

# Concept Validation

- [Concept Validation Rules - What makes a concept valid?](#)
  - [For all \(modern\) OpenMRS versions](#)
  - [For OpenMRS 1.7 and above](#)
  - [for OpenMRS 1.9 and above](#)
  - [for OpenMRS 1.10 and above when released](#)
- [Concept Reference Term Validation Rules \(1.9 and above\)](#)
- [Concept Map Type Validation Rules \(1.9 and above\)](#)
- [Validation module](#)
- [Other validations rules to enforce in the future](#)
- [Useful validation rules for specific concept dictionaries](#)

## Background

A concept is the basic element of flexibility in OpenMRS. Concepts are the individual data points collected from a population of patients. Concepts include both questions and answers. Therefore, it is very important to have them conform to specific validation rules in order to have a cleaner data set.

## Concept Validation Rules - What makes a concept valid?

These apply as per the latest OpenMRS version, there are couple of minor variations between 1.7, 1.8, 1.9, there are major variations in 1.6 and earlier versions.

### For all (modern) OpenMRS versions

- Duplicate names for the same locale are not permitted.
- The datatype of the concept should be defined.
- The concept class of the concept should be defined
- A name can't be blank/null
- A description can't be null. A description is not required for a concept, but a null description (ie. blank or NULL concept\_description.description) is not permitted.
- Code/source code is required for every concept mapping (**Applies to 1.8 and below**)
- Can't map the same concept to the same Reference Term multiple times

### For OpenMRS 1.7 and above

- At least one non-voided, non empty/blank fully specified name is required (This DOESN'T mean one is required for each locale)
- The name marked as preferred for a given locale should be unique among all other non voided names in its locale across all non-retired concepts
- All names that belong to the same concept and locale should be unique except for the short name (**Applies to 1.7 and above though the short name exception is as of 1.8**)
- A name marked as fully specified for a given locale should be unique among all other non voided names in its locale across all non-retired concepts
- A preferred name can neither be a short name, an index/search term nor a voided name
- Only one non-voided short name is allowed per locale
- Only one non-voided preferred name is allowed per locale
- A voided name can't be marked as fully specified
- Only one non-voided fully specified name is allowed per locale

### for OpenMRS 1.9 and above

- Concept map type and reference term are required for every concept mapping

### for OpenMRS 1.10 and above *when released*

- At least one non-retired description is required (This DOESN'T mean one is required for each locale), any blank descriptions are removed automatically

## Concept Reference Term Validation Rules (1.9 and above)

See [Mapping Concepts to Other terminologies](#) for more about Concept Reference Terms and Map Types

1. The code and concept reference source are required i.e they shouldn't be blank/null
2. The code should be unique among all other codes in its Concept Reference source
3. The reference source should belong to an existing concept i.e Can't add a term to a source that is getting created on the fly along with it.
4. Can't add a concept reference term to the same reference term multiple times
5. If a name has been specified for a reference term, it should be unique among all other names in its Concept Reference Source
6. When adding a mapping to another reference term, the concept map type and the other term getting mapped to are required
7. When adding a mapping to another reference term, the term getting mapped to should be existing i.e Can't map to a term that is getting created on the fly.
8. Can't map a reference term to itself
9. Can't map a reference term to the same reference term multiple times

## Concept Map Type Validation Rules (1.9 and above)

See [Mapping Concepts to Other terminologies](#) for more about Concept Reference Terms and Map Types

1. The name is required i.e it shouldn't be blank/null
2. The name should be unique among all other names

## Validation module

The [Validation Module](#) is a great way to review the concepts and show any errors against the validation rules. Choose any of these types for reviewing the concept dictionary:

- org.openmrs.Concept
- org.openmrs.ConceptDescription
- org.openmrs.ConceptName

## Other validations rules to enforce in the future

1. A fully specified name can neither be a short name nor an index/search term
2. Can't add a concept mapping with a retired concept map type or reference term
3. Can't add a concept mapping to a voided concept reference source
4. The concept reference source of a reference term should be non-voided
5. Can't add a concept reference term map with a retired concept map type or reference term

## Useful validation rules for specific concept dictionaries

There is no validation that checks that certain mappings are only used on 1 concept in a concept dictionary. A concept source mapping for a concept dictionary (ie. PIH:12) should only be associated with 1 concept. ICD10 mappings can be associated to multiple concepts.