


TO: HONORABLE MAYOR AND BOARD OF DIRECTORS

FROM: BRUCE T. MOORE, CITY MANAGER 

SUBJECT: FLUORIDATION IN THE CITY OF LITTLE ROCK DRINKING WATER

DATE: JANUARY 20, 2006

The request was made at the January 10, 2006, Board of Director Meeting for staff to request an update from Central Arkansas Water regarding the amount of fluoridation in the drinking water and to provide any reports that may be available regarding possible side effects.

Attached for your review are the following documents related to the fluoridation of the drinking water:

- Resolution from the Little Rock City Council, September 11, 1950
- Memorandum from Mr. Les Jackson, Little Rock Municipal Water Works, February 11, 1958
- House Bill 2627, 2005 Regular Session, 85th General Assembly
- Testimony before the Joint Interior Committee on Health, Welfare, and Labor, Arkansas State Legislature by Dr. Williams R. Mass, Director, Division of Oral Health for the National Center of Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention
- U.S. Surgeon General Statement of Community Water Fluoridation.
- Article from the *Arkansas Democrat-Gazette* 'State to Study Fluoride in Water'
- Letter from the American Dental Association to dispel misinformation from those who oppose one of the country's greatest public health achievements
- Article from the Center for Disease Control, 'Ten Great Public Health Achievements – United States, 1900 – 1999'
- Testimony by Mr. Kip Duchon, P.E., National Fluoridation Engineer, Division of Oral Health for the National Center of Chronic Disease Prevention and Health Promotion, Centers for Disease Control and

Prevention "Engineering Considerations Related to Community Water Fluoridation"

- Testimony of Dr. Lynn Mouden, Director of Oral Health, Arkansas Department of Health, who is available to address the Board of Directors to answer any further questions.

If additional information is needed, please advise.

R E S O L U T I O N
NO. 1893.

A RESOLUTION APPROVING THE INTRODUCTION OF FLUORIDE ION INTO THE LITTLE ROCK WATER SUPPLY BY THE BOARD OF WATER WORKS COMMISSIONERS OF THE CITY OF LITTLE ROCK, ARKANSAS:

WHEREAS, the application of fluoride ion to a water supply to reduce dental caries has been approved by the Little Rock City Health Department, the State Health Department, the Pulaski County Medical Society, and the Central District Dental Society, and;

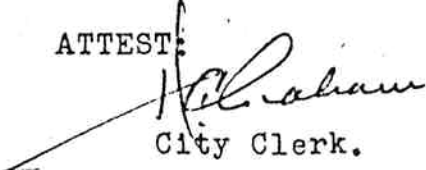
WHEREAS, it is the consensus of opinion among technicians and health authorities that a maximum concentration of one and one-half ($1\frac{1}{2}$) parts per million of fluoride ion is permissible;-

NOW, THEREFORE, BE IT RESOLVED, by the City Council of the City of Little Rock, Arkansas, that the application of fluoride ion up to one and one-half ($1\frac{1}{2}$) parts per million concentration after treatment to the Little Rock water supply be approved.

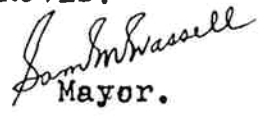
BE IT FURTHER RESOLVED, that a copy of this Resolution be sent to the Board of Water Works Commissioners of the Little Rock Municipal Water Works.

ADOPTED: September 11, 1950.

ATTEST:


City Clerk.

APPROVED:


Mayor.

February 11, 1958

MEMORANDUM

RE: FLUORIDATION

21 ppm
The application of fluorides in the Little Rock Water Supply was started on March 22, 1951.

Little Rock followed the following policy and procedure recommended by the American Water Works Association --

IN COMMUNITIES WHERE A STRONG PUBLIC DEMAND HAS DEVELOPED AND THE PROCEDURE HAS THE FULL APPROVAL OF THE LOCAL MEDICAL AND DENTAL SOCIETIES, THE LOCAL AND STATE HEALTH AUTHORITIES, AND OTHERS RESPONSIBLE FOR THE COMMUNAL HEALTH, WATER DEPARTMENTS OR COMPANIES MAY PROPERLY PARTICIPATE IN A PROGRAM OF FLUORIDATION OF PUBLIC WATER SUPPLIES.

Before Resolution No. 1893, adopted September 11, 1950, was passed by the City Council, endorsements approving fluoridation were received from the Little Rock City Health Department; the State Health Department; the Pulaski County Medical Society; the Central District Dental Society; local Medical Association and others.

