Let us upgrade medical practice with Wikidata

A Panel

Houcemeddine Turki, Lane Rasberry, Daniel Mietchen, James Heilman, Mossab Banat
Disclosure

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This is a panel

There will be brainstorming about Wikidata and healthcare.

It begins with a 20-minute presentation about how Wikidata is currently used in medical practice. Then, there will be a 35-minute discussion between the panelist regarding the state-of-the-art and motivations of Wikidata for healthcare.
We should benefit from every single open resource within our movement.

We are Wikimedians, not only Wikipedians.
WikiData

- Structured ontological database
- Statements in the form of triples
- Multilingual support
- Semantic alignment to external resources
- Plenty of tools for parsing and enriching the database
- Linked to Wikipedia
A rich network of medical knowledge.

Supporting various aspects and easily extensible to cover new unsupported ones.
However...

- **Limited number of references**
- Several relations are imprecise
- External resources are not fully imported
- Several types of information are still not supported
- Data models and EntitySchemas do not represent all the medical classes
- Data inconsistencies
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No EntitySchema for surgical therapies.
However...

Behçet's disease (Q911427)

rare immune-mediated small-vessel systemic vasculitis in humans

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Raising awareness about Wikidata as an open medical resource.

Enriching and validating medical knowledge in Wikidata.

Creating tools to reuse medical knowledge in Wikidata.
Raising awareness about Wikidata as an open medical resource

Convincing communities of the value of Wikidata as an open biomedical database
Making Wikidata useful for the Wikimedia community

Maintaining the original function of Wikidata as a support to other projects


Sharing Wikidata with the scientific community

Showing Wikidata as a flexible hub for semantic web research

Enriching and validating medical knowledge in Wikidata

Creating a knowledge-based system for enhancing Wikidata as an open biomedical database
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Creating a knowledge-based system for enhancing Wikidata as an open biomedical database

I. Verifying the alignment between Wikidata items and OBO ontology items
II. Verifying the alignment between Wikidata relations and OBO ontology relations
III. Finding missing relations through co-occurrence analysis of PubMed MeSH Keywords
IV. Adding references from PubMed to unsupported Wikidata statements

Creating tools to reuse medical knowledge in Wikidata

Developing real-world medical applications of Wikidata
Computers will not take the place of physicians

They will help physicians with 4D jobs: Dirty, Dull, Dangerous, and Dear
Wikidata-supported medical reasoning on EHR data

Mirroring Wikidata to semantically analyze electronic health records

MedCYN

An interactive web tool for clinical decision support based on Wikidata Query Service.

Rifampicin
Isoniazid
Paracetamol

wd:Q422652
wd:Q423169
wd:Q57055

Drug Interactions

COVID-19 dashboards

A web service providing a real-time update of the status of the COVID-19 pandemic

References


Question 1

What are good examples of Wikidata benefiting patient care or public health on a local or global level?
Question 2

What are the main pros and cons of Wikidata as a central medical knowledge hub vs. traditional databases?
Question 3

What is Wikidata's role in enhancing situational awareness for emergency responders and medical teams?
In what ways does the utility of Wikidata differ between common and rare diseases?
Question 5

How can healthcare providers be motivated to contribute to curating Wikidata and maintaining data quality?
Any question

Houcemeddine Turki
User: Csisc

E-mail: turkiabdelwaheb@hotmail.fr
Phone: +21629499418
Twitter: @Csisc1994
LinkedIn: Houcemeddine Turki