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Dear Dr. Robison:

On behalf of the 3,400 individual and 103 institutional members of the American Association for Dental Research (AADR), thank you for the opportunity to submit comments on “Proposed Guidance Regarding Operational Control Range Around Optimal Fluoride Concentration in Community Water Systems That Adjust Fluoride” (docket number CDC-2018-0064). We applaud CDC’s responsiveness to requests from state water fluoridation and drinking water programs for guidance on how to properly adhere to water fluoridation recommendations. After reviewing the guidance AADR supports the proposed operational control range of 0.6-1.0 mg/L as an interim recommendation and encourages the CDC to conduct more research on a representative sample of water systems to assess the variance of water fluoride levels and reasons behind variance with the goal of working towards a narrower range of 0.6-0.8 mg/L.

In 2018, the AADR Council approved a policy statement strongly supporting community water fluoridation for its safety, effectiveness for dental caries prevention, cost-effectiveness and potential to reduce oral health disparities. This statement supports the 2015 recommendation of the United States Public Health Service (USPHS) for a single concentration of 0.7 milligrams fluoride per liter of water (mg/L) to optimize prevention of dental caries while minimizing the risk of severe dental fluorosis.

AADR recognizes that assessments from the National Research Council, the Environmental Protection Agency and cited in the USPHS 2015 recommendation conclude that the risk of severe dental fluorosis – the adverse health effect to be prevented – is essentially zero below 2.0 mg/L. However, part of the rationale behind the reduced fluoride recommendation was to reduce the risk of milder forms of fluorosis. USPHS cited data from the 1999-2004 National Health and Nutrition Examination Survey (NHANES) and the Oral Health of United States Children survey, 1986–1987 indicating an increase of primarily very mild and mild fluorosis. The recommendation recognized that people were exposed to fluoride from multiple sources, and therefore, it was appropriate to reduce the contribution of drinking water to total fluoride intake. In support of this goal, a narrower operational control range that encourages water systems to closely adhere to the recommended 0.7 mg/L level would be appropriate.
Furthermore, data cited in the “Background Information” for this guidance has shown that a narrower range is possible. Before 1995, the recommended operational control range for systems fluoridated to 0.7 mg/L was 0.6-0.8 mg/L. Data from Barker et al., upon which the asymmetric control range is based, show that as of 2015, 45% of adjusted water systems were already using a target concentration of 0.7 mg/L and a ±0.1 mg/L operational control range. The “Background Information” cites two studies in California showing that “at least 80% of the reported daily average fluoride levels in a month were able to meet the state’s required operational control range of ±0.1 mg/L”. Furthermore, state requirements seem to be a key factor for successfully adhering to narrower ranges in addition to equipment capabilities or environmental sources of variation. Barker et al.’s assessment was that systems would be able to adhere to a narrower control range (in this case ±0.15 mg/L) if it was required by the state. Since water systems have demonstrated that adherence to 0.6-0.8 mg/L is possible, CDC should provide guidance based on the practices and experiences of systems using a ±0.1 mg/L operational control range. This information will be especially useful if the trend towards a narrower range as adoption of the 0.7 mg/L recommendation continues.

However, public perception of the safety of fluoridation and water supplies is also an important consideration. A higher upper limit of 1.0 mg/L sends the message that slight overfeeding above 0.7 mg/L is not toxic. A lower upper limit of 0.8 mg/L may send the opposite message, which is not supported by research. On the other hand, a narrow range does assure the public that CDC and water system operators are working to minimize additives to water supplies, which seems to be congruent with the current public attitude regarding drinking water. This is why understanding the variance around water fluoride levels is so important.

Based on these considerations and the need to balance various priorities, AADR would support the following course of action:

1) Temporarily finalize the guidance with the proposed asymmetric operational range of 0.6-1.0 mg/L with a commitment to more research to revise the range as appropriate.

2) Conduct a study of a representative sample of water operators and assess the degree of error in the fluoridation process and reasons behind errors. CDC should also coordinate research efforts with the National Institute of Dental and Craniofacial Research and other Health and Human Service agencies to improve and expand current surveillance of community water fluoridation, dental caries and dental fluorosis, as proposed in the 2015 PHS recommendations.

3) Request and encourage additional training of water system operators to reduce error, and

4) Review the recommendations after new data are available to determine if a narrower range is appropriate.

Thank you for the opportunity to provide feedback and for your thoughtful consideration of these comments. We stand ready to work with your office as these guidelines are revised and finalized. Please do not hesitate to contact Director of Science Policy and Government Affairs, Dr. Seun Ajiboye, at sajiboye@iadr.org with any further questions.
Sincerely,

[Signature]

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References


