Reviewer's report

Title: Discriminant content validity of a Theoretical Domains Framework questionnaire for use in implementation research

Version: 4  Date: 7 October 2013

Reviewer: Rebecca Lawton

Reviewer's report:

Major compulsory revisions

1. The authors provide details about the information that informed the development of the questionnaire items, but the process for item generation is not described. Were themes from the previous interview studies mapped onto the domains and, if so, who did this job. Did the items go through an initial filtering, face validity, sense-check? The development process is not sufficiently specified and, as the basis for the DCV, the item generation process is critical.

2. The second point is related to the first. In the discussion, the authors touch on issues with trying 'to balance representation of the constructs within the domains with a parsimonious questionnaire that could be feasibly used in the field'.

The academic judges might have been able to help here by offering a view on the extent to which they agreed that the items actually measured the constructs. I set myself this task and, for the most part, I felt the balance had been achieved. However, there are two areas in particular where I feel more concerned that the items do not address the construct. The first is emotion. Here the authors ask generally about how the person has been feeling. For example, 'have you recently, during the past two weeks been able to enjoy your normal day-to-day activities?' Thus, the emotion items are not target specific and yet the emotions associated with performing a behaviour are known to influence whether or not that behaviour is enacted. For example if GPs feel embarrassed about discussing PA or nervous about raising the issue with the client, they are less likely to do so perhaps. Whilst, if they feel comfortable, they might. In our work in hospitals, we found these and anticipated emotions (i.e, guilt, regret, pride etc.) were important influences on behaviour. I am concerned that if people adopt this questionnaire as a template they may miss these critical behavioural determinants. With this in mind, I would ask you to highlight this limitation in the discussion section.

The other area where I feel the authors may need to do further work is in adequately representing the construct of environment and resources. Environment and resources is framed entirely in terms of the socio-political context in the final version of the questionnaire. However, from my experience, and based on the definition of this construct that is provided in the paper, the influences in this category are much more varied - do people have access to the
supplies and equipment they need, is the time available to do the task sufficient, is the supervision or monitoring appropriate and do the processes e.g. for referral, for transfer, for communication support the behaviour and so on. I wonder whether the limited perspective on this construct has arisen because the authors have attempted to develop a generic questionnaire, but from interviews about a specific behaviour. It seems likely that this narrow focus has led to a restricted range of items. I think this needs to be acknowledged in the discussion section as an area for further work.

It might be more appropriate to conceive of environment and resources as a higher order factor which influences the social, cognitive and emotional factors that are the more proximal determinants of behaviour.

**Level of interest:** An article of importance 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:**

I declare that I have no competing interests.