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House Water Committee February 27, 2025

Chairman Minnix and members of the Committee,

Thank you for the opportunity to talk with you today. My name is Tanya Dorf Brunner, and I am the Executive Director of Oral Health Kansas, Inc. We are the statewide consumer oral health advocacy organization dedicated to promoting the importance of lifelong oral health by shaping policy and educating the public.

Community water fluoridation has a long history in this country, and it has a long history in Kansas. Last month the U.S. marked 80 years since water fluoridation began. Since at least the 1960s, communities in Kansas have invested in the oral health of their residents by adjusting the fluoride in the water to the optimal level. This means generations of Kansans have grown up with the chance to be as healthy as possible.

Where fluoride is found

Fluoride is found in all sources of water. Community water fluoridation is the practice of simply adjusting the amount of fluoride in the water to the optimal level needed to reduce tooth decay and protect health. In Kansas this usually means adding a little fluoride to get the water to the optimal level, but sometimes it means take a little fluoride out to get to the optimal level of 0.7 ppm.

How to get fluoride

People need fluoride in two different ways – systemically and topically.

- Brushing your teeth with fluoride toothpaste and getting a fluoride treatment in the dental office are how people get topical fluoride.
- Community water fluoridation is how people get fluoride systemically. Small amounts of fluoride provided through drinking water act as a protective guard for our teeth when it returns through our saliva.

Children especially benefit from systemic fluoride because it helps strengthen their teeth as they are still forming. Both sources of fluoride are needed to get the optimal protection. The protection is a lot like seatbelts and airbags in your car. They both protect you from accidents, but they do it in different ways. Having both keeps you as safe as possible.

Adjusting to the optimal level

It takes only a little bit of fluoride to get to the optimal level. For example, that is why Abilene needs to add only a little fluoride to take the water from the natural level of about 0.3 ppm to about 0.7 ppm. The amount of fluoride needed to get to optimal is similar to a teaspoon of water in a swimming pool or three drops in a 55 gallon barrel.

The amount of fluoride needed for optimal protection is tiny, but the effect is mighty. This is the reason the CDC named community water fluoridation one of ten great public health achievements of the 20th century, along with things like seatbelts in cars.

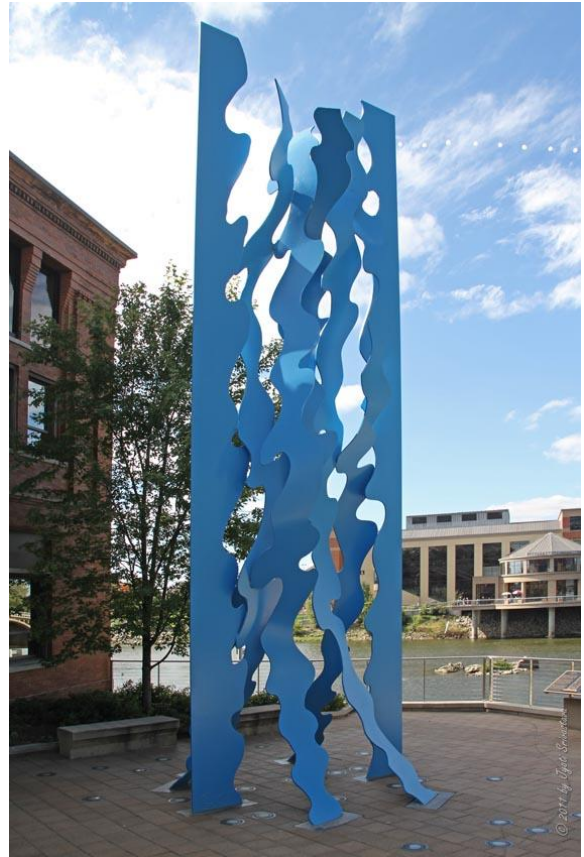
Discovering benefits of fluoride

A dentist named Dr. Frederick McKay first discovered fluoride in the water in Colorado Springs in 1901. He noticed that many people in the area had strange brown spots on their teeth, but their teeth were surprisingly resistant to cavities. He began studying the issue and testing water samples in the area and across the country. He discovered that areas with higher concentrations of the mineral fluoride in the water resulted in people having these brown spots and stronger teeth. By the 1930s research had identified the optimal level of fluoride in the water to prevent tooth decay and protect people from the brown spots called fluorosis.

