU at the time of the diagnosis the VISIT\_OCCURRENCE record would reflect the overall hospital stay and the VISIT\_DETAIL record would reflect the ICU stay during the hospital visit. | VISIT\_DETAIL |  |
| condition\_occurrence | **condition\_source\_value** | This field houses the verbatim value from the source data representing the condition that occurred. For example, this could be an ICD10 or Read code. |  |  |
| condition\_occurrence | **condition\_source\_concept\_id** | This is the concept representing the condition source value and may not necessarily be standard. This field is discouraged from use in analysis because it is not required to contain Standard Concepts that are used across the OHDSI community, and should only be used when Standard Concepts do not adequately represent the source detail for the Condition necessary for a given analytic use case. Consider using CONDITION\_CONCEPT\_ID instead to enable standardized analytics that can be consistent across the network. | CONCEPT |  |
| condition\_occurrence | **condition\_status\_source\_value** | This field houses the verbatim value from the source data representing the condition status. |  |  |

Table Name: drug\_exposure

**Table Description**

This table captures records about the exposure to a Drug ingested or otherwise introduced into the body. A Drug is a biochemical substance formulated in such a way that when administered to a Person it will exert a certain biochemical effect on the metabolism. Drugs include prescription and over-the-counter medicines, vaccines, and large-molecule biologic therapies. Radiological devices ingested or applied locally do not count as Drugs..

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table Name** | **Column Name** | **Column Description** | **FK Table** | **FK Domain** |
| drug\_exposure | **drug\_exposure\_id** | The unique key given to records of drug dispensings or administrations for a person. Refer to the ETL for how duplicate drugs during the same visit were handled. |  |  |
| drug\_exposure | **person\_id** | The PERSON\_ID of the PERSON for whom the drug dispensing or administration is recorded. This may be a system generated code. | PERSON |  |
| drug\_exposure | **drug\_concept\_id** | The DRUG\_CONCEPT\_ID field is recommended for primary use in analyses, and must be used for network studies. This is the standard concept mapped from the source concept id which represents a drug product or molecule otherwise introduced to the body. The drug concepts can have a varying degree of information about drug strength and dose. This information is relevant in the context of quantity and administration information in the subsequent fields plus strength information from the DRUG\_STRENGTH table, provided as part of the standard vocabulary download. | CONCEPT | Drug |
| drug\_exposure | **drug\_exposure\_start\_date** | Use this date to determine the start date of the drug record. |  |  |
| drug\_exposure | **drug\_exposure\_start\_datetime** |  |  |  |
| drug\_exposure | **drug\_exposure\_end\_date** | The DRUG\_EXPOSURE\_END\_DATE denotes the day the drug exposure ended for the patient. |  |  |
| drug\_exposure |
| drug\_exposure |
| drug\_exposure |
| drug\_exposure |
| drug\_exposure | **drug\_exposure\_end\_datetime** |  |  |  |
| drug\_exposure | **verbatim\_end\_date** | This is the end date of the drug exposure as it appears in the source data, if it is given |  |  |
| drug\_exposure | **drug\_type\_concept\_id** | You can use the TYPE\_CONCEPT\_ID to delineate between prescriptions written vs. prescriptions dispensed vs. medication history vs. patient-reported exposure, etc. | CONCEPT | Type Concept |
| drug\_exposure | **stop\_reason** | The reason a person stopped a medication as it is represented in the source. Reasons include regimen completed, changed, removed, etc. This field will be retired in v6.0. |  |  |
| drug\_exposure | **refills** | This is only filled in when the record is coming from a prescription written this field is meant to represent intended refills at time of the prescription. |  |  |
| drug\_exposure | **quantity** |  |  |  |
| drug\_exposure | **days\_supply** | The number of days of supply of the medication as recorded in the original prescription or dispensing record. Days supply can differ from actual drug duration (i.e. prescribed days supply vs actual exposure). |  |  |
| drug\_exposure |
| drug\_exposure |
| drug\_exposure | **sig** | This is the verbatim instruction for the drug as written by the provider. |  |  |
| drug\_exposure | **route\_concept\_id** |  | CONCEPT | Route |
| drug\_exposure | **lot\_number** |  |  |  |
| drug\_exposure | **provider\_id** | The Provider associated with drug record, e.g. the provider who wrote the prescription or the provider who administered the drug. | PROVIDER |  |
| drug\_exposure | **visit\_occurrence\_id** | The Visit during which the drug was prescribed, administered or dispensed. | VISIT\_OCCURRENCE |  |
| drug\_exposure | **visit\_detail\_id** | The VISIT\_DETAIL record during which the drug exposure occurred. For example, if the person was in the ICU at the time of the drug administration the VISIT\_OCCURRENCE record would reflect the overall hospital stay and the VISIT\_DETAIL record would reflect the ICU stay during the hospital visit. | VISIT\_DETAIL |  |
| drug\_exposure | **drug\_source\_value** | This field houses the verbatim value from the source data representing the drug exposure that occurred. For example, this could be an NDC or Gemscript code. |  |  |
| drug\_exposure | **drug\_source\_concept\_id** | This is the concept representing the drug source value and may not necessarily be standard. This field is discouraged from use in analysis because it is not required to contain Standard Concepts that are used across the OHDSI community, and should only be used when Standard Concepts do not adequately represent the source detail for the Drug necessary for a given analytic use case. Consider using DRUG\_CONCEPT\_ID instead to enable standardized analytics that can be consistent across the network. | CONCEPT |  |
| drug\_exposure | **route\_source\_value** | This field houses the verbatim value from the source data representing the drug route. |  |  |
| drug\_exposure | **dose\_unit\_source\_value** | This field houses the verbatim value from the source data representing the dose unit of the drug given. |  |  |

