



# Replication of OHDSI study: Phenotyping

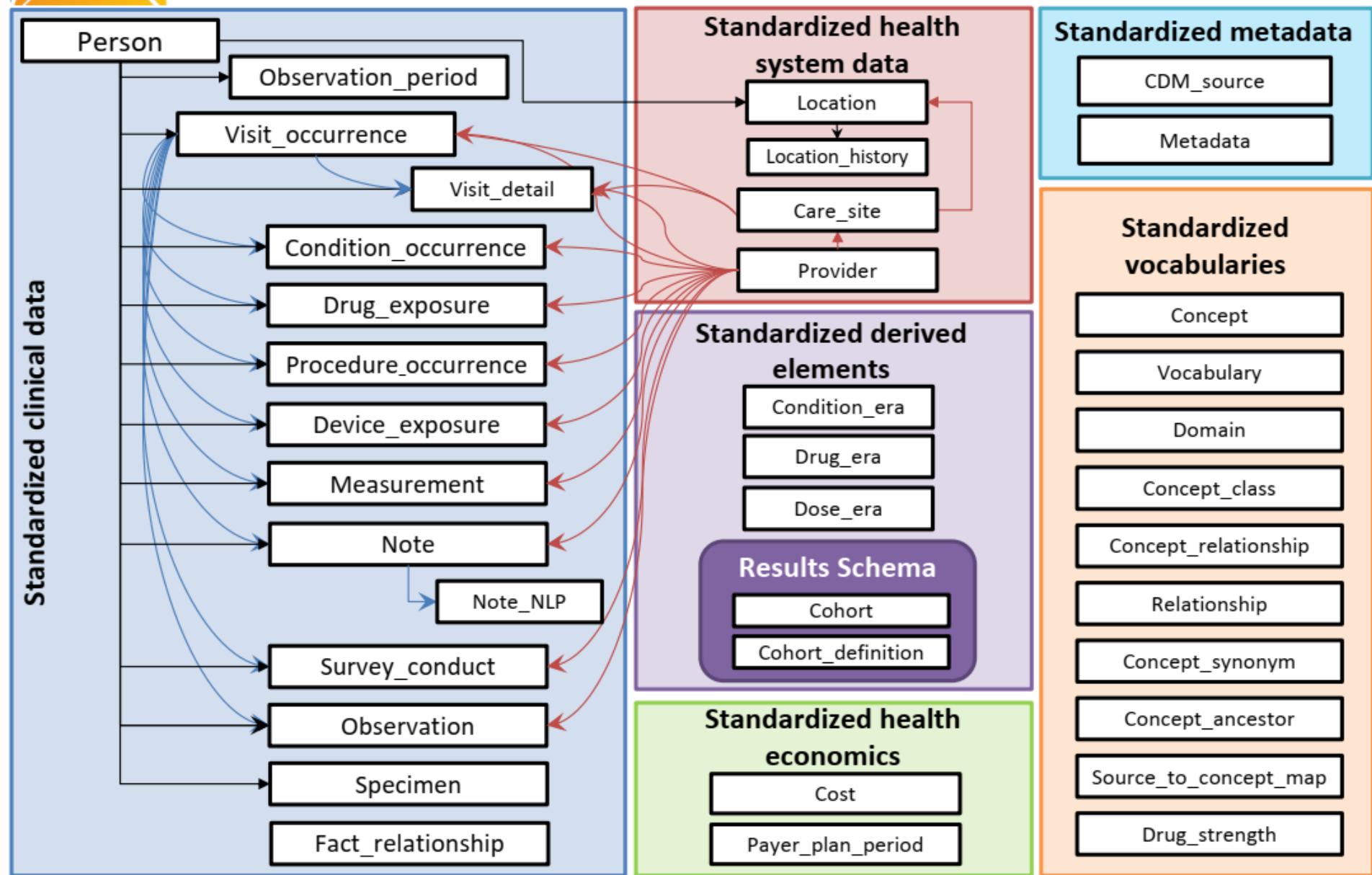
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# CDM Version 6 Key Domains





# OMOP CDM Principles

- Patient centric
- Vocabulary and Data Model are blended
- Domain-oriented concepts
- Accommodates data from various sources
- Preserves data provenance
- Extendable & Evolving
- Database Platform Independent



# OMOP CDM Standard Domain Features

Feature	Description & Purpose	Field Name Convention	Example
Patient centric	Every domain table has <b>patient identifier</b> . Patient data can be retrieved independently from other domains.	<code>person_id</code>	<code>person_id</code> 123
Unique domain identifiers	Every domain table has a unique primary key to identify domain entities.	<code>&lt;entity&gt;_id</code>	<code>condition_occurrence_id</code> 470985
Standard concept from a respective vocabulary domain	Integration with the Vocabulary. Foreign key into the Standard Vocabulary for <b>Standard Concept</b> .	<code>&lt;entity&gt;_concept_id</code>	<code>condition_concept_id</code> 313217 (SNOMED "Atrial Fibrillation")
Source value	Provenance. Verbatim information from the source data, <b>not to be used</b> by any standard analytics.	<code>&lt;entity&gt;_source_value</code>	<code>condition_source_value</code> 427.31 (ICD9CM "Atrial Fibrillation")
Source concept from a respective vocabulary domain	Provenance. Foreign key into Standard Vocabulary for <b>Source Concept</b> .	<code>&lt;entity&gt;_source_concept_id</code>	<code>condition_source_concept_id</code> 44821957 (ICD9CM "Atrial Fibrillation")
Source type	Provenance. Foreign key into Vocabulary for the <b>origin of the data</b> .	<code>&lt;entity&gt;_type_concept_id</code>	<code>condition_type_concept_id</code> 38000199 ("Inpatient header – primary")



# OMOP Common Vocabulary Model

## What it is

- **Standardized structure** to house existing vocabularies used in the public domain
- **Compiled standards** from disparate public and private sources and some OMOP-grown concepts

## What it's not

- **Static dataset** – the vocabulary updates regularly to keep up with the continual evolution of the sources
- **Finished product** – vocabulary maintenance and improvement is ongoing activity that requires community participation and support



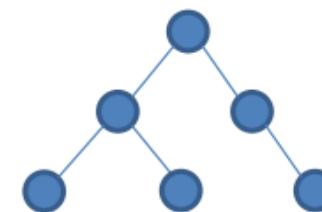
# Structure of OMOP Vocabulary



All content: concepts in  
**concept**



Direct relationships between  
concepts in  
**concept\_relationship**



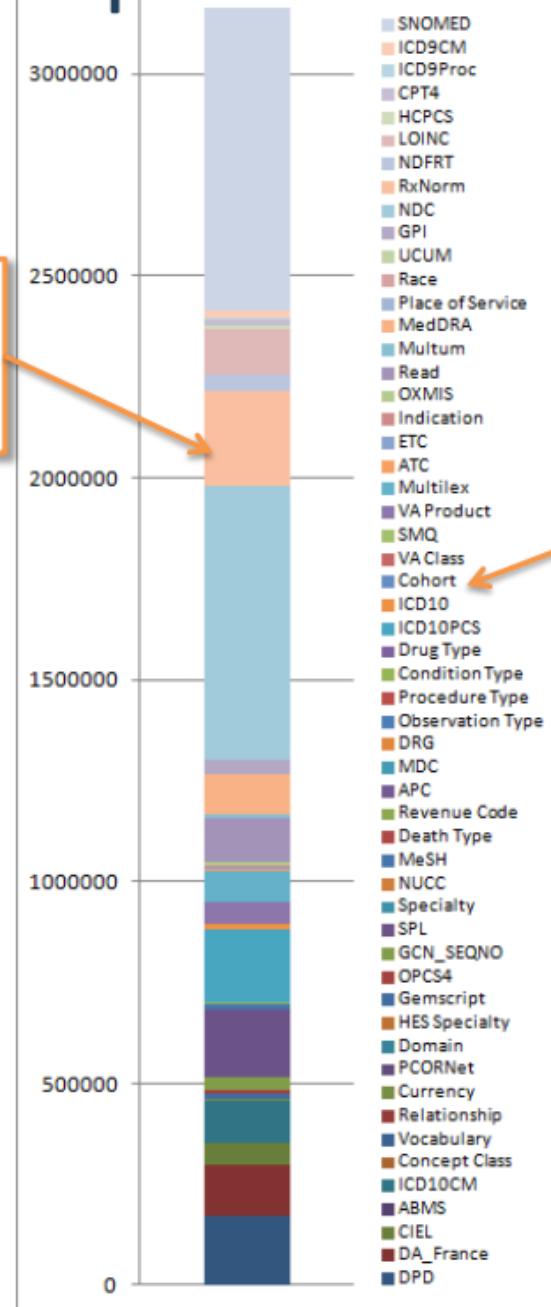
Multi-step hierarchical  
relationships pre-processed  
into  
**concept\_ancestor**



