Reviewer's report

Title: Influenza in long-term Dutch travelers in the tropics: symptoms and infections

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Reviewer: Annelies Wilder-Smith

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Major compulsory Revisions

Abstract: “among 602”—among 602 unvaccinated travelers, I presume? Please add. Of the 602 travelers intending to travel, did not a single one receive the vaccine? Or was recent flu vaccination an exclusion criteria. This is very important information, also for the abstract.

Line 3 (second sentence in introduction): sentence does not have a verb—incomplete sentence

Line 5: in one sentence, the authors talk about emerging economies, in the next about tropics and subtropics. What is the link between? Is this study about travel to emerging economies or to the tropics and subtropics? Many emerging economies are now in the tropics and subtropics, so it is important to be precise with the definitions. Is the aim: developing countries as a destination, or emerging countries as a destination, or the tropics and subtropics as a certain “climatically defined zone”?

Methods: nicely detailed. But the inclusion criteria do not specify whether those who received flu vaccine as part of their pre-travel work up were include or excluded. Was flu vaccination an exclusion criterium?

Results: Some details are already in Table 1, and hence not all results need to be listed (eg the proportions of influenza antibody levels to the different constellations can be just referred to Table 1 in the text).

It would be very important if the authors could add a map with the Influenza Transmission Zones and the 4 regions: South East Asia, Africa, Central and Latin America and “Asia (Other)”; and then draw in the attack rate per region into the map. Even if there are no statistical significant differences, such a map could in the future be cited for an easier overview of attack rates and would convince readers that even travel to Africa poses the same risk as travel to other parts of the world.

The information on whether the attack rate for travelers to Africa is the same as the attack rate to Asia is there, but it is somehow hidden. Please highlight the attack rates per transmission zone better, in the text, or as above definitely also in a map, and presented as person-months.
The authors set out to examine the differences in the proportion of confirmed influenza infections by sex, age-group, primary influenza transmission zone visited, fever >38.0°C and ILI. Positive predictive value (PPV) for seroconversion was the proportion of symptomatic cases seroconverting for infection. The authors also set out to do logistic regression models. However, the results of all the above are not presented in a table or a version that is more visually palatable than just listing the results in the text. Please add such a table, even if there are no statistical differences.

Discussion: in many ways, this is a repetition of the results, and lacks some further in-depth discussion and comparison with the existing literature. Not even the famous study by Margot Muetsch is mentioned! :


They enrolled more than 1400 travelers. Among the 211 febrile participants, 27 (12.8%) had seroconversion, 13 (6.2%) with a > or = 4-fold increase; among the 321 afebrile control subjects, 13 (4.0%) had seroconversion, 5 (1.6%) with a > or = 4-fold increase. Twenty-five seroconverters (62.5%; P = .747) acquired influenza outside of the European epidemic season. Sixteen patients (40.0%) sought medical attention either abroad or at home, and 32 (80.0%) were asymptomatic at the time of completion of the survey.

Why does the discussion end with such an unfounded conclusion that only high risk groups should receive the vaccine? This conclusion stands alone, without the context of the previous discussion and needs to be elaborated further. In fact, one could argue that the findings would support recommending flu vaccine for all travelers given the high attack rates? These attack rates are higher than for all over travel-related vaccine preventable diseases including hepatitis A, typhoid fever etc. The rationale for flu vaccination in travelers is not so much preventing severe disease or death (like in flu vaccine programs on a national basis), but more on preventing days of illness on an already very expensive holiday where every single day counts.

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: No competing interest