Table Name: procedure\_occurrence

**Table Description**

This table contains records of activities or processes ordered by, or carried out by, a healthcare provider on the patient with a diagnostic or therapeutic purpose.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table Name** | **Column Name** | **Column Description** | **FK Table** | **FK Domain** |
| procedure\_occurrence | **procedure\_occurrence\_id** | The unique key given to a procedure record for a person. Refer to the ETL for how duplicate procedures during the same visit were handled. |  |  |
| procedure\_occurrence | **person\_id** | The PERSON\_ID of the PERSON for whom the procedure is recorded. This may be a system generated code. | PERSON |  |
| procedure\_occurrence | **procedure\_concept\_id** | The PROCEDURE\_CONCEPT\_ID field is recommended for primary use in analyses, and must be used for network studies. This is the standard concept mapped from the source value which represents a procedure | CONCEPT | Procedure |
| procedure\_occurrence | **procedure\_date** | Use this date to determine the date the procedure started. |  |  |
| procedure\_occurrence | **procedure\_datetime** |  |  |  |
| procedure\_occurrence | **procedure\_end\_date** | Use this field to house the date that the procedure ended. |  |  |
| procedure\_occurrence | **procedure\_end\_datetime** | Use this field to house the datetime that the procedure ended. |  |  |
| procedure\_occurrence | **procedure\_type\_concept\_id** | This field can be used to determine the provenance of the Procedure record, as in whether the procedure was from an EHR system, insurance claim, registry, or other sources. | CONCEPT | Type Concept |
| procedure\_occurrence | **modifier\_concept\_id** | The modifiers are intended to give additional information about the procedure but as of now the vocabulary is under review. | CONCEPT |  |
| procedure\_occurrence | **quantity** | If the quantity value is omitted, a single procedure is assumed. |  |  |
| procedure\_occurrence | **provider\_id** | The provider associated with the procedure record, e.g. the provider who performed the Procedure. | PROVIDER |  |
| procedure\_occurrence | **visit\_occurrence\_id** | The visit during which the procedure occurred. | VISIT\_OCCURRENCE |  |
| procedure\_occurrence | **visit\_detail\_id** | The VISIT\_DETAIL record during which the Procedure occurred. For example, if the Person was in the ICU at the time of the Procedure the VISIT\_OCCURRENCE record would reflect the overall hospital stay and the VISIT\_DETAIL record would reflect the ICU stay during the hospital visit. | VISIT\_DETAIL |  |
| procedure\_occurrence | **procedure\_source\_value** | This field houses the verbatim value from the source data representing the procedure that occurred. For example, this could be an CPT4 or OPCS4 code. |  |  |
| procedure\_occurrence | **procedure\_source\_concept\_id** | This is the concept representing the procedure source value and may not necessarily be standard. This field is discouraged from use in analysis because it is not required to contain Standard Concepts that are used across the OHDSI community, and should only be used when Standard Concepts do not adequately represent the source detail for the Procedure necessary for a given analytic use case. Consider using PROCEDURE\_CONCEPT\_ID instead to enable standardized analytics that can be consistent across the network. | CONCEPT |  |
| procedure\_occurrence | **modifier\_source\_value** | This field houses the verbatim value from the source data representing the modifier code for the procedure that occurred. |  |  |

