**This document outlines the Knowledge Beacon (“KB”) API Workflow**

# Discover a list of candidate concepts

**Input:** string of keywords (URL encoded, space delimited) to match against the known names of a concept.

**Output:** (paged) list of matching concepts with simple metadata including CURIE[[1]](#footnote-1), name, semantic group, synonyms and definition, insofar available

**Variants:** Additional keywords and semantic group filters can constrain the list; results may be batched as pages by page number and size

**API endpoint:**

GET /concepts?keywords=*<keyword1%20keyword2%20…keywordn>*

# User selects a concept to get at a table of all its relationships

## System identifies equivalent concepts identifiers across KS’s

### Given a concept, return all associated exact match concept identifiers

**Input:** A specified user-selected concept, identified by CURIE

**Output:** Set of CURIE of concepts deemed “exact matches” to the input concept

**API endpoint:**

GET /exactmatches/*{conceptId}*

### Given a list of CURIEs of known equivalent concepts (e.g. output from II.A.1 above), return additional equivalent concepts

Concept equivalency is discerned through matches with at least one of the input CURIE, either to the primary identifier of the concept or in the list of its associated exact match concept identifiers. Concepts are also returned with their associated cross-references, to allow iterative discovery of equivalent concepts using this API call.

**Input:** Set of known CURIE of exact matching concept identifiers (‘emci’)

**Output:** List of CURIE of any *additional* concepts equivalent to members of the input CURIE

**API endpoint:**

GET /exactmatches?emci=*<ec1%20ec2…%20ecn>*

### Iterative discover of the equivalent concept clique

The lists of cross-references from II.A.3 above are consolidated into a union set and identifiers that were already initially run are subtracted from the resulting set, then the difference set of identifiers are used in iterative calls to II.A.2 until the resulting “equivalent concept” identifier clique ceases to expand, suggestive of a complete clique (to the extent known by the available KS’s)

## Set of equivalent concepts are used to retrieve related statements.

**Input:** “Equivalence clique” of 1..m concept identifiers (‘cid’ from II.A.3 above)

**Output:** List of matching subject-predicate statements

**API endpoint:**

GET /statements?ci=*<cid1>&*ci=*<cid2>…&*ci=*<cidm>*

# User requests details about a specific concept

**Input:** A specified globally unique user-selected concept identifier

**Output:** A more complete report of properties of the concept

**API endpoint:**

GET /concepts/*{conceptId}*

# User selects a specific statement to get at evidence

**Input:** The evidenceId associated with a given statement (from the output of II.B)

**Output:** A list of citation references supporting the statement

**API endpoint:**

GET /evidence/*{evidenceId}*

1. Compact Uniform Resource Identifiers: https://en.wikipedia.org/wiki/CURIE [↑](#footnote-ref-1)