

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

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COMMUNITY WATER FLUORIDATION
AND
TOTAL FLUORIDE INTAKE

During the past few months, opponents of fluoridation have been circulating statements attributed to Mr. Ralph Nader questioning various aspects of fluoridation and charging failure of the Public Health Service to answer inquiries on these points. One of these items is in the form of a press release being circulated by letters addressed "Dear Friend" on a letterhead of the National Alliance Against Fluoridation with the instructions: "Please indicate to the newspaper that you had a meeting or conference at which this news was presented. Telephone conference would suffice irrespective of numbers of individuals involved."

A Congressional Subcommittee recently called attention to the alleged statements, and, while indicating personal support of fluoridation, asked what was being done to rebut such statements.

The scientific literature provides ample evidence of attention to the issues raised. The information provided by Viron L. Diefenbach, D.D.S., Assistant Surgeon General, in response to the alleged statements has been extracted from the Congressional testimony as an enclosure to this memo.

Division of Dental Health
Community Programs Branch
9000 Rockville Pike
Bethesda, Maryland 20014

Enclosure

COMMUNITY WATER FLUORIDATION AND TOTAL FLUORIDE INTAKE^{*}

In determining the fluoride level for drinking water which will have optimal dental health benefits but no adverse effects, the intake of fluoride from dietary sources has been taken into account. Studies have shown that the average diets of children and adults provide from one-fifth to one-half milligram of fluoride per day.¹⁻⁶ Further information on adult dietary fluoride intake is being obtained in a current Public Health Service-supported study. Atmospheric fluoride has been found to contribute relatively little to human intake (maximum: 0.046 milligram per day).⁷⁻¹¹ The available fluoride from pharmaceuticals, other than from those formulated as fluoride supplements for specific and known therapeutic use, is negligible.¹²

Because fluorides occur so commonly as natural constituents of water supplies, research scientists have had a great natural laboratory in which to work for several decades.¹³⁻²⁰ Studies of large numbers of long-time residents have been made in areas of the United States having naturally fluoridated water with up to 8 parts per million or more fluoride. In these areas, the water was used for drinking, cooking, and food processing. These studies include ten-year medical investigations of large groups of individuals, roentgenologic surveys for bone changes, postmortem examinations and chemical analyses of tissues, and metabolic assessments.²¹⁻³² Extensive research also has been done using laboratory animals.³³⁻³⁴ Health statistics in high-fluoride and low-fluoride areas have been compared.³⁵⁻³⁶ The findings from these studies have provided consistent evidence that, in addition to all food and ambient sources of fluoride, humans may daily ingest water having up to at least eight times the amount of fluoride provided by optimally fluoridated water without adverse effect other than mottling of tooth enamel. Mottling, however, does not result from the use of optimally fluoridated water.³⁷⁻³⁹

^{*}Excerpt from testimony of Viron L. Diefenbach, D.D.S., Assistant Surgeon General, at Hearings before a Subcommittee of the Committee on Appropriations, House of Representatives, Ninety-First Congress, Second Session, 1970.

The Food and Nutrition Board of the National Research Council has stated that fluoride is a normal constituent of all diets and is an essential nutrient (1968).⁴⁰ The American Institute of Nutrition has recognized fluoridation as a safe, effective, and low-cost means of improving nutrition.⁴¹ The U. S. Department of Agriculture Extension Service regards fluoridation as an important community health benefit.⁴² Each of these organizations is directly concerned with proper nutrition; each endorses community water fluoridation.

In recognition of the dental benefits that accrue from fluoridation--benefits which continue in adult life⁴³⁻⁴⁵--the United States Army, Navy and Air Force provide fluoridated water at all bases where children are in regular residence.⁴⁹⁻⁴⁸ For the military personnel who come to the bases at an age when water fluoridation is not effective, the Armed Forces have a dental preventive program which includes the clinical application and personal use of fluorides.⁴⁹⁻⁵¹

Dental researchers who are exploring new techniques for combating tooth decay are not seeking to supplant water fluoridation. Rather, their successes will provide decay resistance for persons who have not had the protective benefits of water fluoridation and possibly provide some additional resistance for those who have.⁵²⁻⁶¹ However, not all of the new decay preventive methods envisioned will be adaptable to public health.⁶²

The policy of the Public Health Service on fluorides and fluoridation is founded on extensive scientific knowledge. The Service makes every effort to develop, obtain, and evaluate current relevant information by supporting research, by reviewing current scientific literature and the popular press, and through interdisciplinary contacts with other governmental and professional organizations. The Service also makes every effort to share what is learned through these mechanisms with interested organizations, institutions and individuals.

Fluoridation has undergone a nearly constant process of reevaluation since its inception. Detailed reports have been published on all aspects of fluoridation from cities in the United States and other countries that have been fluoridating for 25 years, and from others with extensive but shorter

experience.⁶³⁻⁶⁴ Publications of the National Council and the American Association for the Advancement of Science concerning the relationship of fluorides to dental health and general health appeared as early as 1942 and as recently as 1968.⁴⁻⁴⁰⁻⁶⁵⁻⁷⁰

The accumulated dental, medical, and public health evidence concerning fluoridation has been reviewed and judged at various times by committees of experts and special councils of most of the world's major national health organizations. Their findings and conclusions are public information.⁷¹⁻⁷² In several of the more than 30 other countries where fluoridation is practiced or planned, commissions have been appointed to obtain and review all information relevant to fluoridation and to make recommendations according to their findings. Some of these commissions made special efforts to seek out and consider the statements of both professional and lay critics of fluoridation. Such commissions reported to their respective governments in Great Britain in 1952 and 1962; in Canada in 1955 and 1961; in New Zealand in 1957; in Australia in 1954, 1963, and 1968; in Ireland in 1960; in South Africa in 1966; and in Norway in 1968.⁷³⁻⁸³ In July 1969, the delegates to the World Health Organization of the United Nations, meeting as a body, considered the Director General's evaluatory report on water fluoridation.⁸⁴ They approved a resolution, co-sponsored by 37 nations, that embodied their findings and recommendations, which, like those of the other commissions, supported and encouraged fluoridation of community water supplies.⁸⁵

The impressive body of information available concerning community water fluoridation and fluorides is constantly increasing and continues to support the validity of community water fluoridation as a safe and effective public health measure.⁸⁶ There is no evidential basis for questioning the medical safety, effectiveness, and practicality of community water fluoridation as a public health measure for preventing dental caries.

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Errata

The following typographical errors appear in the preceding testimony as printed:

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|----------------|---|
| page 2 - 49-48 | should be 46-48 |
| page 5 - 16 | edemic should be endemic |
| page 8 - 58 | Sumnicht should be Sunnicht |
| page 9 - 67 | fluorilation should be fluoridation |
| page 9 - 73 | Stationary should be Stationery |
| page 10 - 84 | 23 - - - - should be 23:502-512, November 1969. |