COST -- For the year 1957, the cost of the application was \$7,959.55, or about .04¢ per capita, per year.

Since fluoridation of public water supplies has been practiced, it has been endorsed by the following associations:

American Academy of Pediatrics
American Association for the Advancement of Science
American Cancer Society
American College of Dentists
American Dental Association
American Hospital Association
American Medical Association
American Nurses Association
American Pharmaceutical Association
American Public Health Association
American Public Welfare Association
American School Health Association
American Society of Dentistry for Children
American Water Works Association
College of American Pathologists
Commission on Chronic Illness

Conference of State Sanitary Engineers
Industrial Medical Association
Inter-Association Committee on Health
National Institute of Municipal Law Officers
National Research Council
State and Territorial Health Officers Association
American Federation of Labor and Congress of Industrial
Organizations (A.F.L.-C.I.O.)
American Legion
Child Study Association of America
Joint Committee on Health Problems of the American Medical
Association and the National Education Association
National Congress of Parents and Teachers
United States Junior Chamber of Commerce
Heads of Departments of Preventive Medicine at 68 accredited
medical colleges

In following the policy recommended by the American Water Works Association, the Board and Management of the water utility have followed the wishes of the interested agencies and if the City Board of Directors and City Manager want to discontinue the treatment, I feel that the Board would comply with your wishes.

Due to the widespread acceptance of fluoridation as standard water treatment, my personal feeling is that it would be a step backward to discontinue the treatment for a minority group.

A handwritten signature in cursive script, appearing to read "J. C. Johnson". The signature is written in dark ink and is positioned in the lower right quadrant of the page.

Stricken language would be deleted from and underlined language would be added to the law as it existed prior to this session of the General Assembly.

1 State of Arkansas
2 85th General Assembly
3 Regular Session, 2005
4

As Engrossed: H3/11/05
A Bill

HOUSE BILL 2627

5 By: Representatives Roebuck, Bradford, Borhauer, Dickinson, Flowers, Goss, Hardwick, Hardy, J.
6 Johnson, Mahony, McDaniel, S. Prater, Ragland, Reep, Willis, Wood
7

8
9 **For An Act To Be Entitled**

10 AN ACT TO REQUIRE CERTAIN PUBLIC WATER SUPPLIES
11 TO MAINTAIN A LEVEL OF FLUORIDE TO PREVENT TOOTH
12 DECAY; AND FOR OTHER PURPOSES.
13

14 **Subtitle**

15 AN ACT TO REQUIRE CERTAIN PUBLIC WATER
16 SUPPLIES TO MAINTAIN A LEVEL OF FLUORIDE
17 TO PREVENT TOOTH DECAY.
18
19

Dr. Lynn Mouden
66d-2595
Director of Oral Health

20 BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF ARKANSAS:
21

22 SECTION 1. Arkansas Code Title 20, Chapter 7, Subchapter 1 is amended
23 to add an additional section to read as follows:

24 20-7-136. Statewide fluoridation program.

25 (a) The General Assembly find that promotion of the public health of
26 Arkansas residents of all ages by protection and maintenance of dental health
27 through the fluoridation of drinking water is a paramount issue of statewide
28 concern.

29 (b) It is the intent of the General Assembly to:

30 (1) Preempt local government regulations, ordinances, and
31 initiatives that prohibit or restrict the fluoridation of drinking water by
32 water systems serving five thousand (5,000) or more persons; and

33 (2) Decrease the burden that the Arkansas Medicaid and ARKids
34 First Programs place upon the state's limited funds.

35 (c) For the purpose of promoting public health through prevention of
36 tooth decay, whenever the fluoride content of water supplies serving five



1 thousand (5,000) or more persons, including consecutive supplies, provides
2 less than seven-tenths of a milligram per liter (0.7 mg/l) of fluoride, the
3 person, firm, corporation, or municipality having jurisdiction over a water
4 supply whether publicly or privately owned or operated shall control the
5 quantities of fluoride in the water so as to maintain a fluoride content
6 prescribed by the Department of Health.

7 (d) The department shall promulgate rules relating to the fluoridation
8 of water supplies that shall include, but not be limited to:

9 (1)(A) The minimum and maximum permissible concentrations of
10 fluoride to be maintained by a water supply.