In 1945 Grand Rapids, Michigan, became the first city to adjust the fluoride in their water to the optimal level. This was designed as a 15-year trial, and Grand Rapids was paired with a control city for the experiment to see if there would be a difference in dental decay rates between the cities. The results were persuasive and quick, and by 1950, the U.S. Surgeon General declared that any community wishing to fluoridate its water supply should be “strongly encouraged” to proceed. At this point, national organizations including the American Dental Association, Association of State and Territorial Dental Directors, and United States Public Health Service endorsed community water fluoridation.

Grand Rapids is so proud of their contributions to community water fluoridation that they actually have an sculpture commemorating their place in history.

More of the history of water fluoridation can be found in this [article](#) from the Children’s Dental Health Project.



Who is at risk

The people who are most at risk of poor oral health are children, older adults, people with disabilities, and people living in poverty. These are the populations who also benefit most from optimal levels of fluoride in a community’s drinking water. When people do not have access to optimally fluoridated water, they are at risk for a lifetime of oral health problems. A few real-life experiments demonstrate the effects of optimal fluoridation.

- The cities of Calgary and Edmonton in Canada both fluoridated their water and had similar rates of children with tooth decay. When Calgary stopped in 2011, the rate of kids with tooth decay was 146% higher than in Edmonton in just five years.
- When the city of Juneau, Alaska, stopped fluoridating almost 20 years ago, research showed there was an increase in children experiencing cavities in just a few years. Even when people tried to rely on alternatives like topical fluoride treatments, toothpaste, and pills, the study found that children had more dental decay and required more dental procedures.

It is more expensive for families and for state programs like Medicaid to address cavities than to prevent them with optimally fluoridated water. For people who do not have access to optimally fluoridated water, they can use fluoride tablets, but they are not nearly as effective or inexpensive

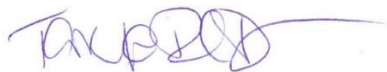
as optimally fluoridated water. Prescriptions for fluoride tablets could cost families a few hundred dollars a year, and they only work well when families remember to take them every day.

A good investment

Included with my testimony is a commentary published in the American Dental Hygienists' Association Journal last month. In it the State Dental Director in Michigan, home of the first city to fluoridate their water, addresses recent news stories about fluoride and dispels many myths. One insight that is particularly interesting is the fact that prior to the implementation of water fluoridation, "teeth" were a common cause of death. When death records began to be collected in the 1600s in England, "teeth" were the fifth and sixth leading causes of death. The commentary also notes that as recent as the early 1900s, between 10% and 40% of deaths were related to dental infections. The discovery of the health benefits of the mineral fluoride and implementation of community water fluoridation "may have played a role in the perceived mindset that dental decay is now only a minor health issue."

Oral health is not just about having a nice smile or pretty teeth. It's about health and the ability to learn and work. Kids who have dental pain cannot concentrate in school and miss class more often than kids without dental pain. People living in poverty have a hard time getting and keeping a job if they do not have good teeth. Ensuring the drinking water in Kansas communities is at the optimal level is one of the best ways to help kids concentrate and learn and help entire communities be as healthy and productive as possible. Maintaining community water fluoridation will ensure that dental decay does not become a leading cause of death again. Nearly two-thirds of Kansans have access to optimally fluoridated water, and future generations of Kansans will be grateful for the investment in their health.

Sincerely,



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Fluoride in 2025

There has been a lot of news lately about fluoride and community water fluoridation (CWF). Questions have arisen about whether fluoride presents a risk to the public. This is concerning since fluoride use is one of the many tools dental hygienists use to promote the prevention of dental decay. The good news is that evidence still supports the use of fluoride in promoting good oral health.

How did we first learn about the benefits of fluoride? In the early 1900s, a dentist by the name of Fred McKay discovered that the teeth of children in Colorado Springs were developing a dark brown, mottled appearance. And, although not appealing to look at, their teeth were stronger and resisted decay. Upon testing, it was discovered that they were receiving high levels of fluoride from the water. Studies were designed to determine how to implement CWF and in 1945, Grand Rapids, Michigan became the first community to employ the process. Due to the dramatic reduction of caries that resulted, other cities, states and even countries began to implement CWF programs. The Centers for Disease Control and Prevention (CDC) has cited CWF among the top 10 public health achievements of the 20th century as fluoridation has played an important role in reducing dental decay in children between 40% and 70%, and tooth loss in adults by 40% to 60%.¹ Studies continue to show that CWF prevents dental decay, and Grand Rapids celebrated 80 years of community water fluoridation this January.

