

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Public Health Service

Health Resources Administration

Refer: FL-75
March 1975

NATIONAL CANCER INSTITUTE RESEARCHERS REAFFIRM:
NO EVIDENCE OF CANCER HAZARD IN FLUORIDATION

Opponents of fluoridation have recently circulated a reprint made available by the National Health Federation which includes an allegation that U.S. cancer death rates are highest in fluoridated cities, and cites a statistical report issued by the National Cancer Institute in 1974. The originators of the 1974 report on cancer mortality rates, researchers in the Epidemiology Branch of the National Cancer Institute, have reviewed the statistics presented in the reprint from the National Health Federation. These scientists have pointed out factual errors in the reprint and have noted the neglect of important environmental and social variables. Also, they have shown that when additional cancer mortality data from some other large cities are included, the alleged correlation is nullified. Their analysis concludes with this statement:

. . . Results of this analysis fail to support any suspicion of hazard associated with fluoridation. In fact, the results in themselves might rather suggest protection. The situation is obviously much more complex than this, but it can be confidently concluded that these data do not support any suspicion of carcinogenic hazard associated with fluoridation.

The complete text of the National Cancer Institute memorandum is enclosed.

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Enclosure

MEMORANDUM

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

TO : Director, Division of Dentistry
Bureau of Health Resources Development DATE: March 5, 1975
Health Resources Administration

FROM : Epidemiology Branch
National Cancer Institute
National Institutes of Health

SUBJECT: Evaluation of statistical presentation from the National Health Federation

The recent one-page handout from the National Health Federation lists 8 major U.S. cities and implies that there is some relationship between the presence or absence of artificial fluoridation in these cities and their cancer death rates among white males. This is done by noting that 6 of the 8 cities have fluoridated water systems and that the counties containing these cities all have a cancer death rate among white males from 18 to 34 percent higher than that for the total U.S. In addition, the 2 cities listed without fluoridation are stated to have death rates which are equal to or lower than the total U.S. rate.

The criticism of this handout can be broken into three parts:

1. Pointing out factual errors in the presentation, 2. Briefly discussing the difficulties in going from these observations to statements concerning association and causality, and 3. Presenting some additional data which lead to a contrary conclusion than that offered in this handout.

First of all, this listing states that it is concerned with cities of over 1,000,000 population. It is difficult to see how this was determined since the 1960 census does not indicate that Baltimore, Cleveland or Houston had 1,000,000 or more population. Secondly, the cancer death rate for Houston, which is quoted at being 27% lower than the U.S. rate, is incorrect. The NHF evidently used the rate for Houston County, which does not contain Houston city. The rate for Harris County, Texas, which does include Houston, is in fact 8% higher than the national average for white males.

Interpretation of the data presented should be done bearing in mind two major points. Much of the excess in the cities with high rates that are cited is due to an excess of lung cancer. The reasons for this are undoubtedly various parameters associated with the industrialization of these cities and not related to anything in the drinking water. The second point to keep in mind, in any epidemiologic observation, is that other variables of import need to be considered. For instance, in the series presented in this handout, the cities that are fluoridated are also cities that have been industrialized much longer than the nonfluoridated cities that are selected. In addition, there are social class and ethnic differences between the fluoridated and nonfluoridated areas that

Director, Division of Dentistry

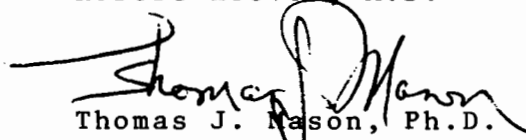
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need to be accommodated in any critical review of an hypothesized role of fluoridation.

With available data, some of the difficulties outlined in the above paragraph may be minimized. Specifically, if one includes all cities greater than 500,000 in 1960, the number of non-fluoridated cities available for comparison is increased. In addition, three of these nonfluoridated cities (Boston, Cincinnati, and New Orleans) are more similar to the fluoridated cities used in the current study with respect to socio-economic class and duration of industrialization. In fact, these three cities have rates which are 28%, 17%, and 32% higher respectively, than the for the total U.S.--all of these being in the general area of the excess rates for the fluoridated cities quoted. We were also able to characterize the mortality rates from cancer for these cities greater than 500,000 for each of four 5-year periods making up the total 20-year rate. There were 8 cities in which we could compare a rate in a nonfluoridated period with that for the total. When this is done, the average excess of mortality (compared with the total U.S. mortality) in the nonfluoridated period was equal to or greater than the excess in the entire 20-year period for 7 of the 8 cities. This methodology, comparing each city with itself, allows for at least partial control of many of the factors mentioned in the previous paragraph. Results of this analysis fail to support any suspicion of hazard associated with fluoridation. In fact, the results in themselves might rather suggest protection. The situation is obviously much more complex than this, but it can be confidently concluded that these data do not support any suspicion of carcinogenic hazard associated with fluoridation.


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