Reviewer's report

Title: Linked Vaccine Adverse Event Data from VAERS for Biomedical Data Analysis and Longitudinal Studies

Version: 2
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Reviewer: Jesualdo Tomas Fernandez-Breis

Reviewer's report:

This paper describes the use of the RDF representation of Vaccine-related data for the studying the correlation between vaccines and adverse events. The paper is sound and provides an interesting example of the use of RDF for supporting biomedical research.

Concerning the RDF representation section, most of the content of this section is about OWL content, what might be misleading for non-expert readers. I guess that the OWL ontology is created to serve as the schema for the RDF data, but this is not clearly stated in the paper. Are you actually creating OWL instances or RDF ones?

The authors mention that once the network data is expressed in RDF, semantic web tools can be used to explore the data. However, the analysis and visualization tool mentioned is Cytoscape, which is for networks in general and not a semantic web one. For instance, have you used semantic languages to support the data exploitation and analysis?

According to the manuscript, it seems that the RDF representation is beneficial for the further extension of the approach and the linkage of the dataset. Linked data is about linking external data but also about making your data linkable by the community. It seems that such step has not been taken yet. Is the Linked VAE data repository available?

I think the discussion should contain some comments on what would have been different if a different graph-based formalism had been used for representing the data.

Linguistic issues:

page 10:
event network is dense network ==> event network is dense?
clinician experts ==> clinical experts?

page 11:
intergrade ==> integrate?
(OVAE) [19]. ==> delete "."
Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

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

Declaration of competing interests:
I declare that I have no competing interests