Reviewer's report

Title: A review of epidemiologic research assessments of United States Gulf War I era veterans

Version: 2 Date: 9 July 2012

Reviewer: Dean McKenzie

Reviewer's report:

Report

The authors are to be congratulated on a very comprehensive yet highly readable précis of the measures used by epidemiological studies of US Gulf War veterans. I have some comments however, which I would place under Minor Essential Revisions.

Major Compulsory Revisions

None

Minor Essential Revisions

1/ I found at times that the discussion was a little too broad. The section on Validation studies for example, situated just before the Conclusions, mentioned that the reliability and validity of seven studies ranged from fair to excellent agreement. Such terms are rather subjective, and lack detail. In my view it would be better to be more detailed, eg kappa’s (or correlation coefficients, or whatever the relevant measure) ranged from x (which is conventionally regarded by XXX, eg Landis and Koch, Biometrics 1977, 33, 159-174; in the case of kappa coefficients as being fair) to y (which is regarded by XXX as being moderate).

2/ Similarly, it is certainly worthwhile to suggest that further studies use similar instruments, but what about when diverse instruments are used? For example, in the case of PTSD, 6 studies used the CAPS, 4 the PCL, given that there is not huge consensus, what should future studies use. Are there any empirical studies favouring one over the other, should studies go for the shortest or? On the subject of brief instruments, is there anything lost by using the SF-12 rather than SF-36? A slightly more evaluative tone, looking at what should/could be used, as well as what has been used, might well aid planners of future/further studies. Obviously, this would only apply when a wide range of instruments has been used, when there is reasonable consensus as to measures of a particular concept, then those measures should arguably still be used.

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:**

I have no competing interests