ATLAS Training Guide

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.

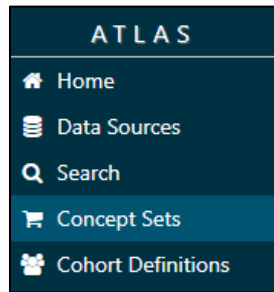2. *Classification concepts*
   These have a hierarchical relationship to Standard Concepts and can therefore be used to query for Standard Concepts.
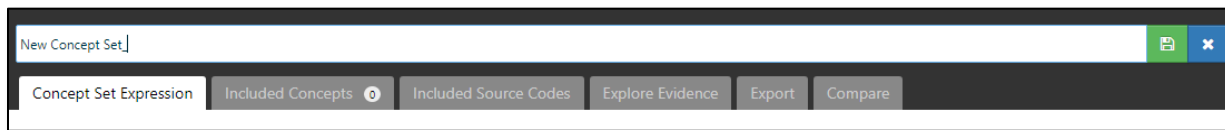3. *Source concepts (Non-standard concepts)*
   Source concepts are not used to represent the clinical event, but they are still part of the standardized vocabularies, and are often found in source data.

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.

5. The cart should turn amber for selected concepts.

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

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.