11 (B) The minimum permissible concentration of fluoride
12 shall not be less than seven-tenths of a milligram per liter (0.7 mg/l).

13 (C) The maximum permissible concentration of fluoride
14 shall not be greater than 1.2 milligrams per liter (1.2 mg/l); and

15 (2) The requirements and procedures for maintaining proper
16 concentrations of fluoride, including any necessary equipment, testing,
17 recordkeeping, and reporting.

18 (e)(1) A water supply required to fluoridate under this section is not
19 required to comply with the requirements of this section until funds
20 sufficient to pay capital start-up costs for fluoridation equipment for the
21 system have become available from any source other than ratepayers,
22 shareholders, local taxpayers, or bondholders of the public water supply.

23 (2) A registered civil engineer recognized or employed by the
24 department who is familiar with the design, construction, operation, and
25 maintenance of fluoridation systems shall determine for the department
26 whether the capital start-up costs claimed under subdivision (e)(1) of this
27 section are reasonable.

28
29 */s/ Roebuck, et al*
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Bill Status: HB2627**Sponsor: Roebuck**

AN ACT TO REQUIRE CERTAIN PUBLIC WATER SUPPLIES TO MAINTAIN A LEVEL OF FLUORIDE TO PREVENT TOOTH DECAY.

- House - Jun 3 2005 12:26:31 - Died in Senate Committee at Sine Die adjournment.
- Senate - Apr 1 2005 1:47:05 - Read first time, rules suspended, read second time, referred to Senate Committee on Public Health, Welfare and Labor
- Senate - Apr 1 2005 1:46:55 - Received from the House.
- Senate - Mar 14 2005 7:36:45 - Read first time, rules suspended, read second time, referred to Senate Committee on Public Health, Welfare and Labor
- Senate - Mar 14 2005 7:36:34 - Received from the House.
- House - Mar 14 2005 3:55:20 - CLINCHER MOTION ADOPTED
- House - Mar 14 2005 3:51:17 - Read the third time and passed and ordered transmitted to the Senate. - **House Vote!**
- House - Mar 11 2005 10:56:00 - REPORTED CORRECTLY ENGROSSED
- House - Mar 11 2005 8:15:29 - Amendment No. 1 read and adopted and the bill ordered engrossed.
- House - Mar 11 2005 8:15:13 - Placed on second reading for the purpose of amendment.
- House - Mar 10 2005 2:14:38 - Returned by the Committee with the recommendation that it do pass as amended 1
- House - Mar 7 2005 3:08:34 - Read the first time, rules suspended, read the second time and referred to the Committee on PUBLIC HEALTH, WELFARE AND LABOR COMMITTEE-HOUSE
- House - Mar 7 2005 8:25:39 - Filed

Amendments - [House Amend.1](#)

Senate Amend. 1

Previous versions of HB2627

Currently not scheduled on any agenda

Currently not scheduled on either House or Senate Calendar

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This information on this page is developed and maintained by the Arkansas Bureau of Legislative Research, Information Systems Dept.

Testimony before the
Joint Interim Committee on Health, Welfare and Labor
Arkansas State Legislature
Little Rock, Arkansas

“Community Water Fluoridation and Dental Health in the United States”

Statement of
William R Maas, D.D.S., M.P.H.
Director, Division of Oral Health
National Center for Chronic Disease Prevention and Health Promotion
Centers for Disease Control and Prevention

For Release on Delivery Expected at 2:00 pm, Thursday, September 2, 2004

I am Dr. Bill Maas, and I am Director of the Division of Oral Health at the Centers for Disease Control and Prevention (CDC). Within the U.S. Department of Health and Human Services, the CDC is recognized as the lead federal agency for protecting the health and safety of people, which it accomplishes by providing credible information to enhance health decisions and promoting health through strong partnerships. CDC serves as the national focus for developing and applying disease prevention and control, for environmental health, and for health promotion and education activities designed to improve the health of the people of the United States.

CDC has recognized the Fluoridation of Drinking Water to Prevent Dental Caries as one of 10 great public health achievements of the 20th century. Fluoridation of community drinking water is a major factor responsible for the decline in tooth decay during the past 50 years. Although other fluoride-containing products are available, water fluoridation remains the most equitable and cost-effective method of delivering fluoride to all members of most communities, regardless of age, educational attainment, or income level.