Table Name: measurement

**Table Description**

The MEASUREMENT table contains records of Measurements, i.e. structured values (numerical or categorical) obtained through systematic and standardized examination or testing of a Person or Person’s sample. The MEASUREMENT table contains both orders and results of such Measurements as laboratory tests, vital signs, quantitative findings from pathology reports, etc. Measurements are stored as attribute value pairs, with the attribute as the Measurement Concept and the value representing the result. The value can be a Concept (stored in VALUE\_AS\_CONCEPT), or a numerical value (VALUE\_AS\_NUMBER) with a Unit (UNIT\_CONCEPT\_ID). The Procedure for obtaining the sample is housed in the PROCEDURE\_OCCURRENCE table, though it is unnecessary to create a PROCEDURE\_OCCURRENCE record for each measurement if one does not exist in the source data. Measurements differ from Observations in that they require a standardized test or some other activity to generate a quantitative or qualitative result. If there is no result, it is assumed that the lab test was conducted but the result was not captured.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Table Name** | **Column Name** | **Column Description** | **Foreign Key** | **FK Table** | **FK Domain** |
| measurement | **measurement\_id** | The unique key given to a Measurement record for a Person. Refer to the ETL for how duplicate Measurements during the same Visit were handled. | No |  |  |
| measurement | **person\_id** | The PERSON\_ID of the Person for whom the Measurement is recorded. This may be a system generated code. | Yes | PERSON |  |
| measurement | **measurement\_concept\_id** | The MEASUREMENT\_CONCEPT\_ID field is recommended for primary use in analyses, and must be used for network studies. This is the standard concept mapped from the source value which represents a measurement. | Yes | CONCEPT | Measurement |
| measurement | **measurement\_date** | Use this date to determine the date of the measurement. | No |  |  |
| measurement | **measurement\_datetime** |  | No |  |  |
| measurement | **measurement\_time** |  | No |  |  |
| measurement | **measurement\_type\_concept\_id** | This field can be used to determine the provenance of the Measurement record, as in whether the measurement was from an EHR system, insurance claim, registry, or other sources. | Yes | CONCEPT | Type Concept |
| measurement | **operator\_concept\_id** | [The meaning of Concept 4172703 for ‘=’ is identical to omission of a OPERATOR\_CONCEPT\_ID value. Since the use of this field is rare, it’s important when devising analyses to not to forget testing for the content of this field for values different from =.](https://athena.ohdsi.org/search-terms/terms/4172703) | Yes | CONCEPT |  |
| measurement | **value\_as\_number** | This is the numerical value of the Result of the Measurement, if available. Note that measurements such as blood pressures will be split into their component parts i.e. one record for systolic, one record for diastolic. | No |  |  |
| measurement | **value\_as\_concept\_id** | If the raw data gives a categorial result for measurements those values are captured and mapped to standard concepts in the ‘Meas Value’ domain. | Yes | CONCEPT |  |
