My name is Dr. Seun Ajiboye. I am the Director of Science Policy and Government Affairs at the American Association for Dental Research - AADR. Thank you for this important contribution to research on the health effects of fluoride exposure. The committee should remember that the results of this monograph will likely influence the decision of local governments to fluoridate their water supplies, public support for fluoridation and how safe people feel drinking tap water. Therefore, the committee should carefully and accurately state the conclusions of this study because of its far-reaching implications. I would like to submit the following brief comments on behalf of my organization.

First, while this was a well-conducted systematic review, the conclusions are based on a range of studies – some poorly designed and the JAMA Pediatrics paper by Green and colleagues that also has significant weaknesses. The direction of the evidence is largely consistent, but confidence in the evidence base is significantly limited by the relatively small size of the effects, the range of the confidence limits, and inconsistencies regarding fluoride exposure determinations and IQ testing methodologies; also potential lack of information about blinding and other biases, subject and parental demographics, characteristics, exposures, and confounders relevant to IQ; and lack of a plausible biological mechanism.

Second, it is important that the final monograph begin with an accurate statement of the dose-dependent effect of fluoride exposure on IQ. The first sentence of the Conclusion currently states that “fluoride is presumed to be a cognitive neurodevelopmental hazard to humans”. However, a more accurate description of the systematic review results is given in subsequent sentences – that higher fluoride exposure is associated with decreased IQ whereas studies with exposure in the range expected from community water fluoridation in the United States were inconsistent, and therefore unclear. The committee should consider how the public and the media will read these results and that the more sensational first sentence will make headlines while few will take the time to read the more nuanced results. This committee is charged with the scientific analysis of the study results, but as scientists, responsible communication is part of our duty.

Therefore, AADR recommends revising the first sentence to read, “The NTP study fails to find a consistent relationship between IQ and fluoride exposure within the range expected from community water fluoridation. However, fluoride exposure above these levels is presumed to be a cognitive neurodevelopmental hazard to humans.”

Lastly, the committee should weigh the benefits as well as the risks of fluoride exposure, especially given that studies on exposure in the range expected from community water fluoridation are inconsistent, and therefore unclear. Community water fluoridation is an effective population-level intervention for the prevention of dental caries. Community water fluoridation is considered one of 10 great public health achievements of the 20th century and is responsible for the substantial decline in tooth decay since its inception. Studies have shown that it is still an effective preventive measure even with pervasive use of fluoride toothpaste and that rescinding water fluoridation is associated with increased dental costs for tooth decay treatment.
Fluoride is not lead, and the monograph should include a risk-benefit analysis of fluoride exposure at the levels expected from community water fluoridation. AADR notes that the committee roster does not include any dentists or oral health researchers that could speak to the scientific evidence supporting the benefits of fluoride. AADR recommends that the committee consult such expertise in the course of its deliberations.

Thank you for the opportunity to comment.