Our understanding of community water fluoridation is based upon over 60 years of research. CDC's endorsement is based upon assessment of that science base by many independent committees of experts, as well as review of the findings of individual studies, and research conducted by our own scientists. It is this body of evidence, more than the findings of any single study, that affirms that community water fluoridation prevents tooth decay, is safe, reaches people from all walks of life throughout the lifespan, and is very cost-effective.

U.S. Surgeon General Richard Carmona has recently joined many previous Surgeons General in issuing a personal statement endorsing fluoridation. It is in your briefing materials. Your state dental director, Dr. Lynn Mouden, presided over a national meeting in 2003 at which Surgeon General Carmona provided leadership by releasing A National Call to Action to Promote Oral Health. In that Call he challenged all sectors of society to work together to replicate what works, so that we can promote oral health widely and effectively. Community water fluoridation is one of those interventions that works. Furthermore, the Surgeon General has affirmed that it is the responsibility of community leaders, whether their venue is at the state level or closer to home, to provide leadership for efforts to expand the reach of effective measures.

Community water fluoridation is effective in reducing tooth decay. This has been affirmed over the years by dozens of expert committees and task forces, in the U.S. and elsewhere, which have independently reviewed the scientific literature. Their well-documented reports are available for reference. Each year the standards for review of the evidence are higher. Recently, a non-Federal Task Force on Community Preventive Services was convened by the Department of Health and Human Services to provide leadership in the evaluation of community, population, and health care system strategies to address a variety of public health and health promotion topics. After a critical and thorough review of the scientific evidence regarding effectiveness, the Task Force strongly recommended community water fluoridation for prevention and control of tooth decay. Similar comprehensive reviews have been conducted recently in the United Kingdom and in Ireland, and they have reached the same conclusions regarding fluoridation's effectiveness.

Community water fluoridation is safe. The safety of fluoride in drinking water at the levels recommended for prevention of tooth decay has been affirmed by the National Research Council, an affiliate of the National Academy of Science. Because fluoride sometimes occurs naturally in water at levels many times higher than recommended for the prevention of tooth decay, the Environmental Protection Agency (EPA) asked the National Research Council (NRC) to provide a thorough review the health effects of these higher levels in drinking water to advise the EPA regarding the maximum level to be permitted. A review was conducted in 1993, and a periodic reassessment of this issue, considering new information since the previous report, is currently being conducted by the NRC. If any new recommendations arise from this current study, they are likely to focus on health effects of fluoride when it occurs naturally at levels many times higher

than recommended. The safety of community water fluoridation at recommended levels is not seriously challenged.

Community water fluoridation is cost effective. CDC scientists estimate that for most cities considering the initiation of water fluoridation, the community will save about \$38 in averted dental treatment costs for every \$1 invested in fluoridation. How many other public or private investments under consideration in Arkansas are expected to yield that kind of return? Another study by CDC scientists was undertaken in one of Arkansas's neighbors, Louisiana. A study of Medicaid costs for preschool children found that children in non-fluoridated parishes had Medicaid dental care costs twice as high, on average, as children living in fluoridated parishes, and the severity of their decay required children from non-fluoridated parishes to be hospitalized for dental treatment three times as often as the other children. Community water fluoridation is an investment that returns savings of both private and public dental care expenses.

Community water fluoridation is not just for children. Modern science has advanced our understanding of how fluoride works to prevent and control caries. While incorporation of fluoride into the developing teeth of young children has been shown to prevent tooth decay independently, fluoride's ability to work topically, on the surface of the tooth, is what provides its predominant effects and results in its effectiveness throughout the lifespan. CDC scientists recently reviewed a number of studies of the rate of new tooth decay in older adults and determined that the decay rate in older adults is greater, much greater, than the rate for children. With each new cohort of older adults retaining more natural teeth than the generations before them, fluoridation's benefits across the lifespan become increasingly important.

It has been noted that the use of fluoride toothpaste, rinses, and professional applied fluoride products is now widespread in the U.S., and it is reasonable to ask whether fluoridation is effective under these modern circumstances. CDC scientists have analyzed data from the last national study that collected data to address this issue, and have confirmed fluoridation's effectiveness. Our modern lifestyle also leads us to consume many meals outside of the home, and provides convenient foods and beverages that were processed in other cities, the majority of which provide fluoridated water. This has resulted in a diffusion effect, or halo effect, in which fluoridation provides benefits not only to those drinking water from their household tap, but also to others who, while they may not have fluoride in their drinking water, nevertheless receive partial benefits by eating foods and drinking beverages processed elsewhere with fluoridated

water. Consequently, fluoridated communities in Arkansas provide benefits not only to their own residents, but to others in Arkansas as well.

