Reviewer's report

**Title:** Hypothyroidism Among Military Infants Born in Countries of Varied Iodine Nutrition Status

**Version:** 2  **Date:** 20 November 2009

**Reviewer:** Stephen H LaFranchi

Reviewer's report:

General comments:

The authors have generally done an acceptable job of addressing this reviewer’s comments. Their study and the results are still limited by the use of ICD-9 codes to identify infants with hypothyroidism; as the authors acknowledge, they cannot verify the accuracy of coding. In this context, the high incidence of hypothyroidism in these infants remains troubling.

Further, the authors make the assumption that the iodine intake of military personnel is similar to the indigenous population, but they have no measurement of iodine status to verify this. Sources of food different from the indigenous population or addition of dietary supplements or vitamins containing iodine by mothers in the military might explain why they did not find a difference in the incidence of hypothyroidism in the four geographic regions under investigation.

After reading the revised manuscript, the following new comments occur to this reviewer:

Specific comments:

1. Pg 4 (numbered with the title page as page 1, Abstract page as page 2, etc.), bottom: the authors state that the US territories are areas of low iodine intake. However, there is no data from reference 3 to confirm this (as the authors acknowledge in the Discussion [page 9, middle]). In general iodine deficiency occurs in inland, mountainous regions, whereas coastal or islands next to the ocean have sufficient or high iodine intake (e.g. Japan). Thus, I would suspect that the US territories of American Samoa, Federated States of Micronesia, Guam, Marshall Islands, Northern Mariana Islands, Palau, Puerto Rico, and US Virgin Islands fall in the latter category. I recommend that the authors modify their statement acknowledging that there is no data on iodine status in the US territories.

2. Pg 5, after Methods: The most likely reason for an ICD-9 designation of hypothyroidism in infants is detection through newborn screening. I assume that infants born in all of the regions studied undergo newborn screening for congenital hypothyroidism, including the infants born in US Territories. If correct, a statement to this effect should be added somewhere in the Methods section.

3. Pg 6, bottom half: Some detail about sources of iodine in the military personnel
should be added here. For example, do military personnel have the same food sources as the indigenous population, or do they have a separate food source (i.e. buy groceries on a military base). Also, the information in the cover letter regarding intake of prenatal vitamins should be added here.

**Level of interest:** An article whose findings are important to those with closely related research interests

**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.