# Single Concept Reference Table

All vocabularies  
stacked up in one  
table

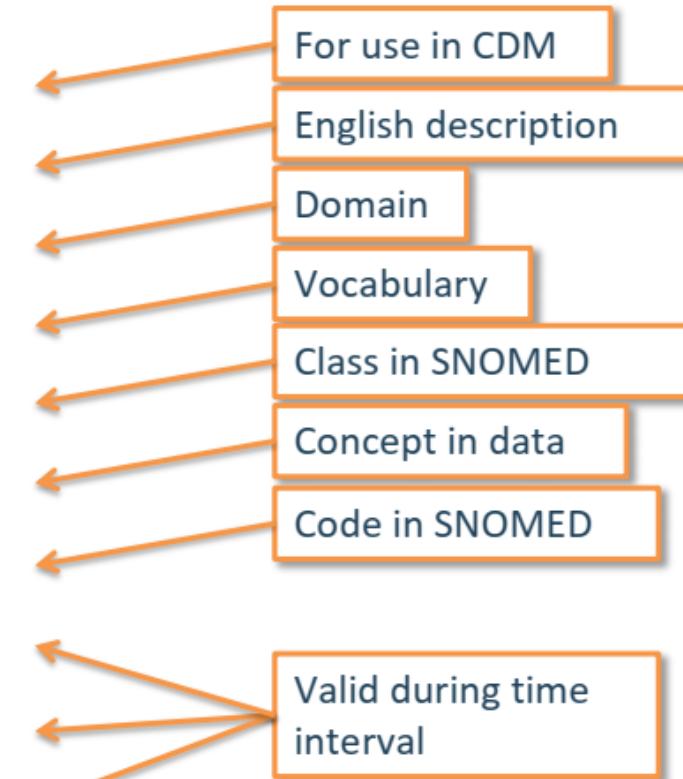
Vocabulary ID





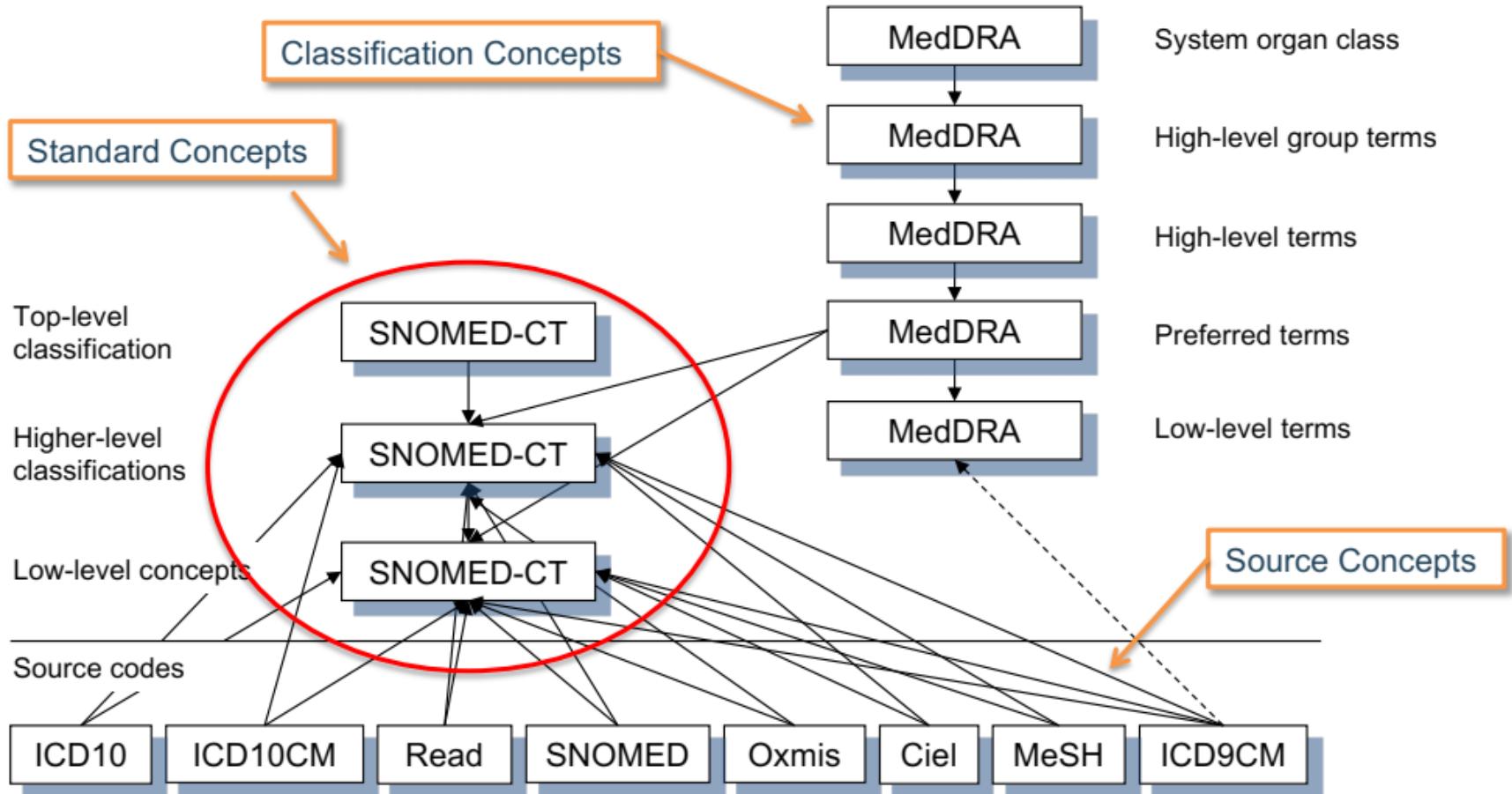
# What's in a Concept

CONCEPT_ID	313217
CONCEPT_NAME	Atrial fibrillation
DOMAIN_ID	Condition
VOCABULARY_ID	SNOMED
CONCEPT_CLASS_ID	Clinical Finding
STANDARD_CONCEPT	S
CONCEPT_CODE	49436004
VALID_START_DATE	01-Jan-1970
VALID_END_DATE	31-Dec-2099
INVALID_REASON	





# Condition Concepts





# Finding the Right Concept #1

## 1. ..if I know the ID

```
SELECT * FROM concept WHERE concept_id = 313217
```

CONCEPT_ID	CONCEPT_NAME	DOMAIN_ID	VOCABULARY_ID	CONCEPT_CLASS_ID	STANDARD_CONCEPT	CONCEPT_CODE	VALID_START_DATE	VALID_END_DATE	INVALID_REASON
313217	Atrial fibrillation	Condition	SNOMED	Clinical Finding	S	49436004	01-Jan-1970	31-Dec-2099	

## 2. ..if I know the code

```
SELECT * FROM concept WHERE concept_code = '49436004'
```

SNOMED code

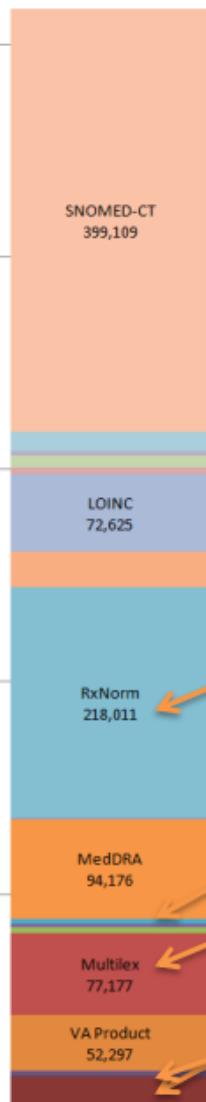
CONCEPT_ID	CONCEPT_NAME	DOMAIN_ID	VOCABULARY_ID	CONCEPT_CLASS_ID	STANDARD_CONCEPT	CONCEPT_CODE	VALID_START_DATE	VALID_END_DATE	INVALID_REASON
313217	Atrial fibrillation	Condition	SNOMED	Clinical Finding	S	49436004	01-Jan-1970	31-Dec-2099	



# Concept ID versus Concept Code

```
SELECT *
FROM concept
WHERE concept_code = '1001';
```

Same code



Concept_Name	Concept Class	Vocabulary_ID	Concept_Code
Antipyrine	Ingredient	RxNorm	1001
Aceprometazine maleate	Ingredient	BDPM	1001
Serum	Specimen	CIEL	1001
methixene hydrochloride	Ingredient	Multilex	1001
Brompheniramine Maleate, 10 mg/mL injectable solution	Multum	Multum	1001
ABBOTT COLD SORE BALM 4%/0.06% W/	Drug Product	LPD_Australia	1001
Residential Treatment - Psychiatric	Revenue Code	Revenue Code	1001



# Finding the Right Concept #2

## 3. ..if I know the name

```
SELECT * FROM concept WHERE concept_name = 'Atrial fibrillation';
```

CONCEPT_ID	CONCEPT_NAME	DOMAIN_ID	VOCABULARY_ID	CONCEPT_CLASS_ID	STANDARD_CONCEPT	CONCEPT_CODE
313217	Atrial fibrillation	Condition	SNOMED	Clinical Finding	S	49436004
44821957	Atrial fibrillation	Condition	ICD9CM	5-dig billing code		427.31
35204953	Atrial fibrillation	Condition	MedDRA	PT	C	10003658
45500085	Atrial fibrillation	Condition	Read	Read		G573000
45883018	Atrial fibrillation	Meas Value	LOINC	Answer	S	LA17084-7



# Finding the Right Concept #3

- if don't know any of this, but I know the code in another vocabulary

ICD-9 is not a Standard Concept

```
SELECT * FROM concept WHERE concept_code = '427.31';
```

CONCEPT_ID	CONCEPT_NAME	DOMAIN_ID	VOCABULARY_ID	CONCEPT_CLASS_ID	STANDARD_CONCEPT	CONCEPT_CODE
44821957	Atrial fibrillation	Condition	ICD9CM	5-dig billing code		427.31

```
SELECT * FROM concept_relationship WHERE concept_id_1 = 44821957;
```

Mapping to different vocabularies

Kind of relationship

_ID_1	CONCEPT_ID_2	RELATIONSHIP_ID	VALID_START_DATE	VALID_END_DATE	INVALID_REASON
44821957	21001551	ICD9CM - FDB Ind	01-Oct-13	31-Dec-2099	
44821957	35204953	ICD9CM - MedDRA	01-Jan-70	31-Dec-2099	
44821957	44824248	Is a	01-Oct-14	31-Dec-2099	
44821957	44834731	Is a	01-Oct-14	31-Dec-2099	
44821957	313217	Maps to	01-Jan-70	31-Dec-2099	



# Mapping = Translating

## Step 1. Lookup the Source Concept

```
SELECT * FROM concept WHERE concept_code = '427.31';
```

CONCEPT_ID	CONCEPT_NAME	DOMAIN_ID	VOCABULARY_ID	CONCEPT_CLASS_ID	STANDARD_CONCEPT	CONCEPT_CODE
44821957	Atrial fibrillation	Condition	ICD9CM	5-dig billing code		427.31

L

Langenscheidt  
Universal-Wörterbuch

Englisch

Englisch – Deutsch  
Deutsch – Englisch

## Step 2. Translate to Standard

```
SELECT * FROM concept_relationship WHERE concept_id_1 = 44821957  
AND relationship_id = 'Maps to';
```

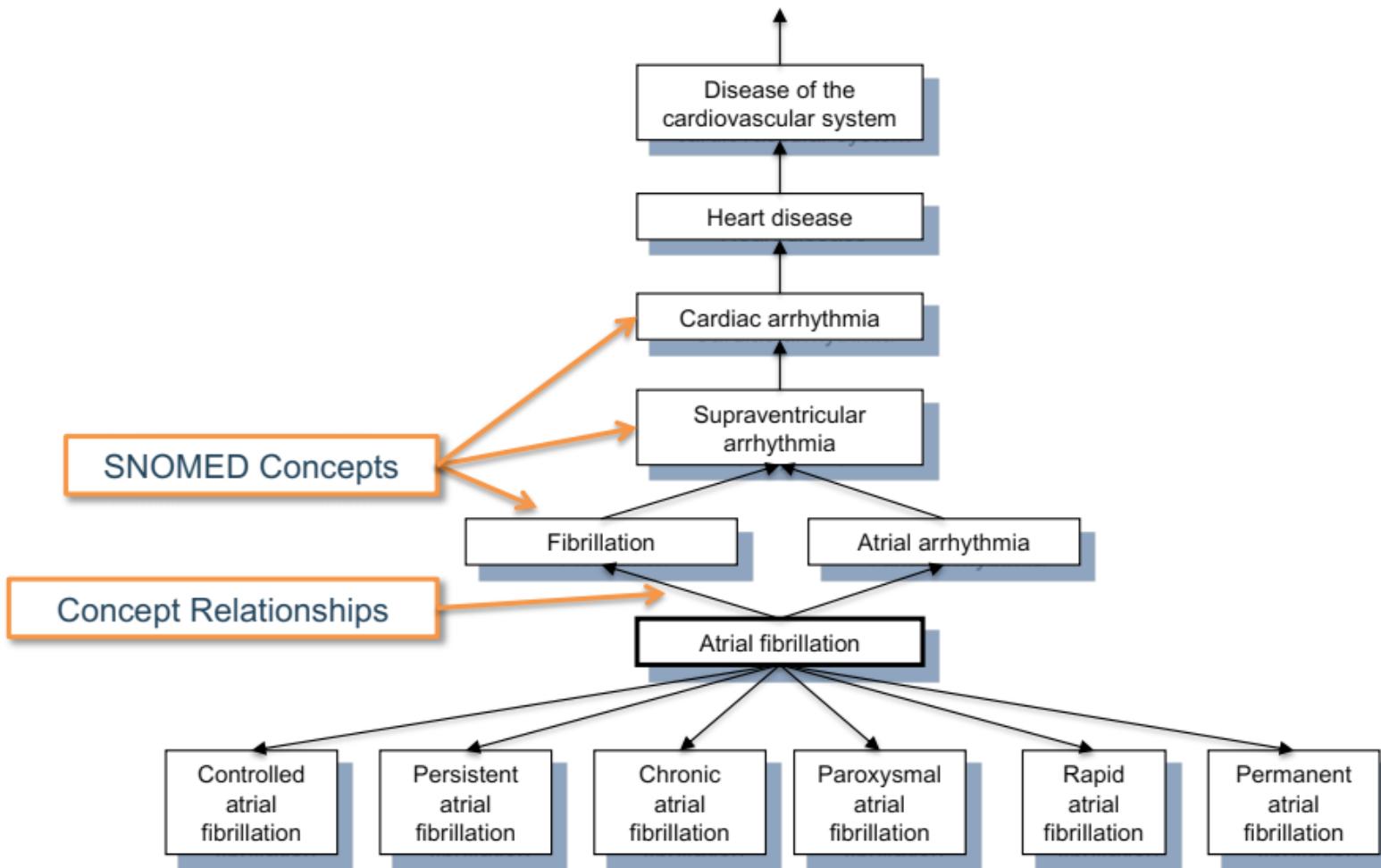
CONCEPT_ID_1	CONCEPT_ID_2	RELATIONSHIP_ID	VALID_START_DATE	VALID_END_DATE	INVALID_REASON
44821957	313217	Maps to	01-Jan-1970	31-Dec-2099	