If fluoride is available from all of these sources, are people getting too much? No, not from their diet or drinking water. For people living in fluoridated communities, total fluoride intake has remained quite constant over a couple of generations. Fluoride intake in non-fluoridated communities has risen, due to the diffusion effect of processed foods and beverages noted earlier, but it still remains lower than occurs in fluoridated communities. We do not believe that anyone is getting too much fluoride from the use of optimally fluoridated drinking water. However, we do have evidence that some young children are using fluoride toothpaste inappropriately, without adequate supervision, and are swallowing too much. Also, some young children are receiving fluoride supplements in addition to fluoride in drinking water, perhaps because their parent or physician or dentist has inaccurate information about the fluoride content of their drinking water source. In these conditions, cosmetic blemishes on the developing permanent teeth can occur. This condition, called enamel fluorosis, occurs in about one quarter of U.S. children. In most cases the blemishes are so mild as to be neither a cosmetic or functional problem. Moderate and severe forms, which occur in less than 2% of children, can be a cosmetic problem, but they are as likely to occur in low fluoride communities as in those that are fluoridated. To keep this from becoming a larger problem, CDC has encouraged more careful use of fluoride toothpaste. We recommend that health professionals reinforce to parents the importance of following the instructions found on the tube for careful supervision of toothpaste use by young children.

After these hearings are concluded, and as people begin to consider the various policy options available to promote oral health, you will hear from opponents of fluoridation. I want you to know that we have heard all of the arguments before. The opponents of fluoridation are very skilled in using words that are alarming. They are masters of communication, with the goal of planting doubts in your mind, not improving public understanding. The responsibility at CDC, like your health department and health profession associations, is to be a trustworthy source of information of how to improve health. We take that trust very seriously, and stand ready to be a continued resource to you in this state, in your efforts to improve the oral health of your citizens.

Thank you. I will be happy to take any questions that you may have.



July 28, 2004

SURGEON GENERAL STATEMENT ON COMMUNITY WATER FLUORIDATION


As noted in *Oral Health in America: A Report of the Surgeon General*, community water fluoridation continues to be the most cost-effective, equitable and safe means to provide protection from tooth decay in a community. Scientific studies have found that people living in communities with fluoridated water have fewer cavities than those living where the water is not fluoridated. For more than 50 years, small amounts of fluoride have been added to drinking water supplies in the United States where naturally-occurring fluoride levels are too low to protect teeth from decay. Over 8,000 communities are currently adjusting the fluoride in their community's water to a level that can protect the oral health of their citizens.

Over 170 million people, or 67 percent of the United States population served by public water supplies, drink water with optimal fluoride levels for preventing decay. Of the 50 largest cities in the country, 43 are fluoridated. Although water fluoridation reaches some residents in every state, unfortunately, only 24 states are providing these benefits to 75% or more of their residents.

A significant advantage of water fluoridation is that all residents of a community can enjoy its protective benefit—at home, work, school or play— simply by drinking fluoridated water or beverages and foods prepared with it. A person's income level or ability to receive routine dental care is not a barrier to receiving fluoridation's health benefits. Water fluoridation is a powerful strategy in our efforts to eliminate differences in health among people and is consistent with my emphasis on the importance of prevention.

The U.S. Centers for Disease Control and Prevention has recognized the fluoridation of drinking water as one of ten great public health achievements of the twentieth century. Water fluoridation has helped improve the quality of life in the United States by reducing pain and suffering related to tooth decay, time lost from school and work, and money spent to restore, remove, or replace decayed teeth. An economic analysis has determined that in most communities, every \$1 invested in fluoridation saves \$38 or more in treatment costs. Fluoridation is the single most effective public health measure to prevent tooth decay and improve oral health over a lifetime, for both children and adults.

While we can be pleased with what has already been accomplished, it is clear that there is much yet to be done. Policymakers, community leaders, private industry, health professionals, the media, and the public should affirm that oral health is essential to general health and well being and *take action* to make ourselves, our families, and our communities healthier. I join previous Surgeons General in acknowledging the continuing public health role for community water fluoridation in enhancing the oral health of all Americans.


Richard H. Carmona, M.D., M.P.H., F.A.C.S.
VADM, USPHS
United States Surgeon General