Reviewer's report

Title: Leveraging workflow control patterns in the domain of clinical practice guidelines

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Reviewer: Carlos Fernandez-Llatas

Reviewer's report:

The authors analyze and test the implementation of workflow patterns in Clinical Practice Guidelines specific languages.

Major Compulsory Revisions

1- In literature there are some attempts in analyzing CPG using workflow patterns. Defining CPG as workflows allows the creation of more unambiguous descriptions than natural languages. However, the most natural and efficient way to execute Workflow description are Workflow Engines. I don’t really understand why the authors plan to execute in languages as Asbru or Proforma, when there are a lot of more efficient and effective engines for execute formally described workflows. I guess that authors are planning to mix Asbru and Proforma statements with workflow patterns, but it is not clear in the text.

2- There are a lot of studies about Workflow languages and Workflow patterns. Even, there are studies that analyze Workflow Patterns from Chomsky’s Hierarchy point of view. As Asbru and Profroma seems to be Incontextual Languages, I guess they should be able to define most of Workflow patterns, like programming languages. But this is not the same with Graphical based Workflows. The authors select BPNM as the language for defining the workflows. BPMN was officially analyzed by Workflow Patterns Initiative many years ago. For example, according WPI BPMN was no able, among others, to describe Interleaved Parallel Routine using ad-Hoc Components. In my opinion, the use of ad-hoc components is not an option to demonstrate the adoption of a pattern. If you create an ad-hoc component you are creating a new language that are not BPMN so, in my opinion, the authors should adopt other languages or define its own workflow language. esto debe ser clarificado en el texto.

3- In section 3.1 The authors decide what are the suitable workflow patterns for the study. In my opinion, this part is not convincing. The selection of patterns it is not made in a scientific way. The reasons are arbitrary and questionable and the selection is too subjective and is not contrasted.

Minor Essential Revisions

4. In my opinion, the bibliography is outdated.

In general, in my opinion, there are too doubts in the paper even in the main
ideas. My recommendation is reject

Level of interest: An article of limited interest

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