Reviewer's report

Title: Detecting inpatient falls by using natural language processing of electronic medical records

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Reviewer: Atsuko Yamaguchi

Reviewer's report:

This paper propose a method using natural language processing for texts obtained from image order entity together with conventional methods such as incident reports to detect inpatient falls.

- Major Compulsory Revisions

The explanation of a categorical decision rule may be not enough.
Each decision rule seems to be a set of morphemes and it may be decided to be true
if a text contains all the morphemes in the set, but it is not clearly explained.
Showing some examples of decision rules are helpful for readers.
Did the author use semantic technologies in decision rules?
The author should describe how the semantic technology is used, or remove a representation of "semantic".
In addition, how did the author decide that "170" is the best number of rules?

- Minor Essential Revisions

Two types of gold standards seems to be used in this paper.
To compute the sensitivity, a gold standard is obtained by the chart review.
However, to compute PPV, manual checked data of the possible fall events is used as a gold standard.
The author should explain why two deferent types of gold standards are used.
To evaluate the method proposed, the sensitivity and PPV are mainly employed.
The sensitivity is usually shown together with the specificity and PPV is usually shown together with NPV.
Why the two measures of the sensitivity and PPV are selected?

- Discretionary Revisions

The sensitivity of the method is very low for texts from image order entries.
Isn't it a problem for practical use?
**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.