## Step 3. Check out the translated Concept

```
SELECT * FROM concept WHERE concept_id = 313217;
```



# Reason #2: Disease Hierarchy





# Exploring Relationships

```
SELECT *
FROM concept_relationship
WHERE concept_id_1 = 313217
```

Related Concepts

Relationship ID

CONCEPT_ID_1	CONCEPT_ID_2	RELATIONSHIP_ID
313217	4232697	Subsumes
313217	4181800	Focus of
313217	35204953	SNOMED - MedDRA eq
313217	4203375	Asso finding of
313217	4141360	Subsumes
313217	4119601	Subsumes
313217	4117112	Subsumes
313217	4232691	Subsumes
313217	4139517	Due to of
313217	4194288	Asso finding of
313217	44782442	Subsumes
313217	44783731	Focus of
313217	21003018	SNOMED - ind/CI
313217	40248987	SNOMED - ind/CI
313217	21001551	SNOMED - ind/CI
313217	21001540	SNOMED - ind/CI
313217	45576876	Mapped from
313217	44807374	Asso finding of
313217	21013834	SNOMED - ind/CI
313217	21001572	SNOMED - ind/CI
313217	21001606	SNOMED - ind/CI
313217	21003176	SNOMED - ind/CI
313217	42263991	is a
313217	500001801	SNOMED - HOI
313217	500002401	SNOMED - HOI
313217	4119602	Subsumes
313217	40631039	Subsumes
313217	4108832	Subsumes
313217	21013671	SNOMED - ind/CI
313217	21013390	SNOMED - ind/CI
313217	313217	Maps to
313217	44821957	Mapped from
313217	2617597	Mapped from
313217	45500085	Mapped from
313217	313217	Mapped from
313217	45951191	Mapped from
313217	21013856	SNOMED - ind/CI
313217	21001575	SNOMED - ind/CI
313217	21001594	SNOMED - ind/CI



# Exploring Relationships

```
SELECT cr.relationship_id, c.*  
FROM concept_relationship cr  
JOIN concept c ON cr.concept_id_2 = c.concept_id  
WHERE cr.concept_id_1 = 313217
```

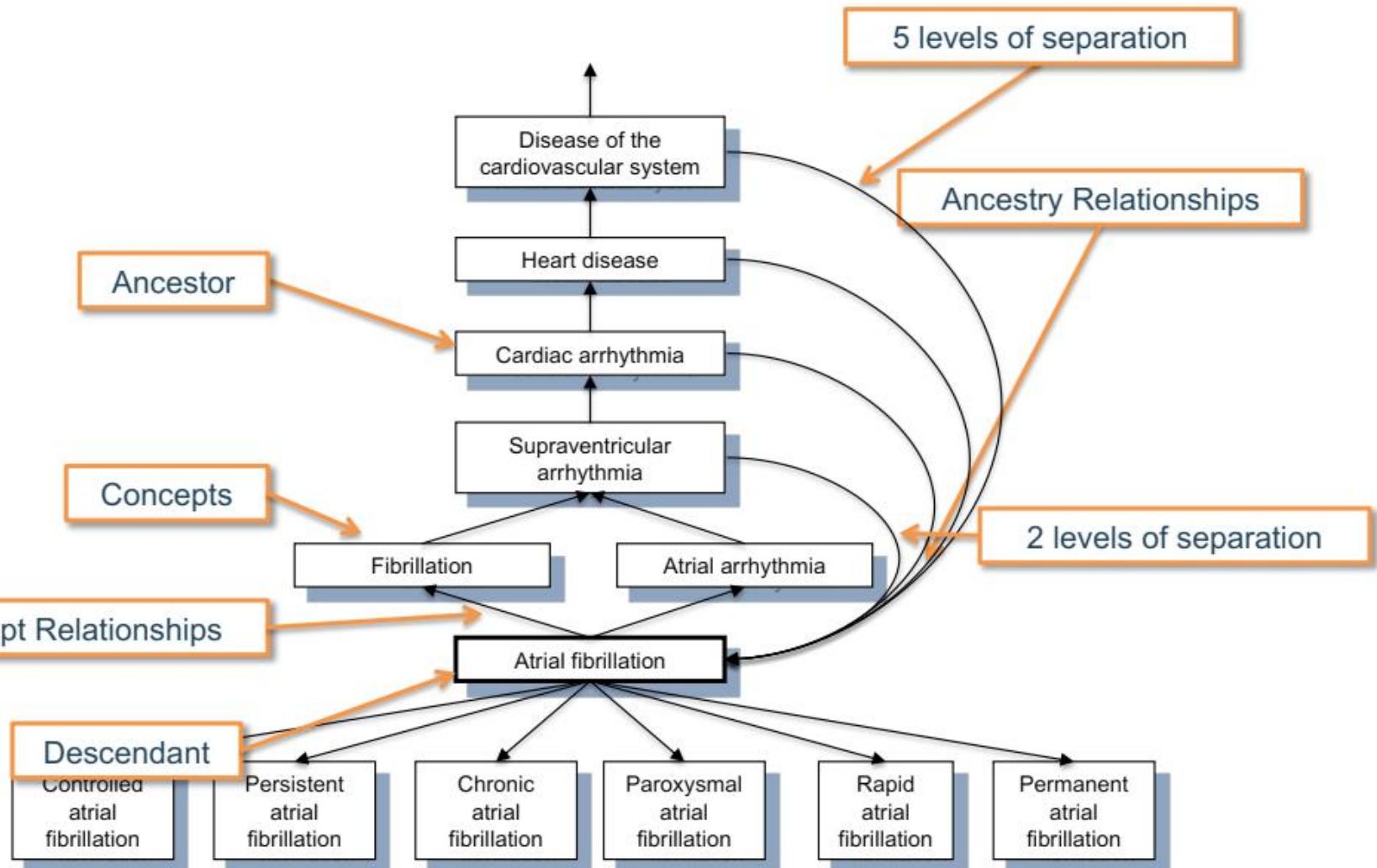
Find out related concept

relationship_id	concept_id	concept_name	domain_id	vocabulary_id	concept_class_id	standard_concept	concept_code	valid_start_date	valid_end_date	invalid_reason
Anso finding of	4194288		Observation	SNOMED	Context-dependent S		312442005	1/1/1970 0:00	12/31/2099 0:00	NULL
Anso finding of	4203375		Observation	SNOMED	Context-dependent S		433276002	1/31/2009 0:00	12/31/2099 0:00	NULL
Anso finding of	42689685	Atrial fibrillation not otherwise specified	Observation	SNOMED	Context-dependent S	1.06706E+15	4/1/2017 0:00	12/31/2099 0:00	NULL	
Anso finding of	44807374	Atrial fibrillation - excluded	Observation	SNOMED	Context-dependent S	8.16401E+14	4/1/2014 0:00	12/31/2099 0:00	NULL	
Concept poss_eq from	40323929	Fibrillation - atrial	Condition	SNOMED	Clinical Finding	NULL	155364009	1/1/1970 0:00	3/11/2016 0:00 U	
Concept poss_eq from	40345197	Fibrillation - atrial	Condition	SNOMED	Clinical Finding	NULL	266306001	1/1/1970 0:00	3/11/2016 0:00 U	
Due to of	4139517	Transient cerebral ischemia due to atrial fibrillation	Condition	SNOMED	Clinical Finding	S	426814001	1/1/1970 0:00	12/31/2099 0:00	NULL
Focus of	4209991	Insertion of pacemaker for control of atrial fibrillation	Procedure	SNOMED	Procedure	S	449863006	1/31/2012 0:00	12/31/2099 0:00	NULL
Has finding site	4242112	Atrial structure	Spec Anatomic Site	SNOMED	Body Structure	S	59652004	1/1/1970 0:00	12/31/2099 0:00	NULL
Is a	4226399	Fibrillation	Condition	SNOMED	Clinical Finding	S	40593004	1/1/1970 0:00	12/31/2099 0:00	NULL
Is a	4068155	Atrial arrhythmia	Condition	SNOMED	Clinical Finding	S	17366009	1/1/1970 0:00	12/31/2099 0:00	NULL
Mapped from	40323929	Fibrillation - atrial	Condition	SNOMED	Clinical Finding	NULL	155364009	1/1/1970 0:00	3/11/2016 0:00 U	
Mapped from	2617597	Patient with heart failure and atrial fibrillation documented to be on warfarin therapy	Observation	HCPCS	HCPCS	NULL	G8183	1/1/1970 0:00	11/11/2014 0:00 D	
Mapped from	45576876	Unspecified atrial fibrillation	Condition	ICD10CM	5-char billing code	NULL	I48.91	12/30/2006 0:00	12/31/2099 0:00	NULL
Mapped from	45500085	Atrial fibrillation	Condition	Read	Read	NULL	G573000	1/1/1970 0:00	12/31/2099 0:00	NULL
Mapped from	45611600	Atrial Fibrillation	Condition	MeSH	Main Heading	NULL	D001281	1/1/1970 0:00	12/31/2099 0:00	NULL
Mapped from	40345197	Fibrillation - atrial	Condition	SNOMED	Clinical Finding	NULL	266306001	1/1/1970 0:00	3/11/2016 0:00 U	
Mapped from	45951191	Atrial Fibrillation	Condition	CIEL	Diagnosis	NULL	148203	11/3/2007 0:00	12/31/2099 0:00	NULL
Mapped from	313217	Atrial fibrillation	Condition	SNOMED	Clinical Finding	S	49436004	1/1/1970 0:00	12/31/2099 0:00	NULL
Mapped from	44821957	Atrial fibrillation	Condition	ICD9CM	5-dig billing code	NULL	427.31	1/1/1970 0:00	12/31/2099 0:00	NULL
Maps to	313217	Atrial fibrillation	Condition	SNOMED	Clinical Finding	S	49436004	1/1/1970 0:00	12/31/2099 0:00	NULL
SNOMED - HOI	500002401	OMOP Atrial Fibrillation 1	Condition	Cohort	Cohort	C	500002401	1/1/1970 0:00	12/31/2099 0:00	NULL
SNOMED - HOI	500001801	OMOP Qt Prolongation/Torsade De Pointes 1	Condition	Cohort	Cohort	C	500001801	1/1/1970 0:00	12/31/2099 0:00	NULL
SNOMED - Ind/CI	21005673	Prevention of Thromboembolism in Chronic Atrial Fibrillation	Drug	Indication	Indication	C	5673	1/1/1970 0:00	12/31/2099 0:00	NULL
SNOMED - Ind/CI	21003176	Tachyarrhythmia	Drug	Indication	Indication	C	3176	1/1/1970 0:00	12/31/2099 0:00	NULL
SNOMED - Ind/CI	21001542	Supraventricular Tachycardia	Drug	Indication	Indication	C	1542	1/1/1970 0:00	12/31/2099 0:00	NULL
SNOMED - Ind/CI	21001594	Disease of Cardiovascular System	Drug	Indication	Indication	C	1594	1/1/1970 0:00	12/31/2099 0:00	NULL
SNOMED - MedDRA eq	35204953	Atrial fibrillation	Condition	MedDRA	PT	C	10003658	1/1/1970 0:00	12/31/2099 0:00	NULL
Subsumes	4117112	Controlled atrial fibrillation	Condition	SNOMED	Clinical Finding	S	300996004	1/1/1970 0:00	12/31/2099 0:00	NULL
Subsumes	4119601	Lone atrial fibrillation	Condition	SNOMED	Clinical Finding	S	233910005	1/1/1970 0:00	12/31/2099 0:00	NULL
Subsumes	4232697	Persistent atrial fibrillation	Condition	SNOMED	Clinical Finding	S	440059007	1/31/2009 0:00	12/31/2099 0:00	NULL
Subsumes	4141360	Chronic atrial fibrillation	Condition	SNOMED	Clinical Finding	S	426749004	1/1/1970 0:00	12/31/2099 0:00	NULL
Subsumes	44782442	Atrial fibrillation with rapid ventricular response	Condition	SNOMED	Clinical Finding	S	1.20041E+14	1/31/2014 0:00	12/31/2099 0:00	NULL
Subsumes	4199501	Rapid atrial fibrillation	Condition	SNOMED	Clinical Finding	S	314208002	1/1/1970 0:00	12/31/2099 0:00	NULL
Subsumes	4119602	Non-rheumatic atrial fibrillation	Condition	SNOMED	Clinical Finding	S	233911009	1/1/1970 0:00	12/31/2099 0:00	NULL

