Reviewer's report

Title: Lack of a Healthy Soldier Effect in Veterans of U.S. Military Service in Iraq and Afghanistan

Version: 1  Date: 26 September 2014

Reviewer: Michael Waller

Reviewer's report:

Major Compulsory Revisions

Materials and Methods

1. I think this paper needs some more detail on the groups compared.

I think the reader would appreciate some more detail on the non-clinical VHA group. Are all people in this group ex-serving? It is stated that all those with clinical contact were excluded to remove a confounding effect. This makes some sense, however, by excluding ill people from the cohort is there also potential to bias the results in the other direction? After this exclusion who are you left with? Hopefully a clearer description of the rationale for using this group will address these queries.

Did the DOD population only include those still serving in the military in 2011 and those who died while they were still serving?

2. Often in studies like these person-years are used to calculate the expected number of events. Each person is followed-up from a start date until death or the end of follow-up (whichever comes first). These methods have not been described here in this paper. In the methods section it would be useful to know when did follow-up for each participant begin (was date of return from deployment used?). For the younger group, who joined after 2002, was date of enlistment used in calculations at all? How did you account for people who moved into an older age group over the course of the study? If more basic methods have been used, please describe these in the methods further and raise possible limitations regarding the techniques in the discussion.

Results and Discussion.

3. It would be useful to present the length of follow-up of the study in the abstract, results and discussion. When comparing the results to other research this context is important.

4. The results section states that mortality was highest for those 24 and younger, in the VHA cohort. This statement is inconsistent with the crude rates in Table 2.

Minor Essential Revisions
Abstract

1. The abstract is difficult to read due to a large number of abbreviations used. Some of these abbreviations are not defined within the abstract (e.g., VHA, VA). Please consider updating the Methods section of the abstract with this in mind.

The abbreviation VA has not been defined anywhere in the manuscript. It might also be worth spelling out OEF/OIF/OND at least once in the manuscript. Likewise FY11.

Background

2. The authors appear to have missed some references in the background section.

"The HSE has been affirmed in military cohorts from Australia, Korea, Norway[10] and New Zealand[11]. In the Australian study the HSE was found to persist up to 30 years following service".

The studies from Australia and Korea have not been referenced. Also, it is unclear whether the Korea military cohort mentioned is from the Korean armed forces, or a study of another military deployed to conflict in Korea.

Materials and Methods

3. In the outcomes section the numbers (N=14) and (N=402) appear inconsistent with the numbers in Figure 1.

Discretionary Revisions

Background

1. The authors state that no assessment of the HSE has been done in OEF/OIF/OND veterans. An Australian report does document how the mortality of Iraq and Afghanistan veterans compared to the general population (see link) http://www.defence.gov.au/health/home/docs/Middle%20East%20Area%20of%20Operations%20Mortality%20and%20Cancer%20Study%20Final%20v6.pdf

Although not a US study, it may be of interest.

Results

2. Instead of saying 'In VHA, crude rates were highest for Army and Marine Veterans'. You could say crude rates were lowest in Navy Veterans - as this is the clearest difference between the categories of Service).

Level of interest: An article of importance in its field

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