Reviewer's report

Title: Statistical estimates of absenteeism attributable to seasonal and pandemic influenza from the Canadian Labour Force Survey

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Reviewer: Jeff C Kwong

Reviewer's report:

This is an interesting and original paper that used data from Canada's Labour Force Survey and laboratory surveillance data to estimate work absenteeism attributable to seasonal and pandemic influenza through statistical models.

Major Compulsory Revisions (which the author must respond to before a decision on publication can be reached)

Methods

1. Additional description of the Labour Force Survey would be helpful (e.g., sampling strategy, sample size, etc)

2. The model includes a term (FluAr) for the number of weekly influenza A confirmations and another (fluBpp) for the percent of tests positive for influenza B. The authors should provide justification for using the number of confirmations for one influenza type and the percent of tests positive for the other – why the inconsistency?

3. Why is #5 only for the pandemic year – why is there not such a term for other seasons? I'm also not sure it should be called "non-influenza related ILI" – "non-influenza related illness" would probably be more appropriate since we don't know that the work absenteeism or hours lost are necessarily associated with ILI (i.e., fever, cough, etc.)

4. What is the rationale for including a term (Hospadmsr) for hospitalizations?

Results

5. Results, first two sentences: it's not clear to me how these estimates were obtained. My understanding of the model is that it estimates the proportion of working individuals who experience absenteeism for the particular week of each month. But how are the final estimates contained in these two sentences generated? Is it by summing the absenteeism rates for each month over the course of each influenza season? If so, doesn't that assume that people can be absent from work only once (i.e., that the individuals absent each month are mutually exclusive)? What about people who have more than one absence during an influenza season? Further explanation of this and/or clearer language are needed.

Discussion

6. First sentence: "estimates of absenteeism due to seasonal influenza ranged from 5% to 20%" – this is not presented anywhere in the results; it is not clear where these numbers came from.

7. Might some of the hours lost during the pandemic be attributable to time required to get vaccinated or to isolation (either imposed by the employer or self)? If so, there might be some benefits associated with the absenteeism (i.e., reduced transmission of influenza). The latter might be applicable as well to seasonal influenza. The authors did not seem to consider this.

8. Last paragraph, first sentence: it is unclear how the authors conclude that "an upward trend in absenteeism rates due to seasonal influenza was noted for recent years." Is that based on Figure 4? While it is fairly evident that absenteeism rates are increasing over time, it is not obvious that absenteeism rates attributable to influenza are increasing (gray line).

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

1. General: "Own illness or disability" sounds awkward. Simply "illness or disability" would be preferable, except perhaps for the first mention in line 98.

2. General: throughout the text, table, figures, and captions, I would use "influenza" rather than "flu" (except where they refer to the other study in the Discussion)

3. Line 66: "Our" should probably be changed to "Canada's"

4. Suggest deleting sentence that starts on line 67 – I'm not sure that it is needed.

5. Line 102: suggest changing "clinical" to "outpatient"

6. Line 129: missing "for" after "account"; replace "flu year" with "year" or "influenza season"

7. Line 165: missing "of" and suggest deleting "their own"

8. Line 185: should be "loss" rather than "lost"

9. Line 212: should add reference for this sentence.

10. Line 229: missing "of"

11. Line 263: references for hospitalizations should be #1 and #16; references for mortality should be #6 and #28

12. Line 269: suggest "but were" instead of "though"

13. Figure 2: it's not clear which of the two y-axes correspond to which lines.

14. Figure 3: why are confidence intervals present for some of the bars but not others?

15. Figure 4b: the legend is incorrect (should be absenteeism rate, not % hours lost)

16. Figure 6 seems unnecessary – the baselines are already demonstrated in Figure 4.

Discretionary Revisions (which are recommendations for improvement but which the author can choose to ignore)

1. Line 235: Suggest reporting as a percentage rather than as "5/6th"

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare that I have no competing interests