

# Mapping tools version 1.1

## i2b2 Sponsored Project - Mapping tools

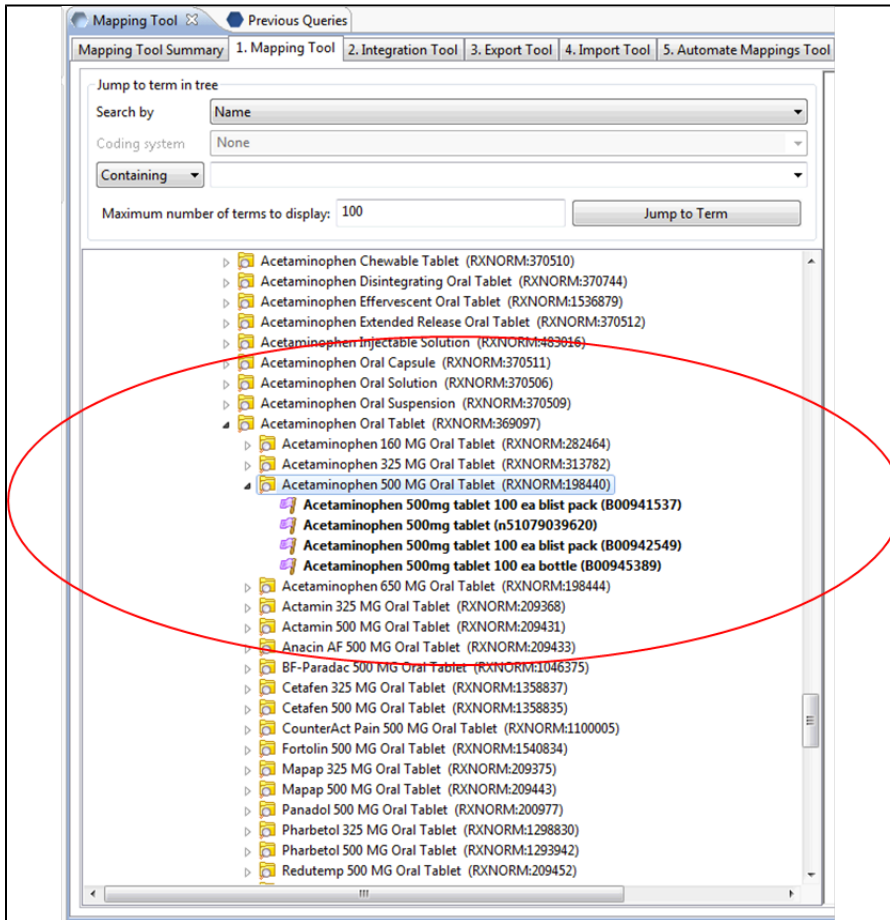
A set of mapping tools have been created to assist with the assignment, verification, integration, export and import of mappings between two ontologies. In version 1.1 we add the ability to automate mappings to any UMLS ontology using the [UMLS MetaMap](#).

