Reviewer's report

**Title:** Dissemination of the nurse-administered Tobacco Tactics intervention versus usual care in six Trinity community hospitals

**Version:** 1  **Date:** 25 December 2011

**Reviewer:** Kelvin Choi

**Reviewer's report:**

Major Compulsory Revisions

1. **Inclusion criteria:** according to the description, any patient who smoked ONE cigarette in the past month would be eligible. Does this include those who did not smoked >100 cigarettes in their lifetime? Given the motivation to quit smoking differ by smoking status (experimenter vs. established smokers), it seems unrealistic to include those who are only experimenting smoking for such an intensive treatment.

2. **Power analysis:** I don’t agree with the authors that this is a quasi-experimental study (since randomization is conducted), and therefore using patient as unit of analysis is not justified. According to the group randomized trial literature, the unit of analysis should be unit of randomization. Simply controlling for clustering of outcome variables by hospital (or hospital unit) does not account for the lack of variation of exposure within an intervention hospital and a comparison hospital.

3. **Identification of barriers and facilitators:** the section on page 11 seems very vague on how to assess the system level and individual level barriers and facilitators of implementation. What theoretical model of implementation will be used? The authors may need to consult the implementation science literature to better understand the potential barriers and facilitators so that they can measure them in the nurse survey.

4. **Sustainability:** the authors provide no information on how to assess potential and actual sustainability of the program after the study. E.g., at the very least, will “ownership” of the intervention by medical staff be measured? Or will they re-contact the master trainers after the study finishes to determine the sustainability of the program?

5. **Training timeline:** the authors did not mention the time frame for training nurses, and the time frame for intervention implementation and testing.

6. **Measures:** the authors provided very little information on process evaluation of the nurse training and intervention implementation. E.g., do nurses feel the training is useful? Do they know more / are they more confidence about dealing with smokers after receiving the training than before? Also, the authors should measure the components of intervention being implemented as a process measure.

7. **Nurse survey:** to my understanding, the each nurse will only be surveyed
once, and will be in rolling fashion. How is this approach going to capture a true representation of barriers and facilitators when some nurses are surveyed shortly after the training and some a few months after?

8. Intention-to-treat analysis: the authors stated that analysis will be conducted based on the intended treatment not actual treatment received. However, they failed to mention a key feature of intention-to-treat analysis, which is when participants are lost to follow-up, the last follow-up value will be carried forward, so that there will be no missing data. In most cases, this is a conservative approach to because in most of the interventions the outcome variables can only occur once (e.g., diagnosis of a disease). However, in this study, intention-to-treat analysis could result in an overestimation of treatment effect. E.g., someone quits at 6 months but is lost to follow-up at 1 year. According to Intention-to-treat analysis, the individual will be assumed to have stated quit. However, the person could also relapse back to smoking, and if this happen, assuming the individual staying quit would result in overestimation of treatment effect. The authors need to address this issue.

9. Data analysis: I don’t agree that hospital units (instead of hospital) should be treated as clusters. The “correct” approach will be to use hospital as unit of analysis instead of simply control for clustering, since this approach does not take into account the homogeneity of treatment within a hospital, and use a substantially larger standard error to estimate the treatment effect. Also, unless the authors can be certain that staff in one unit will never talk to staff in another unit about the training and intervention, the interaction between staff of different units violates the independence assumption of statistical approach to be used.

10. Cost-effectiveness analysis: I think it is premature to conduct this analysis. Given one of the aims of the study is to determine the barriers and facilitators of program implementation, the intervention cannot be assumed to be implemented in its optimal mode, and therefore the effect would be less than optimal. Using such an effect to conduct cost-effective analysis is likely to lead to underestimation of cost-effectiveness. The authors should focus on determining the best way to implement the intervention to maintain its maximum integrity.

Minor Essential Revisions

11. How were the six hospital selected into the study? Why weren’t they randomized in pair but in groups of three? Do all hospitals have emergency services? If not, the types of patients received may differ.

12. Follow-up: the authors stated on page 10 that smokers how do not return surveys will be contacted. Will the Dillman method be used to increase response rate?

13. Intervention: given the complexity of the intervention, it will be very helpful to have a figure showing the time line of a patient in the study.

14. Pharmaceuticals: please provide the details of algorithm used to determine pharmaceuticals stated on page 13.

Discretionary Revisions
15. Inclusion criteria: those who are unwilling to complete the questionnaire, unavailable to participate or refuse to participate are not “excluded”. They are non-respondents.

16. Table 1: please expand the table to show the 3 follow-ups.

17. Table 2: I would suggest removing hospital names, to protect the study from potential bias.

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:

None to report.