

ATLAS Training Guide

ATLAS CONCEPTS AND CONCEPT SETS

What is a Concept

A concept is a term with a code defined in a medical terminology from any vocabulary with a concept id which is unique within OMOP CDM ecosystem. All clinical events in the OMOP CDM are expressed as concepts.

What is a Concept

A concept is a term with a code defined in a medical terminology from any vocabulary with a concept id which is unique within OMOP CDM ecosystem. All clinical events in the OMOP CDM are expressed as concepts.

Components of a Concept

To understand the concepts, we must know what Domains and Vocabularies are.

Domains

Domains refer to the nature of type of clinical event. It also refers to the CDM table where the data record is stored. For example, observation, condition, drug exposure are defined domains in OMOP CDM. Condition, Drug, Procedure, Measurement are examples of domains.

Vocabulary

The Standardized Vocabularies provide a standardized representation of data in the domains. They are usually arranged alphabetically and defined or translated in English.

Ancestors & Descendants

The hierarchical relationships between concepts allows to navigate through parent-child relationships. These paths between concepts can help moving through sequence of relationships in-order to reach descendants from any higher-level ancestry connection.

For example: Atrial fibrillation is a descendant of heart disease.

Types of Concepts

Within a domain, codes come from a number of vocabularies, these codes often have identical or overlapping meanings. To clarify even further in Atlas, concepts are assigned a type.

1. Standard concepts

Standard Concept are the “official” Concepts that are to be used to represent a unique clinical entity in the Standardized Clinical Data Tables.

2. Classification concepts

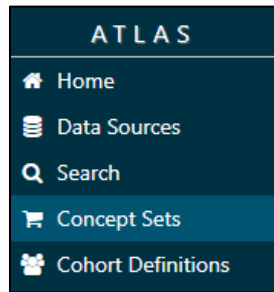
These have a hierarchical relationship to Standard Concepts and can therefore be used to query for Standard Concepts.

3. Source concepts (Non-standard concepts)

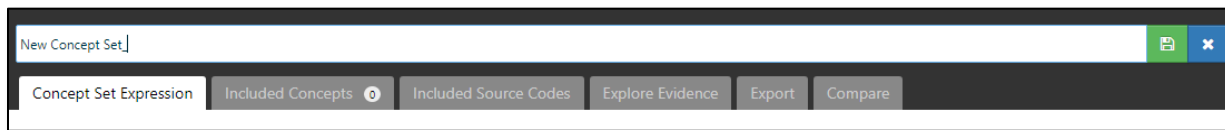
Source concepts are not used to represent the clinical event, but they are still part of the standardized vocabularies, and are often found in source data.

How to Create a Concept Set

1. From the ATLAS home page, click on the Concept sets link from the *Navigation Menu*.



2. The next step is to define a concept set name, make sure to click the green **Save** button. It is good practice to continue saving after you make changes to the concept definition.



3. From the navigation menu click on the **Search** tab, this will able you to explore the concepts in the databases.



4. Use the **cart** icon to select and shop all the necessary concepts.

serum_creatinine_cohort_under18

Search Import

antibiotic

Advanced Options

Column visibility Copy CSV Show 15 entries Filter:

Showing 1 to 15 of 415 entries

	Id	Code	Name	Class	RC	DRC	Domain	Vocabulary
Vocabulary	21600602	A07AA	Antibiotics	ATC 4th	0	499,622	Drug	ATC
ICD10CM (86)	21602054	D06	ANTIBIOTICS AND CHEMOTHERAPEUTICS FOR DERMATOLOGICAL USE	ATC 2nd	0	385,233	Drug	ATC
EDI (66)	21601910	D01AA	Antibiotics	ATC 4th	0	341,751	Drug	ATC
ATC (37)	600000003	600000003	OMOP Antibiotics: Erythromycins, Sulfonamides, Tetracyclines	Cohort	0	68,073	Drug	Cohort
Read (29)	21602055	D06A	ANTIBIOTICS FOR TOPICAL USE	ATC 3rd	0	56,889	Drug	ATC
SNOMED (26)	21602061	D06AX	Other antibiotics for topical use	ATC 4th	0	56,889	Drug	ATC
Proc Hierarchy (66)	21603095	J04AB	Antibiotics	ATC 4th	0	13,085	Drug	ATC
7-char billing code (54)	21603553	S01AA	Antibiotics	ATC 4th	0	166	Drug	ATC
Clinical Finding (35)	21603728	L01D	CYTOTOXIC ANTIBIOTICS AND RELATED SUBSTANCES	ATC 3rd	0	84	Drug	ATC
Read (29)	21603073	J02AA	Antibiotics	ATC 4th	0	20	Drug	ATC
ICD11 (114) (78)								
Condition (166)								
Observation (93)								
Drug (75)								
Measurement (66)								

5. The cart should turn amber for selected concepts.

Advanced Options

Column visibility Copy CSV Show 15 entries Filter:

Showing 1 to 15 of 3,703 entries

	Id	Code	Name	Class	RC	DRC	Domain	Vocabulary
	35807476	46136	Antibiotic	Component Class	0	685,241	Drug	HemOnc
	21600602	A07AA	Antibiotics	ATC 4th	0	499,622	Drug	ATC
	40798316	LP7755-4	Antibiotic susceptibilities	LOINC Hierarchy	0	438,197	Measurement	LOINC

6. Select **Descendants** to include all the descendent records from the selected concept or exclude any concept specific to your study design question(s).

Concept Set Expression Included Concepts 1 Included Source Codes Explore Evidence Export Compare

Show 25 entries Search:

Showing 1 to 1 of 1 entries

Concept Id	Concept Code	Concept Name	Domain	Standard Concept Caption	Exclude	Descendants	Mapped
35807476	46136	Antibiotic	Drug	Classification	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Classification Non-Standard Standard

7. Save the changes and you will have a new concept set defined in your concept set tab from the navigation tab to use for your cohorts.