Reviewer's report

Title: Airport sentinel surveillance and entry quarantine for dengue infection following fever screening program in Taiwan

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Reviewer: Benjamin M. Althouse

Reviewer's report:

The current study has again been well revised by the authors, and have addressed many (but not all) of my critiques and those of the other reviewer’s. That said, I am still a bit frustrated by the selectivity the authors have used in addressing the reviewer’s comments. I can recommend publication if the authors will respond to my critiques.

- Major Compulsory Revisions

Here is a list of problems still needing to be addressed:

- The difference between “the total number of imported dengue cases” and “the imported dengue cases that were detected in the community” is still not clearly explained in the text. This was pointed out (verbatim) by reviewer Bitar, and has not been adequately addressed.

- Why are the slopes for each regression reported when they are not discussed or interpreted? The full regression equations take up a lot of space and contribute very little to the test.

- Pg 8: Why are the lags and years different (“(Y = 15.74 X(t-0)-68.15, R2 = 0.39, P = 0.0030 in 2007; Y = 2.91 X(t-1)-13.93, R2 = 0.41, P = 0.015 in 2008; Y = 9.04 X(t-4)-104.2, R2 = 0.27, P = 0.08 in 2009; Y = 7.17 X(t-1)-44.10, R2 = 0.55, P = 0.006 in 2010; t: lead time for X vs. Y”)? It is deceiving to report the results for different lags in different years. I pointed this out in my previous review (”[the regression slopes] are not directly comparable as presented. The slope for a (t=2) is the number of domestic cases two months in the future for one imported case now, the slope for (t=3) is the number of domestic cases three months in the future for one imported case now. For a proper comparison to be made, they must be the same lag.”) I don’t know why it was ignored.

- The authors should keep in mind that lack of statistical association does not imply no association exists (and vise-versa). A p value of 0.09 for a regression with 8 data points is hardly compelling evidence for no association (see middle of page 9). This issue of small sample size should be noted by the authors.

- Pg 9: “The active capture of dengue importations in airports and biweekly sentinel surveillance data can be used to predict the total number of imported cases according to the coefficient of determination (R2)” is wrong. R2 says nothing about predictive accuracy of a statistical model, it merely says how much of the observed variance is explained by the model. Models with r2>0.95 may
predict very poorly. This sentence should be revised. Additionally, as far as r2 values go, 0.35 is quite low, which leads me to question the statement that airport screening can predict total imported cases with great accuracy.

- I would like to see confidence intervals reported in the text for PPV, NPV, sensitivity and specificity and for the regression slopes.

- Minor Essential Revisions

  - Pg 3: Why is Aedes albopictus a “mild vector”? What does “mild” mean in this context?
  - Pg 5: I’m not sure what “erective surveillance” is. I would change the word “erective”.
  - Pg 6: “The quantified relationship between the lead time of imported cases (t: month) with that of domestic cases was made a trial.” The phrase “made a trial” is wrong.
  - Pg 7: “By airport fever screening mediated by NCITs, we implemented mass screening febrile inbound passengers and confirmed by ear temperature readings, obtained the fever prevalence ranged from 0.08 to 0.10% (Table 1).” This is poor grammar.
  - Pg 10: “The peak time period of 0-several months that followed dengue importation”. I would change “0-several months” to “0 to several months”.
  - Pg 11: “Based on the differences in the epidemiological characteristics of pathogens (the infectiousness peaks for SARS cases after the onset of symptoms, whereas the infectiousness that is associated with the influenza virus begins a few hours before the onset of symptoms [12-15] and the viremia of dengue begins one day before the onset of febrile symptoms [1, 20]).” This is poor grammar (it’s not a complete sentence).
  - Pg 11: “could additional delay the local transmission of pandemic influenza”. “Additional” -> “additionally”.
  - Pg 14: “Thought, these procedures might help to mitigate some local dengue transmissions by triaging and targeting”. “Thought” is wrong.
  - Pg 14: “Therefore, we strongly recommend reinforcing mosquito bite prevention in travelers or residents while are recent 2 weeks returning from dengue-endemic areas”. This is poor grammar.

- Discretionary Revisions

  **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**: Yes, and I have assessed the statistics in my report.
Declaration of competing interests:

I declare that I have no competing interests.