Descendant concepts



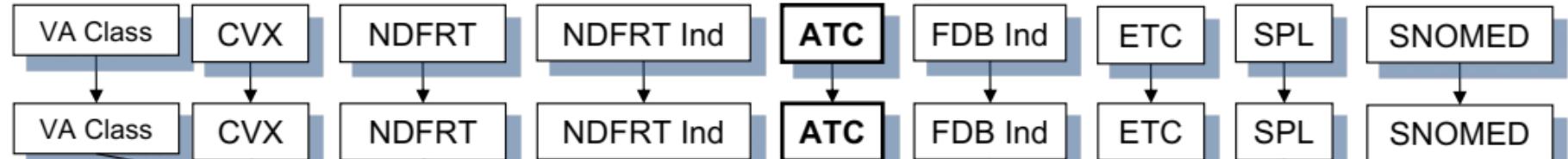
# Ancestry Relationships: Higher-Level Relationships





# Drug Hierarchy

Classifications



Drugs

Ingredients

Standard Concepts  
Drug forms and components

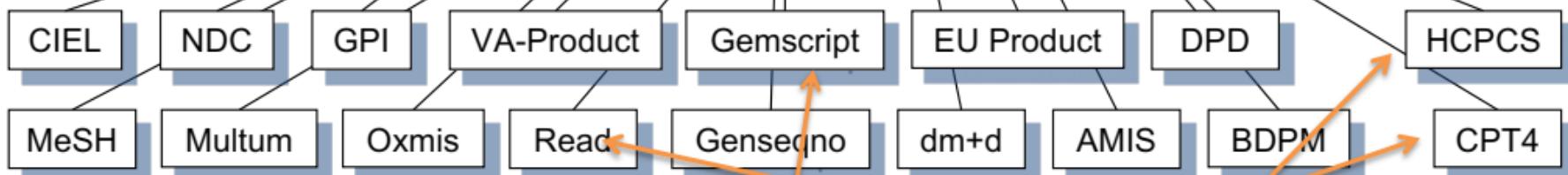
RxNorm RxNorm Extension

RxNorm RxNorm Extension

Drug products

RxNorm RxNorm Extension

Source codes



Source Codes

Procedure Drugs



# Person

## PERSON

field	required	type
person_id	Yes	INTEGER
gender_concept_id	Yes	INTEGER
year_of_birth	Yes	INTEGER
month_of_birth	No	INTEGER
day_of_birth	No	INTEGER
birth_datetime	No	DATETIME
death_datetime	No	DATETIME
race_concept_id	Yes	INTEGER
ethnicity_concept_id	Yes	INTEGER
location_id	No	INTEGER
provider_id	No	INTEGER
care_site_id	No	INTEGER
person_source_value	No	VARCHAR(50)
gender_source_value	No	VARCHAR(50)
gender_source_concept_id	Yes	INTEGER
race_source_value	No	VARCHAR(50)
race_source_concept_id	Yes	INTEGER
ethnicity_source_value	No	VARCHAR(50)
ethnicity_source_concept_id	Yes	INTEGER

- 환자 기본정보
- Person 당 한 개 record
- 생년월일 중 년도(year\_of\_birth)는 필수
- death\_datetime: v6.0에서 적용



# OBSERVATION PERIOD

## OBSERVATION\_PERIOD

field	required	type
observation_period_id	Yes	INTEGER
person_id	Yes	INTEGER
observation_period_start_date	Yes	DATE
observation_period_end_date	Yes	DATE
period_type_concept_id	Yes	INTEGER

- DB상 환자 관찰 기간 (데이터 보유 기간)
- EMR 데이터의 경우, person 당 1 개 record 생성 (첫 기록 ~ 마지막 기록)
  - Observation period 내에 있는 데이터만 분석에 이용



# VISIT OCCURRENCE

## VISIT\_OCCURRENCE

field	required	type
visit_occurrence_id	Yes	INTEGER
person_id	Yes	INTEGER
visit_concept_id	Yes	INTEGER
visit_start_date	No	DATE
visit_start_datetime	Yes	DATETIME
visit_end_date	No	DATE
visit_end_datetime	Yes	DATETIME
visit_type_concept_id	Yes	INTEGER
provider_id	No	INTEGER
care_site_id	No	INTEGER
visit_source_value	No	VARCHAR(50)
visit_source_concept_id	Yes	INTEGER
admitting_source_concept_id	Yes	INTEGER
admitting_source_value	No	VARCHAR(50)
discharge_to_concept_id	Yes	INTEGER
discharge_to_source_value	No	VARCHAR(50)
preceding_visit_occurrence_id	No	INTEGER

- 외래/입원/응급 등 수진정보
- 방문 유형(visit\_concept\_id)
  - 9201: Inpatient Visit(입원)
  - 9202 : Outpatient Visit(외래)
  - 9203: Emergency Room Visit(응급)
  - ....



# CONDITION OCCURRENCE

## CONDITION\_OCCURRENCE

field	required	type
condition_occurrence_id	Yes	BIGINT
person_id	Yes	BIGINT
condition_concept_id	Yes	INTEGER
condition_start_date	No	DATE
condition_start_datetime	Yes	DATETIME
condition_end_date	No	DATE
condition_end_datetime	No	DATETIME
condition_type_concept_id	Yes	INTEGER
condition_status_concept_id	Yes	INTEGER
stop_reason	No	VARCHAR(20)
provider_id	No	INTEGER
visit_occurrence_id	No	INTEGER
visit_detail_id	No	INTEGER
condition_source_value	No	VARCHAR(50)
condition_source_concept_id	Yes	INTEGER
condition_status_source_value	No	VARCHAR(50)

- 진단(주진단/부진단), 주호소 등
- 사망진단은 v6.0에서 적용
- 표준용어: SNOMED CT, ICD-O



# DRUG EXPOSURE

## DRUG\_EXPOSURE

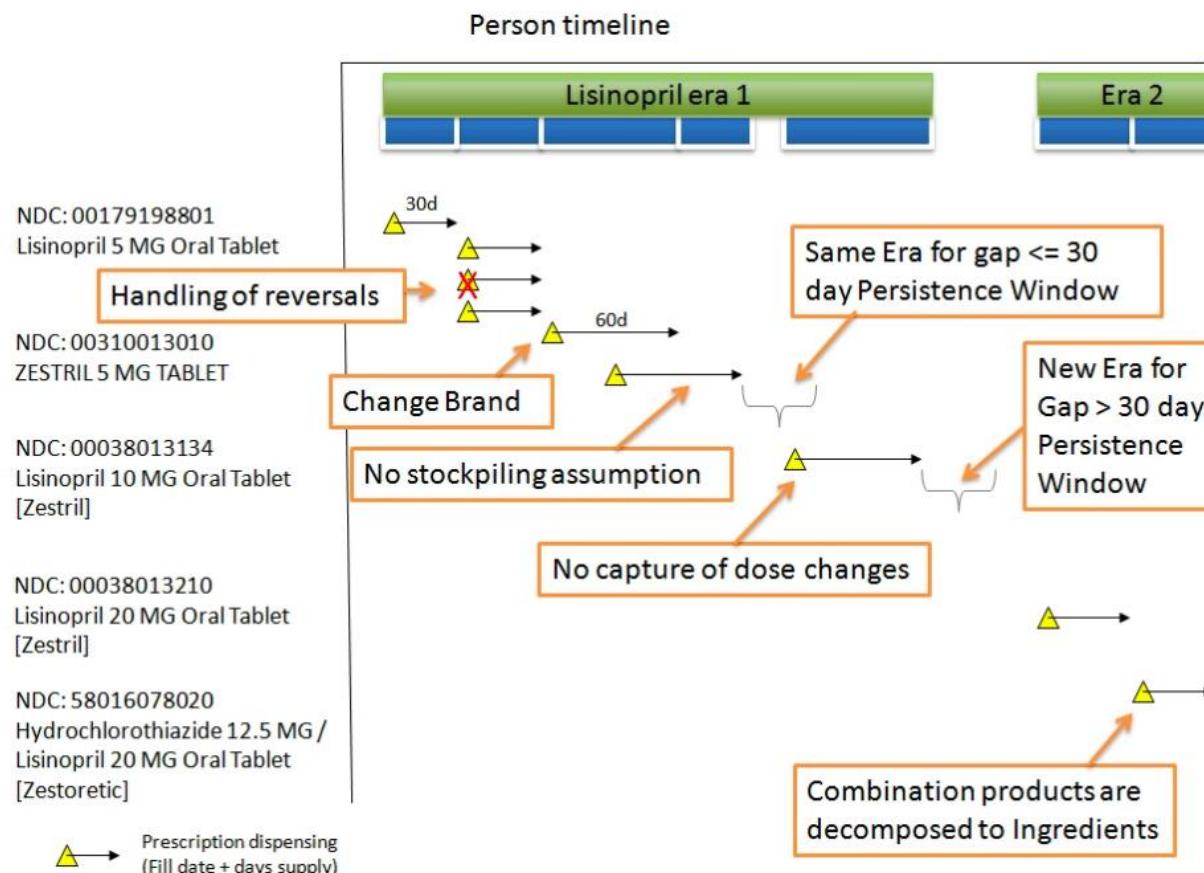
field	required	type
drug_exposure_id	Yes	BIGINT
person_id	Yes	BIGINT
drug_concept_id	Yes	INTEGER
drug_exposure_start_date	No	DATE
drug_exposure_start_datetime	Yes	DATETIME
drug_exposure_end_date	No	DATE
drug_exposure_end_datetime	No	DATETIME
verbatim_end_date	No	DATE
drug_type_concept_id	Yes	INTEGER
stop_reason	No	VARCHAR(20)
refills	No	INTEGER
quantity	No	FLOAT
days_supply	No	INTEGER
sig	No	VARCHAR(MAX)
route_concept_id	Yes	INTEGER
lot_number	No	VARCHAR(50)
provider_id	No	INTEGER
visit_occurrence_id	No	INTEGER
visit_detail_id	No	INTEGER
drug_source_value	No	VARCHAR(50)
drug_source_concept_id	Yes	INTEGER
route_source_value	No	VARCHAR(50)
dose_unit_source_value	No	VARCHAR(50)

