

# Community Water Fluoridation

Preventing tooth decay in communities

# History

Dr. Frederick McKay notices residents of Colorado Springs had stained teeth, known as the "CO brown stain"

1901

1931

Dr. McKay tested water and found 2.0 to 14.0 mg/L  
H. T. Dean mapped the prevalence of enamel staining

1945

Grand Rapids, MI becomes the first city to begin adding fluoride to their city's water  
This led to a decline in tooth decay in school aged children

# What is tooth decay?

- Also known as dental caries or cavities
- Caused by a breakdown of enamel by acids produced by bacteria located in plaque that collects on the teeth and around the gumline



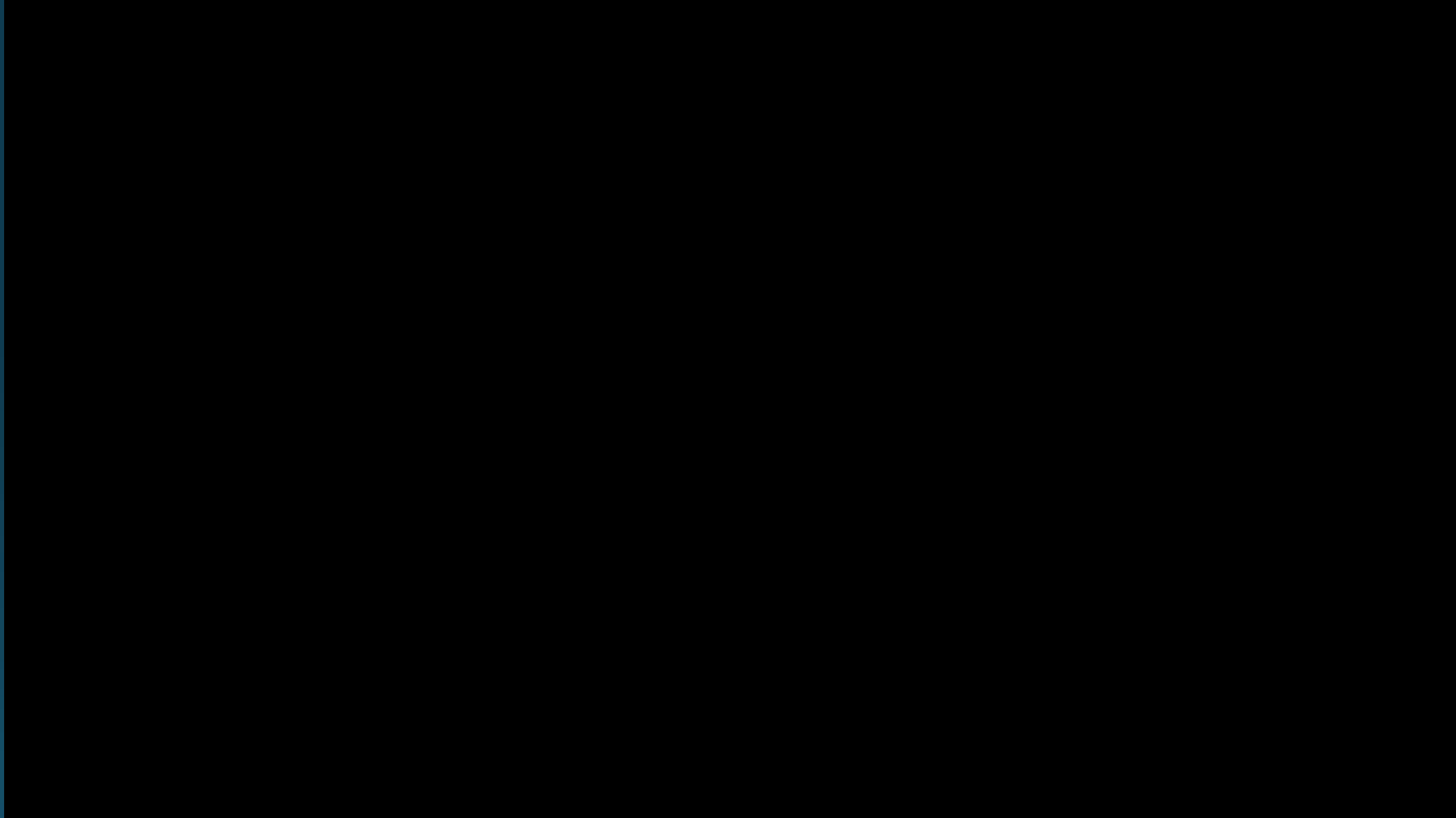
# Tooth decay statistics

- The populations at the highest risk include: low socioeconomic status, lower levels of education, and those with reduced access to dental care
- 1 in 4 children living below the federal poverty line have untreated tooth decay
- Children with poor oral health tend to miss more school days and get lower grades

