Reply to Dr. Horowitz's Commentary

William R. Maas, DDS, MPH, MS

Dr. Horowitz's commentary (1) reveals the complex issues and conflicting evidence that CDC and its work group considered when preparing these recommendations. The work group, which included scientists currently active in fluoride research who were well informed about clinical and public health fluoride practices in the United States, met several times to review current scientific information and share diverse opinions. The group considered input from many outside reviewers and reviewed multiple drafts of the report and recommendations during the process of developing the final document. Work group members have read Dr. Horowitz's commentary and this response, and believe it is important and appropriate for CDC to reply.

Although Dr. Horowitz criticizes the recommendations for failing to help "health care providers achieve maximum protection from caries," this goal was not their sole purpose. Rather, the recommendations were intended to guide dental and other health care providers, public health officials, policy makers, and the public in using fluoride to achieve maximum protection against dental caries, while using resources efficiently and reducing the likelihood of enamel fluorosis. Few studies assess any two of these objectives, let alone all three. The work group used its best judgment to identify appropriate "target populations" for the interventions. In the end, the group reached consensus on the recommendations and the table that summarized the quality of evidence and strength of recommendations.

While the recommendations alone should be adequate to guide health care providers, public health officials, and the public, close examination of the full report should benefit all who wish to have a deeper understanding of the rationale for the recommendations. Although references supporting each statement were carefully cited, the report clearly explained that a systematic review of the literature was not conducted. Even so, subsequently published systematic reviews that address limited topics related to this report have reached similar conclusions. The commentary references six studies published after the expert panel had completed its deliberations. Clearly, the justification of recommendations is always subject to new scientific findings and health professionals must attend to new information on important issues. Nevertheless, in that spirit, we are not aware of any recent peer-reviewed reports that would justify changing our recommendations.

The recommendations are based both on caries risk, because of evidence that the underlying caries risk will affect the effectiveness (and cost effectiveness) of caries prevention, as well as enamel fluorosis risk, as established by scientific studies. Risk assessment recommendations are predicated on a belief that practitioners can be quite perceptive in identifying those at low risk for dental caries who are unlikely to require fluoride modalities beyond community water fluoridation and twice daily use of fluoride toothpaste. Since cost effectiveness is an attribute that was addressed directly by only a few of the studies reviewed, the recommendations regarding the target population for each modality represented the informed opinions of work group members. For that reason, the quality of evidence for targeting some modalities to populations at high risk was appropriately described as grade III.

With regard to the recommendations for dietary fluoride supplements for children of different ages, the rationale for each was provided by the scientific evidence, which was evaluated and weighted without concern for whether a future reader would find it to be "paradoxical." Those interested in learning more about the basis for the work group's recommendations can review the references cited in support of each statement. While Dr. Horowitz demonstrates that it is possible to describe a fluoride supplement decision scenario that creates an "imponderable dilemma" for parents and care providers, the evidence does not support a simple decision rule that would avoid the need for dialogue with parents. The prudent practitioner will ensure that the parent's decision is a fully informed one, following open discussion of assessment of risk and thoughtful consideration by both parties of the options and possible outcomes.

Finally, while we are aware that most enamel fluorosis in the United States is of the very mild and mild forms, we do not believe it should be trivialized. We are hopeful that implementation of the recommendations will lead to a lower prevalence of all forms of enamel fluorosis while retaining optimal caries prevention, similar to the results recently reported by Riordan (2). We also hope more efficient use of limited resources will permit shifting some of these resources to improve coverage of dental sealants and offer more intensive preventive treatments for persons at high risk of caries. We wholeheartedly agree with Dr. Horowitz's implied call for greater, more effective education of target audiences, and we have begun to work toward that goal within the constraints imposed by finite resources. We believe the scientific grounding and the clear, unequivocal recommendations of the CDC report provide a strong basis for these educational efforts, and we call upon all readers to contribute to such efforts within their areas of responsibility.

Send correspondence to Dr. Maas, Director, Division of Oral Health, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention, 4770 Buford Highway, NE, Mailstop F-10, Atlanta, GA 30341. E-mail: wmaas@cdc.gov. [J Public Health Dent 2003;63(1):9-10]

References

1. Horowitz HS. A commentary on the 2001 CDC recommendations for using fluoride to prevent and control dental caries in the United States. J Public Health Dent 2003;63:3-4.
2. Riordan PJ. Dental fluorosis decline after changes to supplement and fluoride regimens. Community Dent Oral Epidemiol 2002;30:233-40.