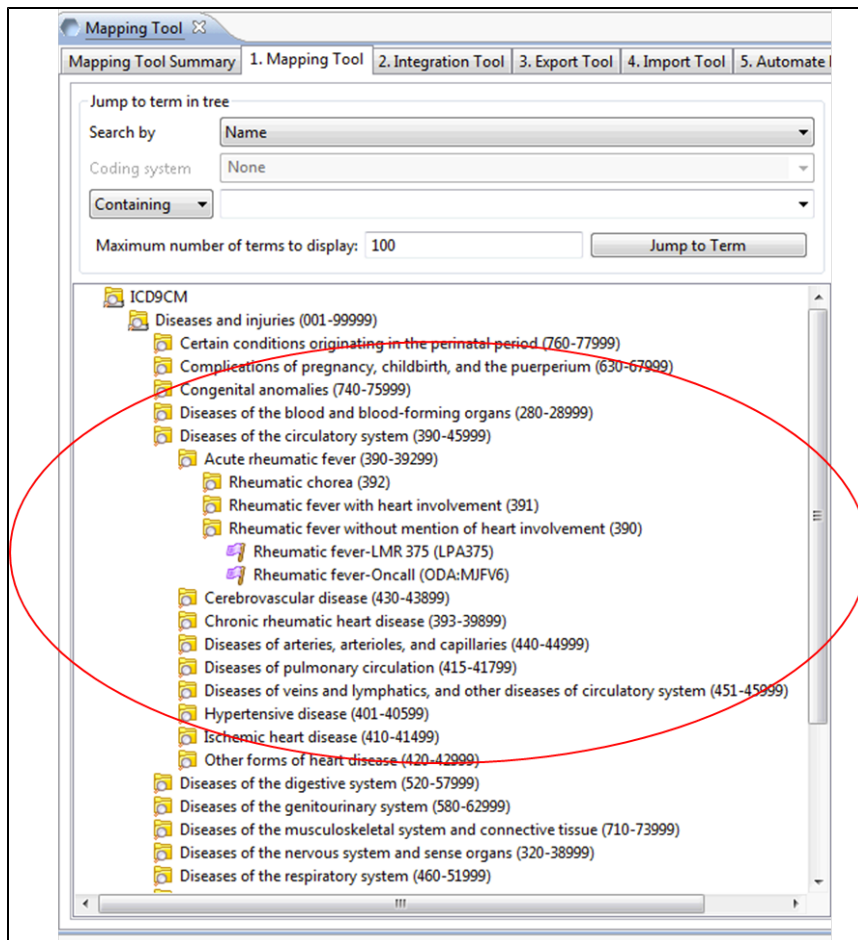
### The need for Mapping tools

The Mapping tools were created to assist in the use case where you need to merge one or more sets of ontology terms into another. Typical use cases are such as that found in federated query systems, e.g. SHRINE, where the ontology to use is dictated to you by another party and you have terms that do not align readily to the dictated ontology. For example the ontology might specify medication terms as RxNorm and your local ontology uses NDC or you may have extensive local terms and codes that have to be aligned.

#### Merging medications into an RxNorm-based tree

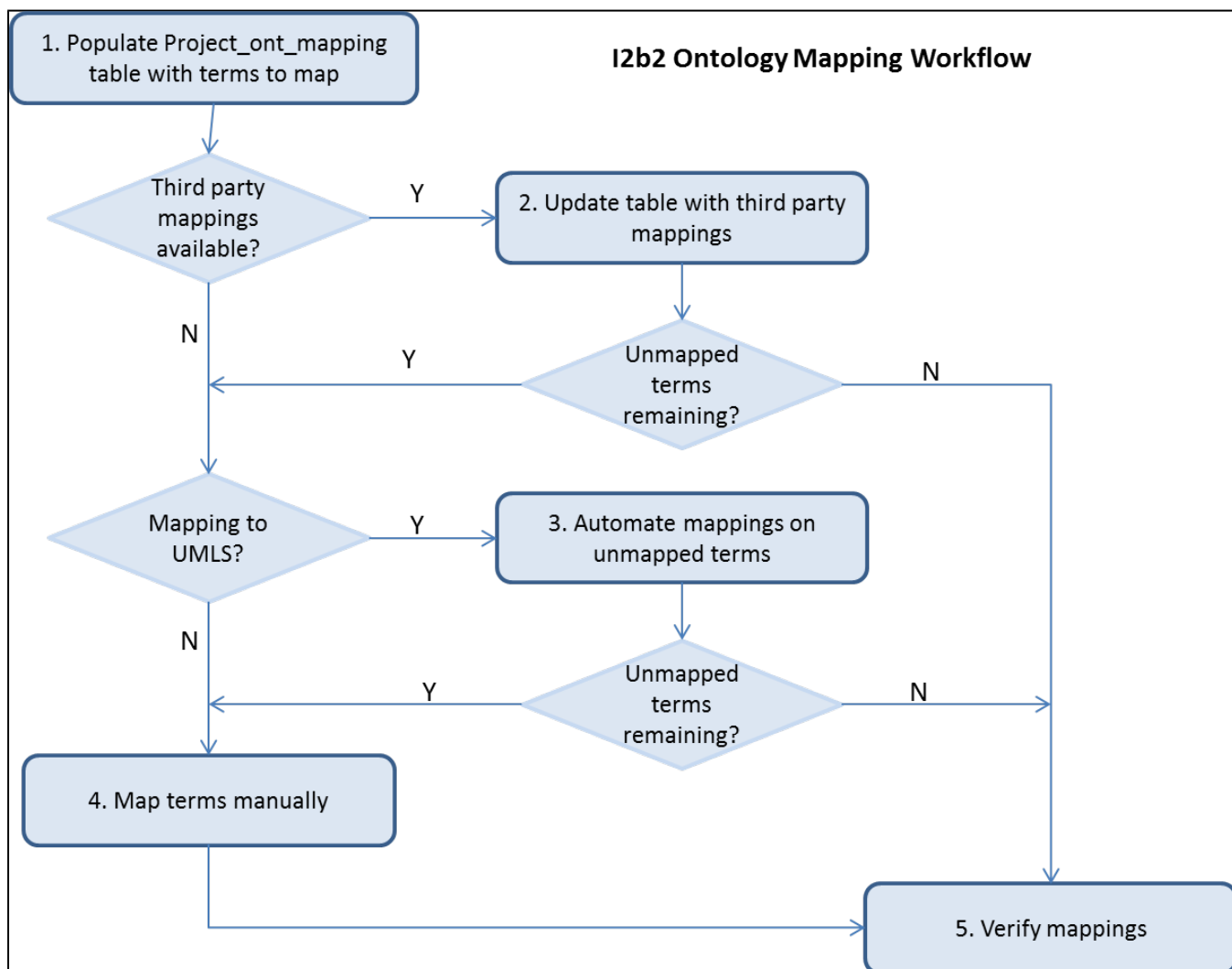
#### Merging local diagnoses into an ICD-9-based tree