# Types of Fluoride

- Topical
  - Toothpaste, mouthwash, and fluoridated water
  - Strengthens the teeth by contact
  - Increases resistance to decay
- Systemic
  - Fluoride that is swallowed
  - Affects the structure of teeth as they form in childhood
  - Does not affect fully formed teeth
  - Examples include fluoride supplements and fluoridated water

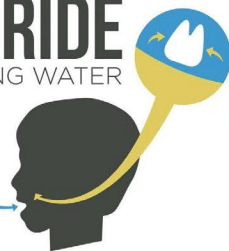
# How does fluoride work?



# Fluoride

## HOW FLUORIDE WORKS

**FLUORIDE**  
IN DRINKING WATER



IS TAKEN IN BY  
**TEETH**  
STILL DEVELOPING  
BELOW THE GUMS



TO HELP CREATE A  
**STRONG SURFACE**

PROTECTING THE  
TEETH FROM CAVITIES

IN CHILDREN AND ADULTS

**TEETH** ARE BATHED

IN FLUORIDE WHEN DRINKING WATER



GIVING TEETH THE  
FLUORIDE THEY NEED  
ALL DAY LONG

ACID PRODUCED BY BACTERIA  
IN THE MOUTH CAN CREATE  
HOLES ON THE SURFACE  
OF THE TEETH



FLUORIDE HELPS PROTECT  
& REBUILD THIS SURFACE

**PREVENTING**  
ABOUT 25% OF CAVITIES

Build a better foundation for healthy teeth and keep your teeth stronger, longer. Fluoride in water. 70 years and going strong. At a faucet near you. Visit [www.CDC.gov/Fluoridation](http://www.CDC.gov/Fluoridation) for more information.



# Fluorosis

- Visible changes in tooth enamel
- Mainly caused by an excess of systemic fluoride in children



# Community Water Fluoridation

- Helps reduce tooth decay and improve oral health across the lifespan
- Healthy
- Supported by scientific evidence
- Cost effective
- Healthy people 2030 wants to increase CWF to 77.1% by the year 2030

# Economics

- CWF lowers cost in the long run, due to less money being spent on fillings, restoration, and loss of productivity from employees for dental repairs
- The CDC estimates that every \$1 spent on CWF saves \$20 in dental treatment costs
- The cost to fluoridate water for one person throughout their lifetime can cost less than a filling for one tooth
- CWF is the most cost effective way to deliver fluoride to community members of all ages, incomes, and education levels

# Community Impact

- Halo effect allows other communities to benefit from CWF
- Over 75 years of research have shown that CWF is safe and effective
- CWF is the most practical, effective, and equitable measure that a community can take to prevent tooth decay and improve the oral health of its residents

# Thank you



# COMMON QUESTIONS ABOUT FLUORIDE

## A Resource for Parents and Caregivers



### 1. Why do children need fluoride?

Our mouths contain bacteria that combine with sugars in the foods we eat and the beverages we drink. This produces an acid that harms our teeth. Fluoride strengthens kids' teeth by fighting off this acid and even reversing early signs of tooth decay.



### 2. Is fluoridated water safe for me and my children to drink?

Yes. Decades of research, experience, and the support of the world's leading health, dental, and medical organizations have confirmed the safety of fluoride.



### 3. We brush our teeth with fluoride toothpaste every day. Do we still need fluoridated water?

Yes. Drinking fluoridated water throughout the day, combined with the more concentrated fluoride in dental products prevents more tooth decay than toothpaste alone.



### 4. Are there health risks associated with these forms of fluoride?

No. There is no credible scientific evidence that fluoridated water or dental products cause illness or disease.



### 5. What exactly is dental fluorosis? Should I be concerned about fluorosis from drinking fluoridated water?

Dental fluorosis is a slight change in the look of the teeth, usually in the form of very faint white markings. Most fluorosis is the result of consuming too much fluoride while permanent teeth are forming, before the age of 8. It does not affect the function or health of the teeth. In fact, teeth with mild fluorosis are more resistant to cavities.