Today the public does not consider dental caries or tooth decay as a serious health issue. However, when the “England Bills of Mortality” began keeping records for causes of death in the 1600s, “teeth” were listed

as the fifth and sixth leading causes of death. Even into the early 1900s, it’s estimated between 10% and 40% of deaths were dental infection related.² The implementation of CWF and the reduction in the severity of decay, along with increased messaging about the effects of fluoride in preventing decay, may have played a role in the perceived mindset that dental decay is now only a minor health issue.

Today, we are hearing more about oral health and its relation to overall health. There are well-documented relationships between poor oral health and cardiovascular disease, diabetes, lung diseases and many others. Untreated dental infections can travel throughout the body and even to the brain. Unfortunately, hospital emergency departments are not equipped to deal with non-traumatic dental issues.³ In 2007, a young child named Deamonte Driver died of a brain infection that was the result of bacteria spreading to his brain from an untreated abscessed tooth. Some of the factors related to his death can be attributed to the lack of dentists that accept Medicaid.⁴

Community water fluoridation helps provide an equitable solution to preventing dental decay. According to the CDC, CWF provides a significant return on investment. Communities that fluoridate spend between \$0.11-\$1.50 per person per year to help prevent dental decay.⁵ Anyone who has had a restoration or other dental work knows the financial costs of the treatment, plus the additional costs of missing school or work, as well as transportation, etc. That cost is even greater for those who can’t afford to see a dental provider. There are many people who cannot see a dental provider due to the lack of providers in rural areas, being uninsured or

on Medicaid, or lack of transportation. This includes the elderly, physically and developmentally disabled persons, persons of color, refugees and immigrants. Community water fluoridation is considered a preventive measure that is accessible to all.

Anti-fluoridation challenges have been around since the implementation of CWF. When patients, friends and family, or others start to ask questions about fluoridation, you can provide practical advice and support. One major point to take into consideration is that “we” are not the audience. Many individuals may not understand or relate to scientific authority or explanations; nor do they want to hear that it is a matter of public health.

We get fluoride in many ways and each works differently in the prevention of decay. Topical fluorides, like toothpaste, mouth rinse, and water have much lower concentrations than those applied in a dental setting. Small amounts of fluoride provided through drinking water act as a fresh protective guard for our teeth when it returns through our saliva.

When patients ask why they need CWF since they get fluoride through these other avenues, as well as through treatments via their dental hygienist, you can explain how fluoride in toothpaste and water work in different ways to keep teeth healthy. The analogy of airbags and anti-lock brakes on cars working together but differently to keep you safe is an example of the multi-layer protection of fluoride to keep teeth safe and healthy. Other concerns that have been raised include the freedom of choice issue, forcing mass medication on people, and reports that CWF lowers IQ in children. Some practical responses include:

- We all want quality drinking water for ourselves and families. Eighty years of experience and extensive research shows that the amount of fluoride used in America’s water keep teeth healthy while being safe and highly regulated. Frequent testing by water systems ensures residents receive what is needed for good oral health.
- Fluoride already exists naturally in water. Adjusting the fluoride in water makes sure all people in the community receive the benefit of keeping teeth healthy. Individuals may use filters to remove fluoride from tap water if that’s what they prefer.
- Fluoride is a natural mineral that is found in water and soil. Untreated oral disease can impact other major organs and chronic conditions. Fluoridation is one prevention measure to help keep people healthy.

Other countries offer fluoride in other products, like milk and salt. They also provide free and accessible dental care and nutritious meals, which results in fewer cavities. Adding fluoride to the water is an equitable solution for those who do not have access to dental care and/or cannot afford dental care.

It is important for dental hygienists to stay educated on evidence-based measures in order to educate individuals and answer their questions appropriately. For prevention on a large scale that is equitable, affordable and proven safe at low levels, community water fluoridation still is a proven best practice.

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