Reviewer's report

Title: Associations between Workplace Affiliation and Phlebotomy Practices regarding Patient Identification and Test Request Handling Practices in Primary Healthcare Centres: a Multilevel Model Approach

Version: Date: 23 August 2015

Reviewer: Matthias Hoben

Reviewer's report:

Dear Dr. Nilsson and co-authors,

Thank you for the revisions of your paper, and congratulations to an important and well conducted study. Most of my previous comments are sufficiently addressed. I would like to ask the authors team to further work on the following points which I consider to be major compulsory revisions:

1. Methods, lines 217-218: You report that “The empty model contained estimates only for the random parameters for workplace affiliation”. However, the reader cannot find any details on what those random parameters of workplace affiliation are. Please describe briefly, which parameters you exactly included in the empty model (e.g., facility-level random intercept of adherence with ..., etc.)

2. Methods, lines 220-221: You state that “The adjusted model was created in a manual stepwise backward elimination procedure ...”. I assume you started with the full model, however this is not clearly stated. Can you please clarify in the text?

3. Results, lines 253-255: You report “... that workplace affiliation accounted for 9% to 41% of the total variation between workplaces in self-reported adherence to selected guidelines practices (item 1-4)”. However, the 9% for item 3 are not statistically significant. Therefore, the variance significantly explained by WP affiliation actually ranges from 36% to 41% for three of the four variables, and WP affiliation does not significantly account for variation in comparing patient and test ID in any of the models.

4. Results, line 264: The MOR and ICC that you report do not only indicate a low variance; as they are not statistically significant (which should be stated in this context), they indicate that item 3 does not vary at all on a statistically significant level between different facilities.

5. Results, lines 265-267: You indicate that “When also controlling for individual and PHC characteristics, workplace impact ceased totally for item 3”. Comment 1: Does this refer to the full model? This should be stated. Comment 2: As WP influence was not statistically significant in the empty model already, the statement that it ceased is not correct. WP does not have any statistically significant influence in any of the three models.
6. Results, table 3: The authors should add to table legend a description of which parameters each of the three models includes. The authors should also clearly indicate that the second part of the table (measures of association) refers to the adjusted model (which is currently not clear by itself from the table).

7. Results, line 273: You report that “Women were more likely to adhere to guidelines than men (item 3).” Although the entry in brackets indicates this sentence only refers to item three, the wording is misleading. Women were not more likely than men to adhere to guidelines overall, but they were more likely than men to adhere with the procedure of comparing patient and test ID.

8. Results, line 274: The same comment as above applies here: Staff employed shorter time only were more likely to a) not neglecting to ask for ID with reason “known” and b) compare patient and test ID, not to adhere with guidelines overall.

9. Please fix the above mentioned issues (7 and 8) also for the lines 276-278.

10. Discussion, lines 317-319: You state that “It is reasonable to assume that the phlebotomy staff working at small PHCs met with all of their co-workers more often, and hence contributed to ‘share basic assumptions’ to a greater extent than staff at larger PHCs. It is not clear to me, how this leads to decreased adherence, compared to staff in medium and large facilities.

11. Discussion, lines 333-339: I think the entire statement needs rewording. It is not clear to me what the intended message is.

12. Discussion, lines 354-356: You state that “Further research is warranted on both organizational and individual factors contributing to higher levels of CPG adherence and increased patient safety”. Can you please state what the exact gaps are and what kind of research is warranted?

13. Conclusions, lines 375-376: The authors conclude that “Based on our results, the highest risks for errors in patient ID occurs in small PHCs …”. I am not sure if this is a valid conclusion. Small facilities have lower rates of guideline adherence. However, it should be empirically assessed (or references reporting such results should be cited) if this really increases the error rate or if error rates don’t differ between small and medium/big facilities – despite differences in adherence with certain guideline recommendations.

**Level of interest:** An article whose findings are important to those with closely related research interests

**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