



FACT SHEET

Community Water Fluoridation: *The Outlook in Kansas*

Compared to its neighboring states, Kansas has the lowest percentage of residents with access to fluoridated public water supplies.

FLUORIDATION — AN OVERVIEW

Water from nearly all natural sources contains fluoride. The amount present, however, depends on the water source. When it was observed that people developed fewer cavities if their water supply contained higher levels of fluoride, communities began fluoridating their water. Community water fluoridation is the practice of adding fluoride to a community's water supply in order to reach the concentration recommended for supporting optimal dental health.

While there remain concerns about overexposure to fluoride and the associated health risks, scientific evidence over the past 60 years supports community water fluoridation as both safe and effective in preventing cavities in children and adults. Additionally, the Centers for Disease Control and Prevention included the fluoridation of drinking water on its

list of the ten greatest public health achievements of the 20th century.

NATIONAL RECOMMENDATIONS REVISED

The U.S. Department of Health and Human Services (HHS) determines what fluoride concentration in drinking water is optimal for the prevention of cavities. In January 2011, HHS reduced the recommended level to 0.7 milligrams of fluoride per liter of water. The agency determined that the inclusion of fluoride in products such as toothpaste meant that concentrations in water did not need to be as high as it had previously recommended — 0.7 to 1.2 milligrams per liter — a range that had been in place since 1962.

COMMUNITY WATER FLUORIDATION

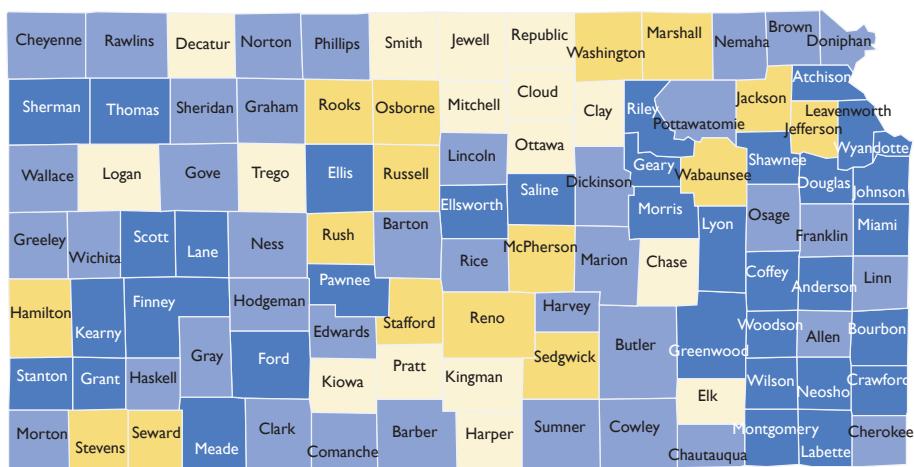
Despite this recommendation, many communities do not fluoridate their water. Of the 105 counties in Kansas, 16 do not have a single fluoridated public water supply (Figure 1). Of the 1,025 community water systems in Kansas, 326 adjust the fluoride levels in their water. An additional 63 systems have water with naturally occurring fluoride at or above optimal levels.

Nationally, 44 of the 50 largest cities have public water systems with fluoride concentrations that reach the optimal level. Wichita is among the remaining six largest cities in the country without such supplies.

KANSAS LAGS BEHIND ITS NEIGHBORS

Currently, thirteen states and the District of Columbia have laws

Figure 1. Percent of Population, by Kansas County, Served by Fluoridated Public Water Supplies



Percent of population served:

0 percent (not fluoridated) >0 to ≤30 percent (less fluoridated) >30 to <70 percent (partially fluoridated) ≥70 percent (predominantly fluoridated)

Sources: CDC My Water's Fluoride, and the Kansas Department of Health and Environment. The data presented are the most current data available as of February 2011.

mandating the fluoridation of public water supplies. Kansas does not. Only 65 percent of Kansans had access to such supplies in 2006. That figure ranks Kansas 32nd among states for the percentage of population receiving fluoridated public water. While Kansas is behind the Healthy People 2020 goal of having fluoridated water accessible to at least 79.6 percent of the population served by community water systems, its neighbor to the east, Missouri, is one of 23 states that has reached the goal. Compared to its other neighbors, Kansas has the lowest percentage of residents with access to fluoridated public water supplies (Figure 2).

