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DOMESTIC WATER AND DENTAL CARIES¹

V. Additional Studies of the Relation of Fluoride Domestic Waters to Dental Caries Experience in 4,425 White Children, Aged 12 to 14 Years, of 13 Cities in 4 States

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Recent reports (1, 2) have pointed out an inverse relationship between the fluoride content of the public water supply and the dental caries experience of those children continuously using such waters throughout life. A further study of this phenomenon has been made in 21 cities of 4 States where the public water supplies varied not only in fluoride content but with respect to other mineral constituents as well.

A portion of this investigation—a study of 2,832 children in 8 suburban Chicago communities—has recently been reported (3). The present paper records the findings observed in 4,425 additional children of 13 other cities, bringing the total number of white urban school children, aged 12 to 14 years, examined to 7,257. All were examined by one or the other of two dental examiners (D. C. J. and E. M. S.), each examining approximately an equal number of children in each city.

The same methods used in the study of the 8 suburban Chicago communities with respect to age, sex, color, continuity of exposure, and other epidemiological factors discussed in detail in that report (3) were followed in the study of the 13 additional cities which form

¹ From the Division of Infectious Diseases with the cooperation of the Division of Chemistry, National Institute of Health. Preceding papers in this series are:

Dean, H. T., Jay, P., Arnold, F. A., Jr., and Elvove, E.: Domestic water and dental caries. I. A dental caries study, including *L. acidophilus* estimations, of a population severely affected by mottled enamel and which for the past 12 years has used a fluoride-free water. Pub. Health Rep., 56: 365-381 (1941).

Dean, H. T., Jay, P., Arnold, F. A., Jr., and Elvove, E.: Domestic water and dental caries. II. A study of 2,832 white children, aged 12 to 14 years, of 8 suburban Chicago communities, including *Lactobacillus acidophilus* studies of 1,761 children. Pub. Health Rep., 56: 761-792 (1941).

McClure, F. J.: Domestic water and dental caries. III. Fluorine in human saliva. Am. J. Dis. Child., 52: 512 (1941).

Arnold, F. A., Jr., Dean, H. T., and Elvove, E.: Domestic water and dental caries. IV. Effect of increasing the fluoride content of a common water supply on the *Lactobacillus acidophilus* counts of the saliva. Pub. Health Rep., 57: 773-780 (1942).