- 약물 처방 및 투약 기록
- 약품명, 처방일, 총수량, 투여경로  
(경구, 주사, 외용)
- 표준용어: RxNorm, RxNorm Extension



# DRUG ERA

## DRUG\_ERA





# DRUG ERA

## DRUG\_ERA

field	required	type
drug_era_id	Yes	INTEGER
person_id	Yes	INTEGER
drug_concept_id	Yes	INTEGER
drug_era_start_datetime	Yes	DATE
drug_era_end_datetime	Yes	DATE
drug_exposure_count	No	INTEGER
gap_days	No	INTEGER

- Ingredient level의 연속적인 약물 노출 기간 추론 데이터
- DRUG\_EXPOSURE 테이블로부터 표준화된 로직을 적용하여 자동 계산(예, 30일 persistence window 허용 등)



# PROCEDURE OCCURRENCE

## PROCEDURE\_OCCURRENCE

field	required	type
procedure_occurrence_id	Yes	INTEGER
person_id	Yes	INTEGER
procedure_concept_id	Yes	INTEGER
procedure_date	No	DATE
procedure_datetime	Yes	DATETIME
procedure_type_concept_id	Yes	INTEGER
modifier_concept_id	Yes	INTEGER
quantity	No	INTEGER
provider_id	No	INTEGER
visit_occurrence_id	No	INTEGER
visit_detail_id	No	INTEGER
procedure_source_value	No	VARCHAR(50)
procedure_source_concept_id	Yes	INTEGER
modifier_source_value	No	VARCHAR(50)

- 수술, 처치, 검사처방 등
- 표준용어: SNOMED CT
- 표준 용어 매팅 이슈 존재



# MEASUREMENT

## MEASUREMENT

field	required	type
measurement_id	Yes	INTEGER
person_id	Yes	INTEGER
measurement_concept_id	Yes	INTEGER
measurement_date	No	DATE
measurement_datetime	Yes	DATETIME
measurement_time	No	VARCHAR(10)
measurement_type_concept_id	Yes	INTEGER
operator_concept_id	No	INTEGER
value_as_number	No	FLOAT
value_as_concept_id	No	INTEGER
unit_concept_id	No	INTEGER
range_low	No	FLOAT
range_high	No	FLOAT
provider_id	No	INTEGER
visit_occurrence_id	No	INTEGER
visit_detail_id	No	INTEGER
measurement_source_value	No	VARCHAR(50)
measurement_source_concept_id	Yes	INTEGER
unit_source_value	No	VARCHAR(50)
value_source_value	No	VARCHAR(50)

- 수치형/범주형의 구조화된 검사결과, 임상관찰기록, 병리보고서 결과 등
- 표준용어: LOINC, SNOMED CT
- 표준 용어 매팅 이슈 존재



# OBSERVATION

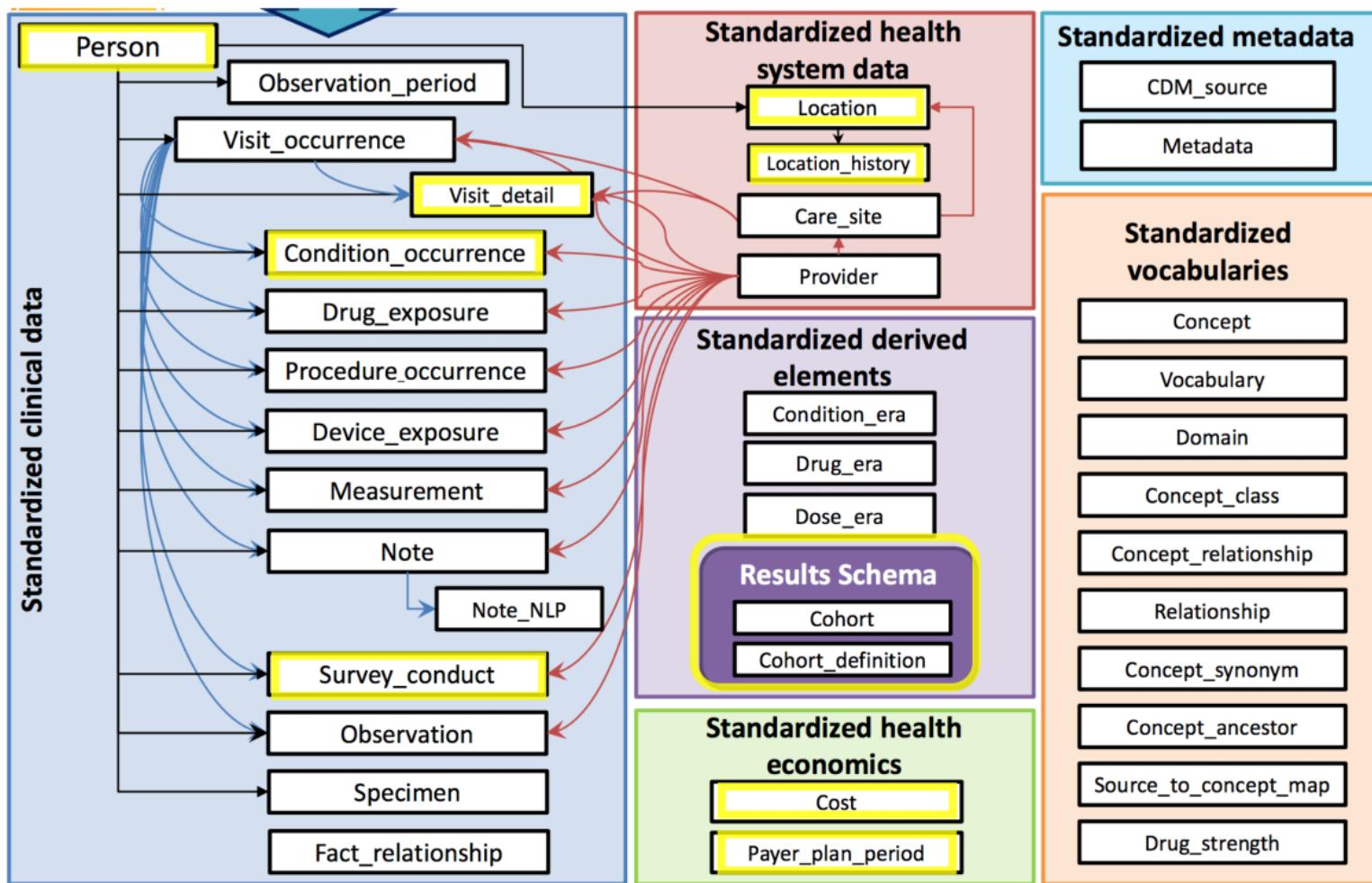
## OBSERVATION

field	required	type
observation_id	Yes	INTEGER
person_id	Yes	INTEGER
observation_concept_id	Yes	INTEGER
observation_date	No	DATE
observation_datetime	Yes	DATETIME
observation_type_concept_id	Yes	INTEGER
value_as_number	No	FLOAT
value_as_string	No	VARCHAR(60)
value_as_concept_id	No	INTEGER
qualifier_concept_id	No	INTEGER
unit_concept_id	No	INTEGER
provider_id	No	INTEGER
visit_occurrence_id	No	INTEGER
visit_detail_id	No	INTEGER
observation_source_value	No	VARCHAR(50)
observation_source_concept_id	Yes	INTEGER
unit_source_value	No	VARCHAR(50)
qualifier_source_value	No	VARCHAR(50)
observation_event_id	No	INTEGER
obs_event_field_concept_id	Yes	INTEGER
value_as_datetime	No	INTEGER

- 가족력/과거력, 흡연, 음주,  
문진 결과, 평가지 등 데이터
- 기타 다른 테이블에 저장할  
수 없는 임상 데이터
- 표준용어: SNOMED CT, LOINC



## OMOP Version 6 Key Domains





# Explore the OMOP Vocabulary

<http://athena.ohdsi.org/>



# The common building block of all observational analysis: cohorts

Required inputs:

Target cohort:  
Person  
cohort start date  
cohort end date

Comparator cohort:  
Person  
cohort start date  
cohort end date

Outcome cohort:  
Person  
cohort start date  
cohort end date

Desired outputs:

Clinical characterization  
Baseline summary of exposures  
(treatment utilization)

Clinical characterization  
Baseline summary of outcome  
(disease natural history)

Incidence summary  
Proportion/rate of outcome  
occurring during time-at-risk for exposure

Population-level effect estimation  
Relative risk (HR, OR, IRR) of outcome  
occurring during time-at-risk for exposure

Patient-level prediction  
Probability of outcome occurring during  
time-at-risk for each patient in population





# OHDSI's definition of 'cohort'

Cohort = a set of persons who satisfy one or more inclusion criteria for a duration of time

Objective consequences based on this cohort definition:

- One person may belong to multiple cohorts
- One person may belong to the same cohort at multiple different time periods
- One person may not belong to the same cohort multiple times during the same period of time
- One cohort may have zero or more members
- A codeset is NOT a cohort...

