Reviewer's report

Title: Evaluation of mortality among Marines and Navy personnel exposed to contaminated drinking water at USMC Base Camp Lejeune: A retrospective cohort study

Version: 2 Date: 4 January 2014

Reviewer: Ann Aschengrau

Reviewer's report:

This important manuscript provides long-awaited information on the relationship between exposure to contaminated drinking water and mortality from cancer and other chronic diseases among military personnel stationed at Camp Lejeune. The research was well-conceived and soundly conducted and the data were appropriately analyzed. This manuscript should be published once the minor issues described below are addressed.

Minor Essential Revisions:

Abstract:
1. State that “Follow-up for mortality began in 1979 and ended in 2008.”
2. State that “Cause-specific Standardized Mortality Ratio were calculated using U.S. rates as the reference.”

Methods:
Study Population:
1. State the location of Camp Pendleton.
2. Give available evidence documenting that there was no contaminated drinking water at Camp Pendleton. Also comment on the presence of other contaminants/exposures at Camp Pendleton that could affect the mortality rates in that cohort.

Confounder Assessment:
1. Provide available information on the success of the method used to “adjust” the results for unmeasured confounding by smoking in other studies. Are there any validation studies to show how well this method actually works?

Results:
1. Someone will inevitably ask why there were no elevations in male breast cancer mortality in the Camp Lejeune cohort. You might want to respond by stating the reported cluster is comprised of incident cases. A general statement about the distinction between incidence and mortality for other diseases might also be useful.

Discussion:
1. Paragraph 7: The phrase “to address concerns raised by some in the exposed
population” should be clarified.

2. Paragraph 1 of Limitations: Give the range of residence times at Camp Lejeune.

3. Paragraph 4 of Limitations: It would be helpful to show available demographic characteristics of the Camp Lejeune cohort according to cumulative exposure levels. Showing no differences according to known risk factors will bolster the argument that unmeasured factors do not vary by cumulative exposure levels.

4. Conclusion: Mention the need for continued follow-up of the Camp Lejeune cohort.

5. You also might want to mention that inevitable errors in cause of death information are likely to be non-differential.

**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 declare that I have no competing interests.