| measurement | **unit\_concept\_id** | At present, there isn’t a prescribed unit for individual measurements, such as Hemoglobin A1C, meaning it’s not obligatory to express these measurements as a percentage. UNIT\_SOURCE\_VALUES should be linked to a Standard Concept within the Unit domain that most accurately reflects the unit provided in the source data. | Yes | CONCEPT | Unit |
| measurement | **range\_low** | Ranges have the same unit as the VALUE\_AS\_NUMBER. These ranges are provided by the source and should remain NULL if not given. | No |  |  |
| measurement | **range\_high** | Ranges have the same unit as the VALUE\_AS\_NUMBER. These ranges are provided by the source and should remain NULL if not given. | No |  |  |
| measurement | **provider\_id** | The provider associated with measurement record, e.g. the provider who ordered the test or the provider who recorded the result. | Yes | PROVIDER |  |
| measurement | **visit\_occurrence\_id** | The visit during which the Measurement occurred. | Yes | VISIT\_OCCURRENCE |  |
| measurement | **visit\_detail\_id** | The VISIT\_DETAIL record during which the Measurement occurred. For example, if the Person was in the ICU at the time the VISIT\_OCCURRENCE record would reflect the overall hospital stay and the VISIT\_DETAIL record would reflect the ICU stay during the hospital visit. | Yes | VISIT\_DETAIL |  |
| measurement | **measurement\_source\_value** | This field contains the exact value from the source data that represents the measurement that occurred. | No |  |  |
| measurement | **measurement\_source\_concept\_id** | This is the concept representing the MEASUREMENT\_SOURCE\_VALUE and may not necessarily be standard. This field is discouraged from use in analysis because it is not required to contain Standard Concepts that are used across the OHDSI community, and should only be used when Standard Concepts do not adequately represent the source detail for the Measurement necessary for a given analytic use case. Consider using MEASUREMENT\_CONCEPT\_ID instead to enable standardized analytics that can be consistent across the network. | Yes | CONCEPT |  |
| measurement | **unit\_source\_value** | This field contains the exact value from the source data that represents the unit of measurement used. | No |  |  |
| measurement | **unit\_source\_concept\_id** | “This is the concept representing the UNIT\_SOURCE\_VALUE and may not necessarily be standard. This field is discouraged from use in analysis because it is not required to contain Standard Concepts that are used across the OHDSI community, and should only be used when Standard Concepts do not adequately represent the source detail for the Measurement necessary for a given analytic use case. Consider using UNIT\_CONCEPT\_ID instead to enable standardized analytics that can be consistent across the network.” | Yes | CONCEPT |  |
| measurement | **value\_source\_value** | This field houses the verbatim result value of the Measurement from the source data . | No |  |  |
| measurement | **measurement\_event\_id** | If the Measurement record is related to another record in the database, this field is the primary key of the linked record. | No |  |  |
| measurement | **meas\_event\_field\_concept\_id** | If the Measurement 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. |  |  |  |

Table Name: observation

**Table Description**

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.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.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Table Name** | **column name** | **Column description** | **Foreign Key** | **FK Table** | **FK Domain** |
| observation | **observation\_id** | The unique key given to an Observation record for a Person. Refer to the ETL for how duplicate Observations during the same Visit were handled. | No |  |  |
| observation | **person\_id** | The PERSON\_ID of the Person for whom the Observation is recorded. This may be a system generated code. | Yes | PERSON |  |
| observation | **observation\_concept\_id** | The OBSERVATION\_CONCEPT\_ID field is recommended for primary use in analyses, and must be used for network studies. | Yes | CONCEPT |  |
| observation | **observation\_date** | The date of when the Observation was obtained. Depending on what the Observation represents this could be the date of a lab test, the date of a survey, or the date a patient’s family history was taken. | No |  |  |
| observation | **observation\_datetime** |  | No |  |  |
| observation | **observation\_type\_concept\_id** | This field can be used to determine the provenance of the Observation record, as in whether the measurement was from an EHR system, insurance claim, registry, or other sources. | Yes | CONCEPT | Type Concept |
| observation | **value\_as\_number** | This is the numerical value of the Result of the Observation, if applicable and available. It is not expected that all Observations will have numeric results, rather, this field is here to house values should they exist. | No |  |  |
| observation | **value\_as\_string** | This is the categorical value of the Result of the Observation, if applicable and available. | No |  |  |
| observation | **value\_as\_concept\_id** | It is possible that some records destined for the Observation table have two clinical ideas represented in one source code. This is common with ICD10 codes that describe a family history of some Condition, for example. In OMOP the Vocabulary breaks these two clinical ideas into two codes; one becomes the OBSERVATION\_CONCEPT\_ID and the other becomes the VALUE\_AS\_CONCEPT\_ID. It is important when using the Observation table to keep this possibility in mind and to examine the VALUE\_AS\_CONCEPT\_ID field for relevant information. | Yes | CONCEPT |  |
| observation | **qualifier\_concept\_id** | This field contains all attributes specifying the clinical fact further, such as as degrees, severities, drug-drug interaction alerts etc. | Yes | CONCEPT |  |
| observation | **unit\_concept\_id** | There is currently no recommended unit for individual observation concepts. UNIT\_SOURCE\_VALUES should be mapped to a Standard Concept in the Unit domain that best represents the unit as given in the source data. | Yes | CONCEPT | Unit |
| observation | **provider\_id** | The provider associated with the observation record, e.g. the provider who ordered the test or the provider who recorded the result. | Yes | PROVIDER |  |
| observation | **visit\_occurrence\_id** | The visit during which the Observation occurred. | Yes | VISIT\_OCCURRENCE |  |
| observation | **visit\_detail\_id** | The VISIT\_DETAIL record during which the Observation occurred. For example, if the Person was in the ICU at the time the VISIT\_OCCURRENCE record would reflect the overall hospital stay and the VISIT\_DETAIL record would reflect the ICU stay during the hospital visit. | Yes | VISIT\_DETAIL |  |
| observation | **observation\_source\_value** | This field houses the verbatim value from the source data representing the Observation that occurred. For example, this could be an ICD10 or Read code. | No |  |  |
| observation | **observation\_source\_concept\_id** | This is the concept representing the OBSERVATION\_SOURCE\_VALUE and may not necessarily be standard. This field is discouraged from use in analysis because it is not required to contain Standard Concepts that are used across the OHDSI community, and should only be used when Standard Concepts do not adequately represent the source detail for the Observation necessary for a given analytic use case. Consider using OBSERVATION\_CONCEPT\_ID instead to enable standardized analytics that can be consistent across the network. | Yes | CONCEPT |  |
| observation | **unit\_source\_value** | This field houses the verbatim value from the source data representing the unit of the Observation that occurred. | No |  |  |
| observation | **qualifier\_source\_value** | This field houses the verbatim value from the source data representing the qualifier of the Observation that occurred. | No |  |  |
| observation | **value\_source\_value** | This field houses the verbatim result value of the Observation from the source data. Do not get confused with the Observation\_source\_value which captures source value of the observation mapped to observation\_concept\_id. This field is the observation result value from the source. | No |  |  |
| observation | **observation\_event\_id** | If the Observation record is related to another record in the database, this field is the primary key of the linked record. | No |  |  |
| observation | **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. | Yes | CONCEPT |  |

Table Name: concept

**Table Description**

The Standardized Vocabularies contains records, or Concepts, that uniquely identify each fundamental unit of meaning used to express clinical information in all domain tables of the CDM. Concepts are derived from vocabularies, which represent clinical information across a domain (e.g. conditions, drugs, procedures) through the use of codes and associated descriptions. Some Concepts are designated Standard Concepts, meaning these Concepts can be used as normative expressions of a clinical entity within the OMOP Common Data Model and standardized analytics. Each Standard Concept belongs to one Domain, which defines the location where the Concept would be expected to occur within the data tables of the CDM. Concepts can represent broad categories (‘Cardiovascular disease’), detailed clinical elements (‘Myocardial infarction of the anterolateral wall’), or modifying characteristics and attributes that define Concepts at various levels of detail (severity of a disease, associated morphology, etc.). Records in the Standardized Vocabularies tables are derived from national or international vocabularies such as SNOMED-CT, RxNorm, and LOINC, or custom OMOP Concepts defined to cover various aspects of observational data analysis.

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| **Table Name** | **Column name** | **Column description** | **Foreign Key** | **FK Table** | **FK Domain** |
| concept | **concept\_id** | A unique identifier for each Concept across all domains. | No |  |  |
| concept | **concept\_name** | An unambiguous, meaningful and descriptive name for the Concept. | No |  |  |
| concept | **domain\_id** | [A foreign key to the DOMAIN table the Concept belongs to.](https://ohdsi.github.io/CommonDataModel/cdm531.html#domain) | Yes | DOMAIN |  |
| concept | **vocabulary\_id** | [A foreign key to the VOCABULARY table indicating from which source the Concept has been adapted.](https://ohdsi.github.io/CommonDataModel/cdm531.html#vocabulary) | Yes | VOCABULARY |  |
| concept | **concept\_class\_id** | The attribute or concept class of the Concept. Examples are ‘Clinical Drug’, ‘Ingredient’, ‘Clinical Finding’ etc. | Yes | CONCEPT\_CLASS |  |
| concept | **standard\_concept** | This flag determines where a Concept is a Standard Concept, i.e. is used in the data, a Classification Concept, or a non-standard Source Concept. The allowable values are ‘S’ (Standard Concept) and ‘C’ (Classification Concept), otherwise the content is NULL. | No |  |  |
| concept | **concept\_code** | The concept code represents the identifier of the Concept in the source vocabulary, such as SNOMED-CT concept IDs, RxNorm RXCUIs etc. Note that concept codes are not unique across vocabularies. | No |  |  |
| concept | **valid\_start\_date** | The date when the Concept was first recorded. The default value is 1-Jan-1970, meaning, the Concept has no (known) date of inception. | No |  |  |
| concept | **valid\_end\_date** | The date when the Concept became invalid because it was deleted or superseded (updated) by a new concept. The default value is 31-Dec-2099, meaning, the Concept is valid until it becomes deprecated. | No |  |  |
| concept | **invalid\_reason** | Reason the Concept was invalidated. Possible values are D (deleted), U (replaced with an update) or NULL when valid\_end\_date has the default value. | No |  |  |

Table Name: concept\_relationship

**Table Description**

The CONCEPT\_RELATIONSHIP table can be used to explore hierarchical or attribute relationships between concepts to understand the hierarchical structure of clinical concepts and uncover implicit connections and associations within healthcare data. For example, users can utilize mapping relationships (‘Maps to’) to harmonize data from different sources and terminologies, enabling interoperability and data integration across disparate datasets.

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| --- | --- | --- | --- | --- | --- |
| **Table Name** | **column name** | **Column Description** | **Foreign Key** | **FK Table** | **FK Domain** |
| concept\_relationship | **concept\_id\_1** |  | Yes | CONCEPT |  |
| concept\_relationship | **concept\_id\_2** |  | Yes | CONCEPT |  |
| concept\_relationship | **relationship\_id** | [The relationship between CONCEPT\_ID\_1 and CONCEPT\_ID\_2. Please see the Vocabulary Conventions. for more information.](https://ohdsi.github.io/CommonDataModel/dataModelConventions.html#concept_relationships) | Yes | RELATIONSHIP |  |
| concept\_relationship | **valid\_start\_date** | The date when the relationship is first recorded. | No |  |  |
| concept\_relationship | **valid\_end\_date** | The date when the relationship is invalidated. | No |  |  |
| concept\_relationship | **invalid\_reason** | Reason the relationship was invalidated. Possible values are ‘D’ (deleted), ‘U’ (updated) or NULL. | No |  |  |

Table Name: vocabulary

**Table Description**

The VOCABULARY table includes a list of the Vocabularies integrated from various sources or created de novo in OMOP CDM. This reference table contains a single record for each Vocabulary and includes a descriptive name and other associated attributes for the Vocabulary.