## The Mapping Tool Workflow

Central to the Mapping tools is a project\_ont\_mapping table. This table contains all the terms that need to be mapped to the target ontology, and, ultimately, the path of the target/destination term it maps to. The following workflow outlines the process of populating this table



## Final steps

Once the mappings are complete, the tool assists with the process of creating the final merged ontology through steps **Integration** and **Export**. Integration merges your mapped terms into a copy of the target ontology, creating new folders as necessary. The Export function exports the content of the integration step into a file that may be distributed to your local i2b2 instances.

## Demo Software

Workbenches are provided for both Windows and Mac. These workbenches are pre-configured to point to a Demo MetaMap project instance on Amazon. The new automate feature requires that you have or obtain a valid UMLS Terminology Services (UTS) account. (<https://uts.nlm.nih.gov/home.html>).

Download the workbench for Windows or Mac in the Mapping Software section, unzip. Double click on the hive icon to get started. i2b2 user name and password are demo/demouser. To run the demo, select vocabulary = ICD9CM, Knowledge source = 1415 and category = ICD9.

## Tutorials

[Mapping Tools Overview](#) An overview of the tool's features.

[Mapping Tools Users Guide](#) The users guide and definitive source for how to use the tools

## Mapping Software

Below are packages for the Mapper Cell and workbenches preconfigured with the Mapping tools. The workbenches supercede the demo packages listed above. A set of mapping demo data is also provided that mimics the data on the Amazon demo instance. The workbench is also preconfigured to point to a Demo MetaMap instance on Amazon. i2b2 user name and password are demo/demouser. To run the demo, select vocabulary = ICDCM, Knowledge source = 1415 and category = ICD9.

[Metamap Data Package](#) Collection of scripts to load sample data to map to ICD9

[Ontology Mapping Data Installation Guide](#) How to install the sample mapping data package.

[Ontology\\_Mapper cell source code.package](#) Source code package for installing the Ontology Mapper cell.

[Ontology\\_Mapping Cell Installation Guide](#) Installation guide for Ontology Mapper cell. Works with 1.7 i2b2 hive.

[MetaMap workbench for Windows version 1.1](#) Windows version of workbench including the new automated (MetaMap) mapping plugin.

[MetaMap workbench for Mac version 1.1](#) Mac version of workbench including the new automated (MetaMap) mapping plugin.