...logic for how to use the codeset in a criteria is required



## Exercise: Define target and outcome cohort for Lactic acidosis in metformin users

- What **initial event(?)** define cohort entry?
  - What **inclusion criteria** are applied to the initial events?
  - What defines a person's **cohort exit**?
- 
- OHDSI Cohort must have:  
**Start Date & End Date**



# Demo: Defining cohort using ATLAS

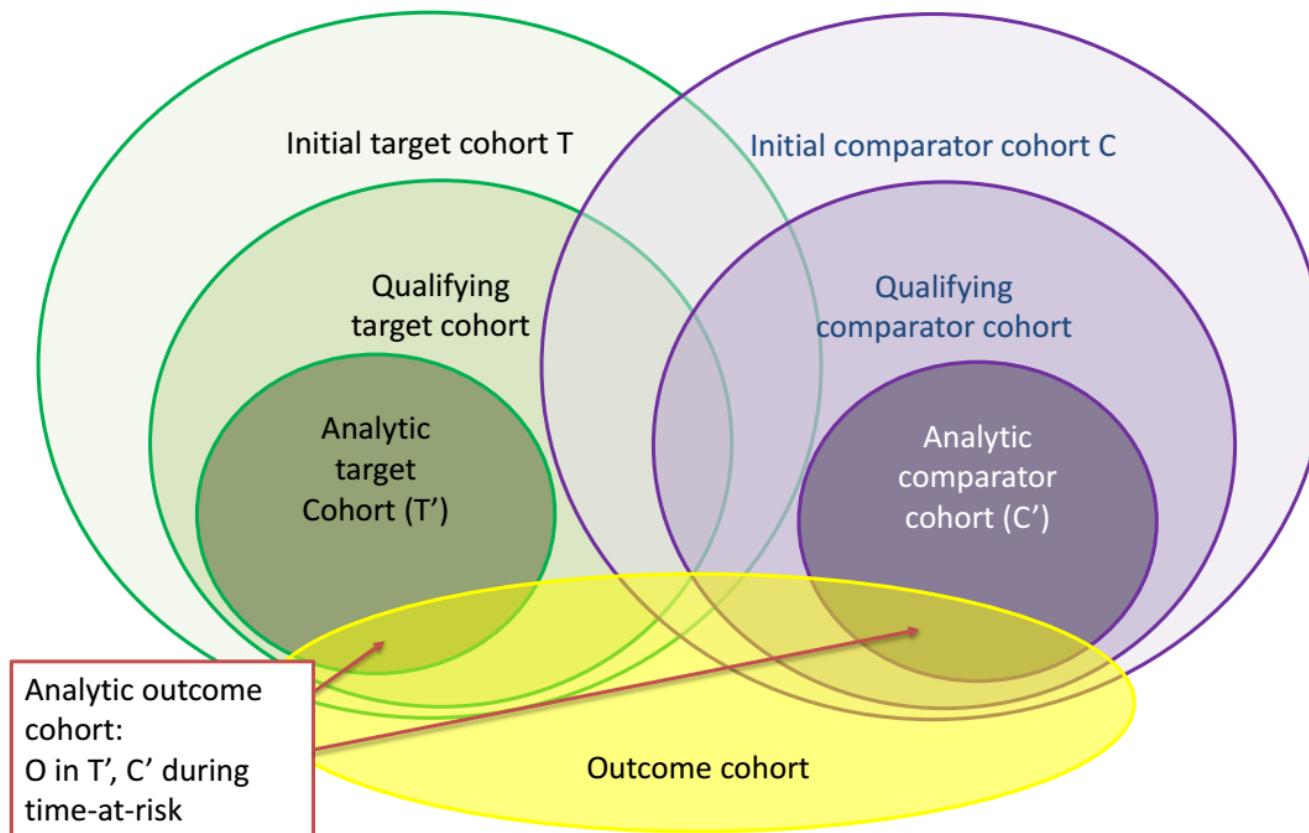
- Follow along at:

<http://ohdsi.org/web/ATLAS>



# Define cohort

: A database is full of cohorts, some of which may represent valid comparisons





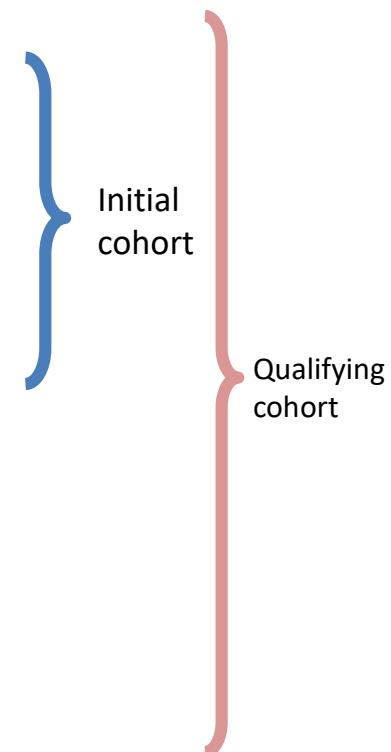
# Define cohort:

Process flow for formally defining a cohort in ATLAS

- **Cohort entry criteria**

- **Initial events**

- Events are recorded time-stamped observations for the persons, such as drug exposures, conditions, procedures, measurements and visits
    - All events have a start date and end date, though some events may have a start date and end date with the same value (such as procedures or measurements).



- **Initial event inclusion criteria**

- **Additional qualifying inclusion criteria**

- The qualifying cohort will be defined as all persons who have an initial event, satisfy the initial event inclusion criteria, and fulfill all additional qualifying inclusion criteria
    - Each qualifying inclusion criteria will be evaluated to determine the impact of the criteria on the attrition of persons from the initial cohort

- **Cohort exit criteria**

# Association of Ticagrelor vs Clopidogrel With Net Adverse Clinical Events in Patients With Acute Coronary Syndrome Undergoing Percutaneous Coronary Intervention

Seng Chan You, MD, MS; Yeunsook Rho, PhD; Behnood Bikdeli, MD, MS; Jiwoo Kim, MS; Anastasios Siapos, MSc; James Weaver, MSc; Ajit Londhe, MPH; Jaehyeong Cho, BS; Jimyung Park, BS; Martijn Schuemie, PhD; Marc A. Suchard, MD, PhD; David Madigan, PhD; George Hripcak, MD, MS; Aakriti Gupta, MD, MS; Christian G. Reich, MD; Patrick B. Ryan, PhD; Rae Woong Park, MD, PhD; Harlan M. Krumholz, MD, SM

**IMPORTANCE** Current guidelines recommend ticagrelor as the preferred P2Y<sub>12</sub> platelet inhibitor for patients with acute coronary syndrome (ACS), primarily based on a single large randomized clinical trial. The benefits and risks associated with ticagrelor vs clopidogrel in routine practice merits attention.

**OBJECTIVE** To determine the association of ticagrelor vs clopidogrel with ischemic and hemorrhagic events in patients undergoing percutaneous coronary intervention (PCI) for ACS in clinical practice.

-  Editorial page 1
-  JAMA Patient Page page 1
-  Audio and Supplemental content
-  CME Quiz at [jamacmlookup.com](http://jamacmlookup.com) and CME Questions page 0

Seng Chan You<sup>1</sup>; Yeunsook Rho<sup>2</sup>; Jiwoo Kim<sup>2</sup>; Anastasios Siapos<sup>3</sup>; Ajit Londhe<sup>4</sup>; Jaehyeong Cho<sup>5</sup>; Jimyung Park<sup>5</sup>; Martijn Schuemie<sup>4</sup>; Marc A Suchard, MD, PhD<sup>6,7</sup>; David Madigan PhD<sup>8</sup>; George Hripcak MD<sup>9</sup>; Christian G. Reich<sup>3</sup>; Patrick B. Ryan<sup>4</sup>; Rae Woong Park, MD, PhD<sup>1,5</sup>; Harlan M. Krumholz, MD<sup>10</sup>

<sup>1</sup>Department of Biomedical Informatics, Ajou University School of Medicine, Suwon, Korea; <sup>2</sup>Health Insurance Review and Assessment Service, Wonju, Korea; <sup>3</sup>IQVIA, Durham, USA; <sup>4</sup>Janssen Research and Development, Titusville, USA; <sup>5</sup>Department of Biomedical Sciences, Ajou University Graduate School of Medicine, Suwon, Korea; <sup>6</sup>Department of Biostatistics, Fielding School of Public Health, University of California, Los Angeles, CA, USA; <sup>7</sup>Department of Biomathematics, David Geffen School of Medicine at UCLA, University of California, Los Angeles, CA, USA; <sup>8</sup>Department of Statistics, Columbia University, New York, NY, USA; <sup>9</sup>Medical Informatics Services, New York-Presbyterian Hospital, New York, NY, USA; <sup>10</sup>Yale University School of Medicine, USA



# FeederNet

My Research

★ MY PROJECTS

ATLAS

CONCEPT ID

SQL VIEWER

Network Overview

DATA MAP

DATA NETWORK

EXPERT NETWORK

Service & Events

EVIX-INSIGHT™

EVIX-EXPLO™

COVID-19 STUDY

## ATLAS

ATLAS는 OMOP CDM 기반의 표준화된 분석 기능을 제공하고 있는 OHDSI의 오픈 소프트웨어입니다. 에비드넷은 각 기관 서버에 ATLAS를 설치하여 원활한 CDM 연구가 진행될 수 있도록 돕고 있습니다. 기관연구자 혹은 협력연구자로 승인 받은 연구자는 해당 기관의 ATLAS에 접근하여 연구 설계를 할 수 있습니다. RFZ 참여 기관 간에는 연구자 등록 과정 없이 서로의 기관 ATLAS에 접속하셔서 자유로운 연구 설계를 진행할 수 있습니다.

ATLAS 사용법에 대한 자세한 안내는 튜토리얼을 참고하세요

[ATLAS v2.7 튜토리얼 강의자료](#)   [ATLAS v2.7 튜토리얼 교육영상](#)

## Connect to ATLAS

ORGANIZATION NAME	RFZ LEVEL	API VERSION	RESEARCH RIGHT	CONNECT
Open Database	-	v2.7.6		



# Study Package Repository

[ohdsi-studies / TicagrelorVsClopidogrel](#) Public  Unwatch ▾ 2

Code  Issues 9  Pull requests  Discussions  Actions  Projects

master ▾  Go to file  Add file ▾  Code ▾

chandryou Merge pull request #65 from ohdsi-studies/revision ... on 7 Oct 2020 137

R	Extract mean and sd of age	17 months ago
documents	fix the additional result function for revision	17 months ago
extras	add whole code to generate figures and tables fo...	2 years ago
inst	fix the additional result function for revision	17 months ago
man	fix the additional result function for revision	17 months ago



# Study Package Repository

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# Study Package Repository for this tutorial

ohdsi-korea / OhdsiKoreaTutorials Public

<> Code Issues Pull requests Actions Projects Wiki Security

master ▾ 1 branch 0 tags Go to

유승찬(예방의학교실) and 유승찬(예방의학교실) upload replica package of TicagrelorVs... b90d

📁 2019SymposiumTutorial-Architecture	AWS Achitecture
📁 2019SymposiumTutorial-PLE	update the materials
📁 2019SymposiumTutorial-PLP	minor change in README.md
📁 2019SymposiumTutorial-Phenotyping	phenotyping
📁 2019SymposiumTutorial-Voca	change readme file
📁 2021KOSHIS-ReplicaTutorial/TicagrelorVsClopidogrel	upload replica package of TicagrelorVsClopidogrel study
📁 26thOct2019	update README

<https://github.com/ohdsi-korea/OhdsiKoreaTutorials/>



# To find cohort definitions

master ▾ [TicagrelorVsClopidogrel / inst / cohorts /](#) Go to file

chandryou revise definition of hemorrhagic event requiring intervention or lead... ... on 13 May

..

AMI.json	revise individual outcomes
AMI_narrow.json	revise individual outcomes
Cardiovascular-related_mortality.json	add MACE and narrow definition for MACE and cv mortality to the outco...
Cardiovascular-related_mortality_narr...	add MACE and narrow definition for MACE and cv mortality to the outco...
Clopidogrel.json	revise the definition of cohort not to use visit id for the primary e...
Clopidogrel2013To2015.json	revise the definition of cohort not to use visit id for the primary e...



