Reviewer's report

Title: Development and verification of an agent-based model of opinion leadership

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Reviewer: Li Li

Reviewer's report:

The authors present an interesting study using agent-based modeling to simulate the dynamics of how nurse opinion leaders influence the opinion/belief of other nurses.

It would be helpful if the authors could provide the definitions of the variables used in the article, for example “credibility” and “visibility”. I understand that the authors had done so in other publications (reference number 7 and 10), provision of explanations will greatly help the readers to understand. The definitions could be incorporated in Table 1.

The authors assigned random values to characteristics such as age, years of experience, prior beliefs etc. However, there are empirical data available for the distribution of these variables. For example, Li’s 2013 paper (AIDS Educ. Prev.) described using POL model to reduce stigma among service providers in hospital settings.

I would like to see more discussion on the implication of the agent-based model for future implementation of POL intervention.

Minor issue:

In figure 1, the authors used blue and yellow circles to represent visible and non-visible agent, but in the black-and-white figure the two kinds of circles did not distinguish.

Level of interest: An article of outstanding merit and interest in its field

Quality of written English: Acceptable

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

Declaration of competing interests:

None