Reviewer’s report

Title: Communicating Serum Chemical Concentrations to Study Participants

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Reviewer: James Collins

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Communicating Serum Chemical Concentrations to Study Participants

This commentary discusses methods for communicating biomonitoring exposure results to study subjects when hazardous levels are not known. The authors use as case study of a group of women examined for DEE, PCB, and lead exposures and followed from preconception through pregnancy or 12 menstrual cycles. Two different letters, one to high level women and one to low level women, were sent and discussed how best to minimize exposure from fish consumption. There were no concerns communicated to the authors from the study subjects about the communication. The authors conclude that individual concentrations, when the potential risk for adverse health outcomes is unknown, can be given to study subjects without causing concern.

The authors should consider the following:

1. The authors should discuss the length of the communication given and the number of PCBs examined. The authors mention 5 PCBs most of which are "non-toxic" (don't have a TEF) which I suspect are high in the area or in the fish. It would be helpful to know why these PCBs were chosen. Do the authors recommend reporting all information or a select subset so as not to confuse the study subjects? For example a sum of 76 PCBs (page 7) does not seem to really useful information, but may provide some idea of overall levels. A discussion of communicating most important information versus all information would be useful.

2. From the write, it looks like PCB118 is dioxin-like PCB. Was there special communication around this PCB?

3. Were the blood lead results handled differently than the PCBs and DDE since there is a level of concern for this metal?

4. The authors should present more of the background of the study involved in the communication including how the PCB and DDE levels compared to US averages. What were the major findings and why was PCB levels in fish mentioned in the communication.

5. Since there is thought to be some health benefits to consuming fish, was this mentioned in the communication either by the authors or the State.

6. A sample letter in text would be most helpful. Most investigators write this letter themselves and the form and content of the letters in this study would be
helpful for other investigations.

7. Is it correct (page 7) to say when the DDE or a PCB was below the limit of detection that the serum concentration was "below those usually found in other groups..." It could be that amount of serum in that sample was too small to detect the compound.

**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:**

No conflicts