# To find cohort definitions **in this tutorial**

master ▾

[OhdsiKoreaTutorials](#) / [2021KOSHIS-ReplicaTutorial](#) / [TicagrelorVsClopidogrelMiniReplica](#) / [inst](#) / [cohorts](#) /

유승찬(예방의학교실) and 유승찬(예방의학교실) upload replica package of TicagrelorVsClopidogrel study

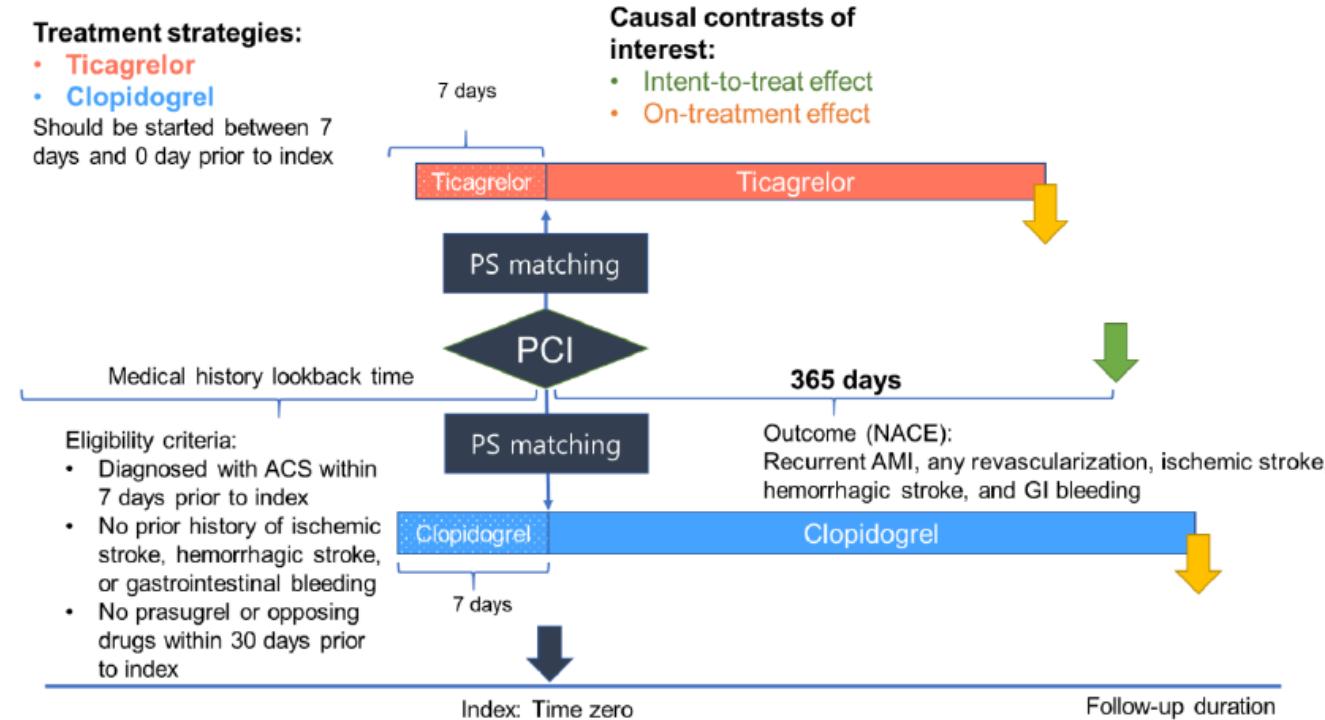
..

<a href="#">SCYouAcute_Myocardial_Infarction.json</a>	upload replica package of TicagrelorVsClopidogrel study
<a href="#">SCYouClopidogrel.json</a>	upload replica package of TicagrelorVsClopidogrel study
<a href="#">SCYouGI_bleeding.json</a>	upload replica package of TicagrelorVsClopidogrel study
<a href="#">SCYouTicagrelor.json</a>	upload replica package of TicagrelorVsClopidogrel study



# Method: Study Population

- Inclusion Criteria
  - Adults ( $\geq 20$  yrs) who initiated ticagrelor or clopidogrel due to acute coronary syndrome (ACS) and undertook percutaneous coronary intervention (PCI)
- Exclusion Criteria
  - Prior history of stroke or gastrointestinal bleeding
  - Use of prasugrel or opposing drug within previous 30 days from index date





FeederNet

Home Data Sources Search Concept Sets Cohort Definitions Characterizations Cohort Pathways Incidence Rates Profiles Estimation Prediction Jobs Configuration Feedback

Cohort Definitions

New Cohort

Column visibility Copy CSV Show 15 entries Filter: Previous 1 2 3 4 5 ... 145 Next

Showing 1 to 15 of 2,175 entries

ID	Name	Created	Updated	Author
2572	[SCYou]Ticagrelor	09/29/2021 8:46 PM	09/29/2021 8:46 PM	anonymous
2571	COPY OF: Schizo_YH.(1)	09/29/2021 8:17 PM	09/29/2021 8:45 PM	anonymous
2570	COPY OF: Schizo_YH	09/29/2021 5:20 PM	09/29/2021 7:59 PM	anonymous
2500	I_Anti-TB drugs with PZA_dh	09/24/2021 7:09 PM	09/29/2021 2:15 PM	anonymous
2503	O_Toxic liver diseases_dh	09/24/2021 8:06 PM	09/29/2021 1:41 PM	anonymous
2549	Schizo_YH	09/28/2021 2:54 PM	09/29/2021 10:58 AM	anonymous
2569	epilepsy_YH	09/29/2021 10:57 AM	09/29/2021 10:57 AM	anonymous
2568	depressive disorder_YH	09/29/2021 10:55 AM	09/29/2021 10:56 AM	anonymous
2567	AD_Duloxetine_YH	09/29/2021 10:53 AM	09/29/2021 10:53 AM	anonymous
2565	AD_fluvoxamine_YH	09/29/2021 10:50 AM	09/29/2021 10:51 AM	anonymous
2566	AD_mirtazapine_YH	09/29/2021 10:51 AM	09/29/2021 10:51 AM	anonymous



[MyName]Ticagrelor

Definition Concept Sets Generation Reporting Export Messages 6

Text View Graphical View JSON SQL

```
"STANDARD_CONCEPT_CAPTION": "Standard",
"INVALID_REASON": "V",
"INVALID_REASON_CAPTION": "Valid",
"CONCEPT_CODE": "11101003",
"DOMAIN_ID": "Procedure",
"VOCABULARY_ID": "SNOMED",
"CONCEPT_CLASS_ID": "Procedure"
},
"includeDescendants": true
},
{
"concept": {
"CONCEPT_ID": 4264285,
"CONCEPT_NAME": "Percutaneous transluminal coronary angioplasty by rotoablation",
"STANDARD_CONCEPT": "S",
"STANDARD_CONCEPT_CAPTION": "Standard",
"INVALID_REASON": "V",
"INVALID_REASON_CAPTION": "Invalid"
}
```

Copy and paste the cohort.json file

 Copy To Clipboard

 Reload



Cohort #2572

[SCYou]Ticagrelor

Definition ? Concept Sets Generation Reporting Export Messages 6

enter a cohort definition description here

**Cohort Entry Events** ?

Events having any of the following criteria:

+ Add Initial Event + Add attribute... Delete Criteria

a procedure occurrence of PCI X for the first time in the person's history X with age Greater or Equal To 20

with continuous observation of at least 365 days before and 0 days after event index date

Limit initial events to: earliest event per person.

Restrict initial events to:

having all of the following criteria:

+ Add criteria to group... Delete Criteria

with at least 1 using all occurrences of:  
a condition occurrence of ACS X + Add attribute...

where event starts between 7 days Before and 0 days After index start date add additional constraint

restrict to the same visit occurrence  
 allow events from outside observation period

and with at least 1 using all occurrences of:  
a drug exposure of ticagrelor X + Add attribute...

where event starts between 7 days Before and 0 days After index start date add additional constraint

restrict to the same visit occurrence  
 allow events from outside observation period

Limit initial events to: earliest event per person.

Remove initial event restriction



# #1 Create Concept Set: Ticagrelor

[SCYou]Ticagrelor

Definition Concept Sets Generation Reporting Export Messages 8

New Concept Set Import

Show 10 entries Filter Cohort

Id	Title
1	ACS
3	aspirin
5	clopidogrel
6	Coronary Stent Implantation
10	GI bleeding
9	ICH
8	Ischemic stroke
2	MI
0	PCI
7	Prasugrel



# #1 Create Concept Set: Ticagrelor

[SCYou]Ticagrelor

Definition Concept Sets Generation Reporting Export Messages 8

New Concept Set Import

Show 10 entries Filter Cohort

Id	Title
1	ACS
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6	Coronary Stent Implantation
10	GI bleeding
9	ICH
8	Ischemic stroke
2	MI
0	PCI
7	Prasugrel



# #1 Create Concept Set: Ticagrelor

Feedernet

- Home
- Data Sources
- Search**
- Concept Sets
- Cohort Definitions
- Characterizations
- Cohort Pathways
- Incidence Rates
- Profiles
- Estimation
- Prediction
- Jobs
- Configuration

← [SCYou]Ticagrelor ➔ Ticagrelor2

Search

ticagrelor

Show 15 entries

Filter: [ ]

Showing 1 to 15 of 232 entries

Previous [ 1 ]

Vocabulary	Id	Code	Name	Class	RC	DRC
RxNorm Extension (89)	46240683	4f9bd52a-99a7-4606-92b4-456a917aabef	BRILINTA - ticagrelor tablet	Prescription Drug	0	5,172
NDFRT (32)	45680509	f7b3f443-e83d-4bf2-0e96-023448fed9a8	BRILINTA - ticagrelor tablet	Prescription Drug	0	5,172
SNOMED (19)	46314076	3ce9ee32-b18b-4ef3-b127-ce479d520e1a	BRILINTA - ticagrelor tablet	Prescription Drug	0	5,172
SPL (19)	1370827	7cee944f-e2ca-4fc8-bb97-f46ca28728c5	TICAGRELOR - ticagrelor tablet	Prescription Drug	0	5,172
Marketed Product (40)	40241186	1116632	Ticagrelor	Ingredient	1,144	5,172



# #1 Create Concept Set: Ticagrelor

2

← [SCYou]Ticagrelor ➤ Ticagrelor2

Q Search

Search Import

ticagrelor

Column visibility Copy CSV Show 15 entries

Showing 1 to 15 of 232 entries

Vocabulary	Id	Code	Name
RxNorm Extension (89)	46240683	4f9bd52a-99a7-4606-92b4-456a917aabef	BRILINTA - ticagrelor tablet
NDFRT (32)	45680509	f7b3f443-e83d-4bf2-0e96-023448fed9a8	BRILINTA - ticagrelor tablet
SNOMED (19)	46314076	3ce9ee32-b18b-4ef3-b127-ce479d520e1a	BRILINTA - ticagrelor tablet
SPL (19)	1370827	7cee944f-e2ca-4fc8-bb97-f46ca28728c5	TICAGRELOR - ticagrelor tablet
Marketed Product (40)	40241186	1116632	Ticagrelor

1



# #1 Create Concept Set: Ticagrelor

Concept Set Expression

Included Concepts 104

Included Source Codes

Export

Import

Name:

ticagrelor

Show 25 entries

Search:

Previous 1 Next

Showing 1 to 1 of 1 entries

<input type="checkbox"/>	Concept Id	Concept Code	Concept Name	Domain	Standard Concept Caption	Exclude	Descendants	Mapped
<input type="checkbox"/>	40241186	1116632	Ticagrelor	Drug	Standard	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

█ Classification █ Non-Standard █ Standard

Delete Concept Set

Copy To Concept Set Repository

Close Concept Set



# #1 Create Concept Set: ACS

Name:

ACS

Show 25 entries

Search:

Showing 1 to 5 of 5 entries

Prev

Concept Id	Concept Code	Concept Name	Domain	Standard Concept Caption	Exclude	Descendants
315296	4557003	Preinfarction syndrome	Condition	Standard	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
444406	70422006	Acute subendocardial infarction	Condition	Standard	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
438170	73795002	Acute myocardial infarction of inferior wall	Condition	Standard	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
434376	54329005	Acute myocardial infarction of anterior wall	Condition	Standard	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
312327	57054005	Acute myocardial infarction	Condition	Standard	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>



# #2 Create Target Cohort:Ticagrelor

## Cohort Entry Events

Events having any of the following criteria:

a procedure occurrence of

PCI



for the first time in the person's history

with age

with continuous observation of at least   days before and   days after event index date

Limit initial events to:  per person.