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| --- | --- | --- | --- | --- | --- |
| **Table Name** | **Column Name** | **Column Desc** | **Foreign Key** | **FK Table** | **FK Domain** |
| vocabulary | **vocabulary\_id** | A unique identifier for each Vocabulary, such as ICD9CM, SNOMED, Visit. | No |  |  |
| vocabulary | **vocabulary\_name** | The name describing the vocabulary, for example, International Classification of Diseases, Ninth Revision, Clinical Modification, Volume 1 and 2 (NCHS) etc. | No |  |  |
| vocabulary | **vocabulary\_reference** | External reference to documentation or available download of the about the vocabulary. | No |  |  |
| vocabulary | **vocabulary\_version** | Version of the Vocabulary as indicated in the source. | No |  |  |
| vocabulary | **vocabulary\_concept\_id** | A Concept that represents the Vocabulary the VOCABULARY record belongs to. | Yes | CONCEPT |  |

Table Name: domain

**Table Description**

The DOMAIN table includes a list of OMOP-defined Domains to which the Concepts of the Standardized Vocabularies can belong. A Domain represents a clinical definition whereby we assign matching Concepts for the standardized fields in the CDM tables. For example, the Condition Domain contains Concepts that describe a patient condition, and these Concepts can only be used in the condition\_concept\_id field of the CONDITION\_OCCURRENCE and CONDITION\_ERA tables. This reference table is populated with a single record for each Domain, including a Domain ID and a descriptive name for every Domain.

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| --- | --- | --- | --- | --- | --- |
| **Table Name** | **Column Name** | **Column Description** | **Foreign Key** | **FK Table** | **FK Domain** |
| domain | domain\_id | A unique key for each domain. | No |  |  |
| domain | domain\_name | The name describing the Domain, e.g. Condition, Procedure, Measurement etc. | No |  |  |
| domain | domain\_concept\_id | A Concept representing the Domain Concept the DOMAIN record belongs to |  |  |  |

Table Name: domain

**Table Description**

A Drug Era is defined as a span of time when the Person is assumed to be exposed to a particular active ingredient. A Drug Era is not the same as a Drug Exposure: Exposures are individual records corresponding to the source when Drug was delivered to the Person, while successive periods of Drug Exposures are combined under certain rules to produce continuous Drug Eras. Every record in the DRUG\_EXPOSURE table should be part of a drug era based on the dates of exposure.

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| --- | --- | --- | --- | --- | --- |
| **Table Name** | **Column Name** | **Column Description** | **Foreign Key** | **FK Table** | **FK Domain** |
| drug\_era | **drug\_era\_id** |  | No |  |  |
| drug\_era | **person\_id** |  | Yes | PERSON |  |
| drug\_era | **drug\_concept\_id** | The drug\_concept\_id should conform to the concept class ‘ingredient’ as the drug\_era is an era of time where a person is exposed to a particular drug ingredient. | Yes | CONCEPT | Drug |
| drug\_era | **drug\_era\_start\_date** |  | No |  |  |
| drug\_era | **drug\_era\_end\_date** |  | No |  |  |
| drug\_era | **drug\_exposure\_count** | The count of grouped DRUG\_EXPOSURE records that were included in the DRUG\_ERA row | No |  |  |
| drug\_era | **gap\_days** |  |  |  |  |

Table Name: domain

**Table Description**

A Drug Era is defined as a span of time when the Person is assumed to be exposed to a particular active ingredient. A Drug Era is not the same as a Drug Exposure: Exposures are individual records corresponding to the source when Drug was delivered to the Person, while successive periods of Drug Exposures are combined under certain rules to produce continuous Drug Eras. Every record in the DRUG\_EXPOSURE table should be part of a drug era based on the dates of exposure.