Reviewer's report

Title: OGMS: The Ontology for General Medical Science

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This paper reports on OGMS (Ontology for General Medical Science). The ontology purportedly consists of ~100 classes that provide reference terms in which only disease, disorder, disease course, and extended organism are introduced. The remainder of the paper briefly describes other medically-relevant ontologies that extend the OGMS.

major revisions

While surely the ontological disambiguation of terms used in medical discourse has value, there is an outstanding question as to why the authors choose to pursue their own projects instead of improving the US-mandated ontologies such SNOMED-CT, RxNORM, LOINC, etc. The questions that arise are surely not satisfied by the lack of scholarship in the introduction where assertions such as "... the support provided by such resources is often restricted by the fact that it is difficult (if not impossible) to utilize them beyond their initial purpose." I doubt that the hundreds of biomedical researchers would agree with that. What follows is equally vague and unsupported such as "We believe OBO Foundry ontologies .." "We also believe ...".

A major missing component then is that there is no effort to compare and contrast existing resources in order to convince any user to use OBO Foundry ontologies. Moreover, the "applications" presented within are mostly ontology projects themselves with no apparent use, except being an ontology that imports BFO + OGMS in name only. So, with only a couple of exceptions, must be, at least, some elaboration as to which parts of OGMS are being extended and whether the OGMS endorsed relations are in fact being used by the extending ontologies. This reviewer notes with some concern that some of the cited ontologies are using various forms of BFO (1.0, 1.1, 2.0) and look very much not to be interoperable at all. It is incumbent on the authors to provide evidence of interoperability amongst the projects that use OGMS.

1. "When clinical medicine recognizes a repeatable progression of a disease course;" how does this relate to the process profiles in the bfo 2.0?

2. "To insert a single term into the BFO framework that accommodates all of these would violate the disjointness of continuants and occurrents, which is a presupposition of the BFO architecture". Then why does the ontology contain symptom and sign at the top level?

3. "OGMS utilizes part of the Information Artifact Ontology (IAO), to make a clear distinction between information content entities, such as clinical findings, and the referents they are about." in what way does the IAO make these distinctions clear?

4. in order to be maximally useful, OGMS should map to terms in *already existing and well used ontologies* such as SNOMED-CT.

5. ideally, the paper should present not these other ontologies, but how OGMS enables coherence, interoperability and application (think either analysis or navigation of distinct semantic types).

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.