

# Example Use Cases for the “Standards Hub”

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Below are some example use cases collected from caBIG community members.

## Use Case 1: Mapping legacy data to standard terminologies

Baylor is leading the development of a state-wide biobank with multiple sites. The terminology selected to capture pathology diagnostic codes was ICD-O-3. However there was some legacy data that needs to be mapped to ICD-O-3. In the absence of a tool and/or recipe and due to short turn around time, this became a largely manual task.

**How the "hub" may help?** If a tool/recipe was available (based on others experience), it would have saved considerable time.

## Use Case 2: Developing new ontologies vs. leveraging existing ontologies to fit a purpose

Baylor is involved in a Nuclear Receptor Signalling Project that captures transcriptomics data. They were in need of terms/concepts to annotate their data. Originally, as they do not know what is out there, they tried to develop one of their own. Lauren investigated NCBO and found two ontologies ArrayExpress EFO and Cell line Ontologies. As per her analysis, it turns out together these two serve the annotation purposes well.

**How the "hub" may help?** First, it can help discovery of the ontologies that can be used for annotation purposes. Second Lauren's story may be posted in hub as how to annotate transcriptomics data (e.g. the context where the Cell line Ontology is used) and her work can be leveraged by others.

## Use Case 3: Developing standard/good representations of Clinical Trial Objects

Baylor was trying to identify a way to best represent objects used in Protocol Life Cycle. They have been pointed to BRIDG (and few classes from it) by caBIGers and this served to their purposes to some extent. Finding BRIDG could have been hard if Lauren was not involved in caBIG.

**How the "hub" may help?** It can advertise domain models as standard representations of things. It should provide how they can be used (with examples) along with definitions of core concepts around it such as what is domain analysis model.

## Use Case 4: Finding standard representations

At TJU, a person is looking for a distinct canonical representation of demographics (race/religion/country of birth). He is looking for answers to:

- What would be alternative options for representing this information?

- What are available mappings?

**How the "hub" may help?** On hub:

- People can post mappings (e.g. for terminologies) with references/citations. The particular example is CPT-> SNOMED.
- People can post commentaries on commonness, weaknesses/strengths, granularity/scope, and experiences. The example he used was SNOMEDs broadness for use in certain task and how it can be constrained, dealing with "NOS".
- People can point to resources for facilitation adoption (e.g. mappings, tools etc.)

### **Use Case 5: Advising/governing use of standards**

A governance body within funding agency wants to ensure the right mix of standards adopted in development of software/ resource. A Business owner or software developer comes to the governance body with a specification and says that this specification has a list of standards that we will be using. The governance body would like to compare the list of standards against a profile of standards that has heavy adoption within the domain of interest that will ensure interoperability.

Hence there is a need to create “standards profiles” for certain specifications that can be used to assess compatibility of a specification to the corresponding profile and provide suggestions on how best to improve the software to facilitate semantic/syntactic interoperability.

**How the "hub" may help?** It will provide a list of domain specific standards along with their maturity and adoption. This information will help in development of profiles and what to enforce or suggest to development teams.