SAFETY CONCERNS

Drinking water with fluoride concentrations higher than the optimal level can put children age eight and younger at risk for developing fluorosis — a change in the appearance of tooth enamel that results from overexposure to fluoride. Only children in this age group can develop fluorosis since it occurs while permanent teeth are forming.

Mild or moderate fluorosis, characterized by visible white markings on the teeth, can result from drinking water with fluoride levels exceeding 1.5 milligrams per liter. More severe fluorosis, while rare in the United States, is characterized by the staining and pitting of the surface of teeth. Severe fluorosis can result from exposure to water with fluoride concentrations at or exceeding 4 milligrams per liter. Lifetime exposure to water with fluoride concentrations of this amount can weaken bones and increase the risk for bone fractures. The U.S. Environmental Protection Agency determines the maximum level of fluoride allowed in drinking water, which is currently set at 4 milligrams per liter. The agency is considering whether to lower the limit.

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As for additional safety concerns, there is currently no strong evidence associating water fluoridation with cancer or other serious illnesses.

EFFECTIVENESS

Although the majority of research continues to support the effectiveness of community water fluoridation in preventing cavities, the extent of its benefits is hard to determine due to the increased use of other products containing fluoride.

COST-EFFECTIVENESS

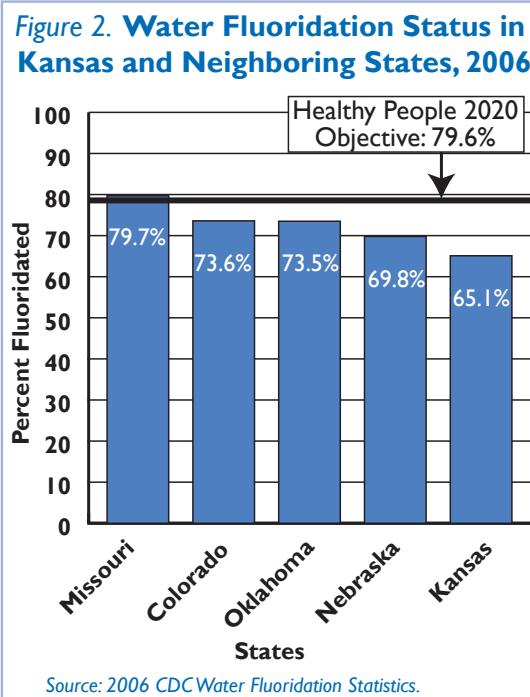
At an average cost of 50 cents per person, per year, community water fluoridation is more cost-effective than any other means of preventing cavities. Fluoride toothpaste, for example, has an average cost of \$10 to \$73 per person, per year.

Every \$1 spent on water fluoridation saves an estimated \$38 in cavity treatment costs. Community water fluoridation in Colorado is credited with saving an estimated \$149.9 million in direct medical and indirect nonmedical expenditures in 2003.

IMPROVING DENTAL HEALTH IN KANSAS

Many Kansas residents experience dental problems that are preventable. For instance, among Kansas K–12 students screened during the 2009–2010 school year, about one-quarter had untreated cavities and one-fifth required restorative dental care. State and local policymakers should consider how certain dental programs and practices, such as fluoridation, can be used to improve dental health in our state.

While the debate surrounding community water fluoridation continues, the scientific evidence, at this time, supports the safety, dental health benefits and cost-effectiveness of fluoridation.



KANSAS HEALTH INSTITUTE

The Kansas Health Institute is an independent, nonprofit health policy and research organization based in Topeka, Kansas. Established in 1995 with a multiyear grant from the Kansas Health Foundation, the Kansas Health Institute conducts research and policy analysis on issues that affect the health of Kansans.

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