# #2 Create Target Cohort:Ticagrelor

Restrict initial events to:

having **all** of the following criteria:

with **at least** **1** occurrences of:

a condition occurrence of **ACS**

where **event starts** between **7** days **Before** and **0** days **After** **index start date**

restrict to the same visit occurrence

allow events from outside observation period

and with **at least** **1** occurrences of:

a drug exposure of **ticagrelor**

where **event starts** between **7** days **Before** and **0** days **After** **index start date**

restrict to the same visit occurrence

allow events from outside observation period



# #2 Create Target Cohort:Ticagrelor

New inclusion criteria

1. Without clopidogrel or prasugrel on the day of PCI
2. Without previous stroke
3. Without previous GI bleeding

Without clopidogrel or prasugrel on the day of PCI

enter an inclusion rule description

having **all** of the following criteria:

**+ Add crit**

with **at most** **0** **using all** occurrences of:

a drug exposure of **clopidogrel**

**+ Add attribute...▼**

where **event starts** between **30** days **Before** and **0** days **After**

**index start date** [add additional constraint](#)

restrict to the same visit occurrence

allow events from outside observation period

and with **at most** **0** **using all** occurrences of:

a drug exposure of **Prasugrel**

**+ Add attribute...▼**

where **event starts** between **30** days **Before** and **0** days **After**

**index start date** [add additional constraint](#)

restrict to the same visit occurrence

allow events from outside observation period



# #2 Create Target Cohort:Ticagrelor

## Inclusion Criteria

### New inclusion criteria

1. Without clopidogrel or prasugrel on the day of PCI
2. Without previous stroke
3. Without previous GI bleeding

Without previous stroke

enter an inclusion rule description

having **all** of the following criteria:

+ Add cr

with **at most** **0** **using all** occurrences of:

a condition occurrence of **Ischemic stroke**

+ Add attribute...▼

where **event starts** between **All** days **Before** and **0** days **After**

**index start date** [add additional constraint](#)

restrict to the same visit occurrence

allow events from outside observation period

and with **at most** **0** **using all** occurrences of:

a condition occurrence of **ICH**

+ Add attribute...▼

where **event starts** between **All** days **Before** and **0** days **After**

**index start date** [add additional constraint](#)

restrict to the same visit occurrence

allow events from outside observation period



# #2 Create Target Cohort:Ticagrelor

## New inclusion criteria

1. Without clopidogrel or prasugrel on the day of PCI
2. Without previous stroke
3. Without previous GI bleeding

Without previous GI bleeding

enter an inclusion rule description

having **all** of the following criteria:

with **at most** **0** using all occurrences of:

a condition occurrence of **GI bleeding**

where **event starts** between **All** days **Before** and **0** days **After**

**index start date** [add additional constraint](#)

restrict to the same visit occurrence

allow events from outside observation period

+ A



# #2 Create Target Cohort:Ticagrelor

Cohort Exit

## Event Persistence:

Event will persist until:

## Continuous Exposure Persistence:

Specify a concept set that contains one or more drugs. A drug era will start the concept set, using the specified persistence window as a maximum duration adding a specified surveillance window to the final exposure event. If a drug supply date is inferred to be event start date + days supply in cases when day supply persistence assures that the cohort end date will be no greater than the inferred supply date.

Concept set containing the drug(s) of interest:

- Persistence window: allow for a maximum of  days between the start of the era and the end of the era.
- Surveillance window: add  days to the end of the era of persistence to assure cohort exit.



# #3 Create Comparator Cohort: Clop

Cohort #2572

[SCYou]Ticagrelor

Definition Concept Sets Generation Reporting Export Messages 8

enter a cohort definition description here

**COPY!**



# #3 Create Comparator Cohort: Clop

 Cohort #2583

COPY OF: [SCYou]Ticagrelor

Rename -> [Name] Clopidogrel



Definition 

Concept Sets

Generation

Reporting

Export

Messages 

enter a cohort definition description here

## Cohort Entry Events

Events having any of the following criteria:



# #3 Create Comparator Cohort: Clop

with at least 1 using all occurrences of:

a condition occurrence of

ACS ▾

+ Add attribute... ▾

where event starts between 7 days Before and 0 days After index start date [add additional constraint](#)

restrict to the same visit occurrence

allow events from outside observation period

and with at least 1 using all occurrences of:

a drug exposure of

clopidogrel ▾

+ Add attribute... ▾

where event starts between 7 days Before and 0 days After index start date [add additional constraint](#)

restrict to the same visit occurrence

allow events from outside observation period



# #3 Create Comparator Cohort: Clop

New inclusion criteria

- Without ticagrelor or prasugrel on the day of PCI
- Without previous stroke
- Without previous GI bleeding

Without ticagrelor or prasugrel on the day of PCI

enter an inclusion rule description

having all of the following criteria:

+ Add cri

with at most 0 using all occurrences of:

a drug exposure of **ticagrelor** + Add attribute...▼

where event starts between 30 days Before 0 days

After index start date [add additional constraint](#)

restrict to the same visit occurrence

allow events from outside observation period



# #3 Create Comparator Cohort: Clop

Cohort Exit

## Event Persistence:

Event will persist until: end of a continuous drug exposure ▾

## Continuous Exposure Persistence:

Specify a concept set that contains one or more drugs. A drug era will be the concept set, using the specified persistence window as a maximum adding a specified surveillance window to the final exposure event. If no date is inferred to be event start date + days supply in cases when days of persistence assures that the cohort end date will be no greater than the

Concept set containing the drug(s) of interest:

clopidogrel ▾

- Persistence window: allow for a maximum of 7 ▾ days between
- Surveillance window: add 0 ▾ days to the end of the era of persistent cohort exit.



# #4 Create Outcome Cohort:AMI

Name:

Acute MI

Show 25 entries

Search:

Previous 1 Next

Showing 1 to 4 of 4 entries

Concept Id	Concept Code	Concept Name	Domain	Standard Concept Caption	Exclude	Descendants	Mapped
444406	70422006	Acute subendocardial infarction	Condition	Standard	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
438170	73795002	Acute myocardial infarction of inferior wall	Condition	Standard	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
434376	54329005	Acute myocardial infarction of anterior wall	Condition	Standard	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
312327	57054005	Acute myocardial infarction	Condition	Standard	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>



# #4 Create Outcome Cohort:AMI

## Cohort Entry Events



Events having any of the following criteria:

+ Add Initial Event ▾

a condition occurrence of

Acute MI



+ Add attribute... ▾

Delete Criteria

with a Visit occurrence of:

✖ Emergency Room Visit

✖ Emergency Room and Inpatient Visit



✖ Inpatient Visit

Add

Import

with continuous observation of at least  days before and  days after event index date

Limit initial events to:  per person.

Restrict initial events



# #4 Create Outcome Cohort:AMI

emergency      Visit     

Show 10 entries

Filter records:

	Concept Id	Code	Concept Name	Standard Type	Vocabulary	Domain
<input checked="" type="checkbox"/>	8870	23	Emergency Room - Hospital	S	CMS Place of Service	Visit
<input checked="" type="checkbox"/>	38004220	261QE0002X	Ambulatory Emergency Care Clinic/Center	S	NUCC	Visit
<input checked="" type="checkbox"/>	38004337	333300000X	Emergency Response System Supplier	S	NUCC	Visit
<input checked="" type="checkbox"/>	38004362	343900000X	Non-emergency Medical Transport	S	NUCC	Visit
<input checked="" type="checkbox"/>	9203	ER	Emergency Room Visit	S	Visit	Visit
<input checked="" type="checkbox"/>	262	ERIP	Emergency Room and Inpatient Visit	S	Visit	Visit
<input checked="" type="checkbox"/>	581381	OMOP4822040	Emergency Room Critical Care Facility	S	CMS Place of Service	Visit
<input checked="" type="checkbox"/>	32583	7	Emergency Room	N	UB04 Point of Origin	Visit



# #4 Create Outcome Cohort:AMI

Show 10 entries

Filter records: inpatient

	Concept Id	Code	Concept Name	Standard Type	Vocabulary	Domain
<input checked="" type="checkbox"/>	8717	21	Inpatient Hospital	S	CMS Place of Service	Visit
<input checked="" type="checkbox"/>	38004311	315D00000X	Inpatient Hospice	S	NUCC	Visit
<input checked="" type="checkbox"/>	8971	51	Inpatient Psychiatric Facility	S	CMS Place of Service	Visit
<input checked="" type="checkbox"/>	8920	61	Comprehensive Inpatient Rehabilitation Facility	S	CMS Place of Service	Visit
<input checked="" type="checkbox"/>	262	ERIP	Emergency Room and Inpatient Visit	S	Visit	Visit
<input checked="" type="checkbox"/>	9201	IP	Inpatient Visit	S	Visit	Visit
<input checked="" type="checkbox"/>	581384	OMOP4822037	Inpatient Nursery	S	CMS Place of Service	Visit
<input checked="" type="checkbox"/>	581383	OMOP4822038	Inpatient Cardiac Care Facility	S	CMS Place of Service	Visit
<input checked="" type="checkbox"/>	581379	OMOP4822042	Inpatient Critical Care Facility	S	CMS Place of Service	Visit
<input checked="" type="checkbox"/>	32211	02	Discharged/transferred to other short term general hospital for inpatient care.	N	UB04 Pt dis status	Visit



# #4 Create Outcome Cohort:AMI

## Cohort Exit

### Event Persistence:

Event will persist until:

### Fixed Duration Persistence:

The event end date is derived from adding a number of days to the event start date. All cohort episodes will have the same fixed duration (subject to further modification by the user). Note that the cohort may have varying cohort duration times due to the varying length of stay. This event persistence assures that the cohort end date is offset by the specified number of days.

- Event date to offset from:
- Number of days offset:  days

### Censoring Events:

Exit Cohort based on the following criteria:

No censoring events selected.



# #5 Create Outcome Cohort: GI bleeding

## Cohort Entry Events

Events having any of the following criteria:

a condition occurrence of

GI bleeding



for the first time in the person's history

with continuous observation of at least  days before and  days after event index date

Limit initial events to:  per person.

[Restrict initial events](#)

## Inclusion Criteria

[New inclusion criteria](#)



# #5 Create Outcome Cohort: GI bleeding

Cohort Exit

## Event Persistence:

Event will persist until:

## Fixed Duration Persistence:

The event end date is derived from adding a number of days to the start date. All cohort episodes will have the same fixed duration (subject to future modification). Note that the cohort may have varying cohort duration times due to the varying length of stay. This event persistence assures that the cohort end date is offset by the specified number of days.

- Event date to offset from:
- Number of days offset:

## Censoring Events:

Exit Cohort based on the following criteria: