

# Dallas Water Utilities: Community Water Fluoridation in Dallas, Texas

**Quality of Life, Arts & Culture Committee**  
**November 7, 2023**

Sarah Standifer, Director (I)  
Sally U. Wright, Assistant Director  
Dallas Water Utilities

Dr. Griffin Cole, DDS, NMD  
International Academy of  
Oral Medicine and Toxicology

Professor Bruce Lanphear, MD MPH  
Simon Fraser University

Dr. John Staniland, MD  
Fluoride Action Network



**City of Dallas**

# Purpose



- Provide additional data on community fluoridation related to oral health and general health due to fluoride ingestion.



# Presentation Overview



- Panel Discussion
  - Oral Health Community
  - Neurotoxicology Research
  - Public Awareness Coalition





# Oral Health Community

**Dr. Griffin Cole, DDS, NMD**

**Fluoride Committee Co-Chair**

**International Academy of Oral Medicine and Toxicology**



# Fluoridation

Unnecessary, Unproven, and Unsafe!

# Fluoride's Developmental Neurotoxicity: Lower IQ

*“An increase of 0.5 mg/L in water fluoride concentration (approximately equaling the difference between fluoridated and non-fluoridated regions) corresponded to a 9.3- and 6.2-point decrement in Performance IQ among formula-fed.”*

Overall, IQ scores dropped “6-7 points”

US Department of Health and Human Services, Office of Health Assessment and Translation, Division of the National Toxicology Program, National Institute of Environmental Health Sciences, National Institutes of Health. Systemic Review of Fluoride Exposure and Neurodevelopmental and Cognitive Health Effects, Draft NTP Monograph. September 6, 2019 NTP Board of Scientific Counselors Working Group Report on the Draft State of the Science Monograph and the Draft Meta-Analysis Manuscript on Fluoride April 2023.

# CDC Oral Health Survey – 3<sup>rd</sup> Graders

## ▶ STATES WITH LOWEST CHILDHOOD DECAY:

New Hampshire – 35% decay rate

Vermont – 37% decay rate

## ▶ BOTH ARE 2 OF THE LEAST FLUORIDATED IN THE COUNTRY! (43<sup>rd</sup> and 39<sup>th</sup> respectively)

## ▶ DECAY IN STATES WITH HIGHEST FLUORIDATION RATE:

Wash DC - 60% decay rate (100% fluoridated)

Kentucky - 60% decay rate (99.8% fluoridated)

North Dakota - 68% decay rate (96% fluoridated)



## The Science and Practice of Caries Prevention.

Featherstone, J.  
JADA Vol 131, 2000

‘Fluoride incorporated during tooth development is insufficient to play a significant role in caries protection.’

‘Fluoride’s preventive action is topical rather than systemic.’





## CDC and HHS Proven Wrong!

- For years – they said 1.2 PPM is the right level for fluoridation.
- In 2015, they lowered to 0.7 PPM due to high rates of fluorosis.

**NOW** – the rates keep going up. 70% - 87%

# CDC NHANES Results:

Large increases in severity and prevalence were found in the 2011–2012 NHANES as compared with the previous surveys, for all sociodemographic categories.

12 to 15y total prevalence increased from 22% to 41% to 65% in the 1986–1987, 1999–2004, and 2011–2012 surveys, respectively.

2015-2016 : 70% !

# JAMA<sup>®</sup>

The Journal of the American Medical Association

## **A National Study Exploring the Association Between Fluoride Levels and Dental Fluorosis**

Man Hung et al. [JAMA Netw Open](#): 2023 June

The findings of this cross-sectional study suggest that exposure to higher concentrations of fluoride in water and having higher plasma levels of fluoride were associated with a greater risk of dental fluorosis.

“Our results also align with those of Neurath et al...”

# Scientific Proof of Action?

- ▶ There has **NEVER** been a double-blinded randomized clinical trial to prove fluoridation actually works (or is safe).
- ▶ There has **NEVER** been a long-term follow-up study to prove that fluoridation actually worked...EXCEPT - San Antonio
- ▶ Silicofluorides (fluoride supplements/additives) have **NEVER** been FDA approved for ingestion and they were never proven safe prior to dumping in our water supply.



## Paffenbarger Research Center

The American Dental Association Foundation's (ADAF) dental research enterprise at the Paffenbarger Research Center (PRC) has been hailed as one of the most productive in the world. ADA and ADAF research scientists have engaged in cooperative dental and medical materials research with government scientists since 1928. This collaboration at the National Institute of Standards and Technology (NIST, formerly NBS, the National Bureau of Standards, a government research laboratory managed by the U.S. Department of Commerce) has in many respects revolutionized the practice of dentistry.

### Fluoride Requirements for Therapeutic Efficacy

The goal of this project is to establish the minimum concentration of fluoride needed to prevent enamel and root caries. The lack of knowledge about "the target concentration of fluoride required in the oral environment to optimize its potential for caries prevention" has inspired the NIDCR to issue a call for research to answer this question indicating a high priority status for this subject. After 60 years of community water fluoridation we still do not know how much fluoride is required to prevent caries. This may be because no one has systematically performed in vitro studies that separate the significant factors under conditions that closely mimic those of the oral environment and then validated those findings in intraoral studies.

- [Paffenbarger Research Center](#)
- [Dental Students' Conference on Research](#)



## Paffenbarger Research Center

The American Dental Association Foundation's (ADAF) dental research enterprise at the Paffenbarger Research Center (PRC) has been hailed as one of the most productive in the world. ADA and ADAF research scientists have engaged in cooperative dental and medical materials research with government scientists since 1928. This collaboration at the National Institute of Standards and Technology (NIST, formerly NBS, the National Bureau of Standards, a government research laboratory managed by the U.S. Department of Commerce) has in many respects revolutionized the practice of dentistry.

### Fluoride Requirements for Therapeutic Efficacy

The goal of this project is to establish the minimum concentration of fluoride needed to prevent enamel and root caries. The lack of knowledge about "the target concentration of fluoride required in the oral environment to optimize its potential for caries prevention" has inspired the NIDCR to issue a call for research to answer this question indicating a high priority status for this subject. After 60 years of community water fluoridation we still do not know how much fluoride is required to prevent caries. This may be because no one has systematically performed in vitro studies that separate the significant factors under conditions that closely mimic those of the oral environment and then validated those findings in intraoral studies.

- ▶ Paffenbarger Research Center
- ▶ [Dental Students' Conference on Research](#)



Home

## Fluoride Requirements for Therapeutic Efficacy

### Paffenb

The American Dental Association (ADA) is the Paffenbarger Research Institute, the world's largest dental research organization. ADA and its materials research center, the Paffenbarger Research Institute, National Institute of Standards and Technology (NIST), formerly NBS, the National Bureau of Standards, a government research laboratory managed by the U.S. Department of Commerce) has in many respects revolutionized the practice of dentistry.

The goal of this project is to establish the minimum concentration of fluoride needed to prevent enamel and root caries. The lack of knowledge about "the target concentration of fluoride required in the oral environment to optimize its potential for caries prevention" has inspired the NIDCR to issue a call for research to answer this question indicating a high priority status for this subject. After 60 years of community water fluoridation we still do not know how much fluoride is required to prevent caries. This may be because no one has systematically performed in vitro studies that separate the significant factors under conditions that closely mimic those of the oral environment and then validated those findings in intraoral studies.

How to Apply

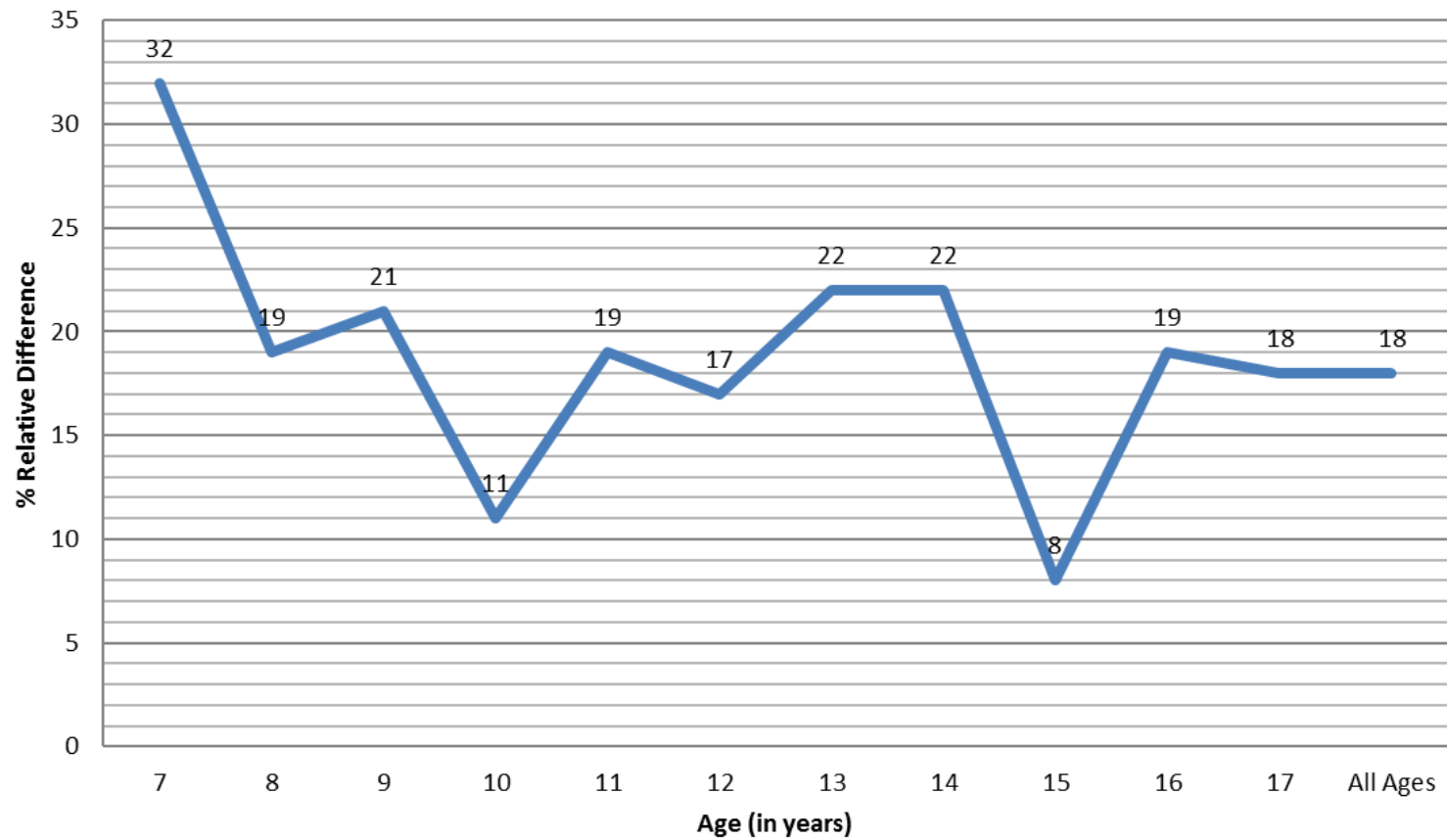
Research Center  
Conference

# National Institute of Dental Research 1986/87 Landmark Study – Findings?

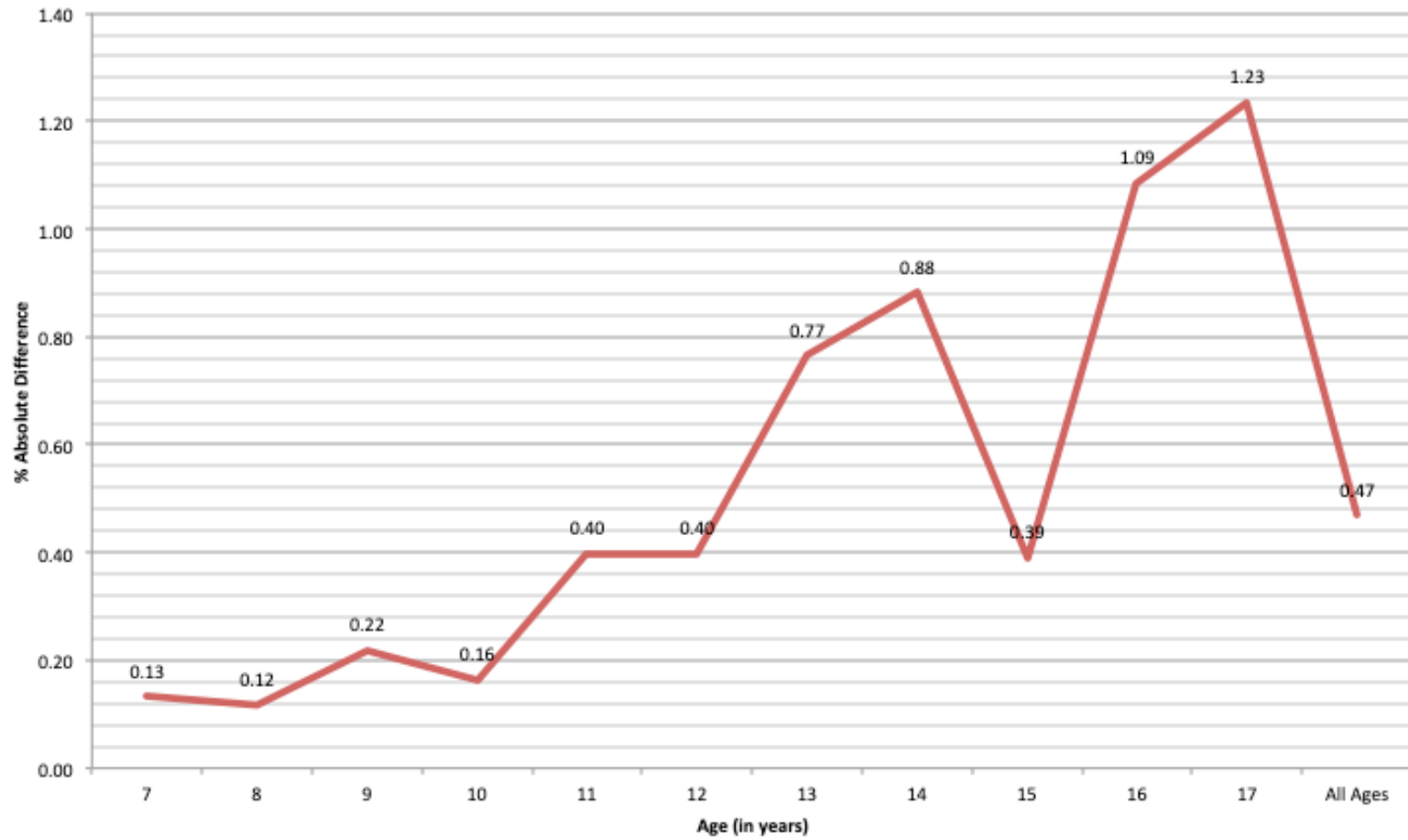
- ▶ **Carlos and Brunelle** – DMFS (128 tooth surfaces)
  - ▶ 0.6 tooth surfaces amounts to an Absolute difference of less than 1% of the 100-plus tooth surfaces in a child’s mouth. (They touted an 18% difference in decay rates based on a RELATIVE difference quotient)
- ▶ **Yiamouyiannis** – DMFT (28 teeth)
  - ▶ Relative difference of 4%. Absolute difference of less than 1/10th of a tooth.



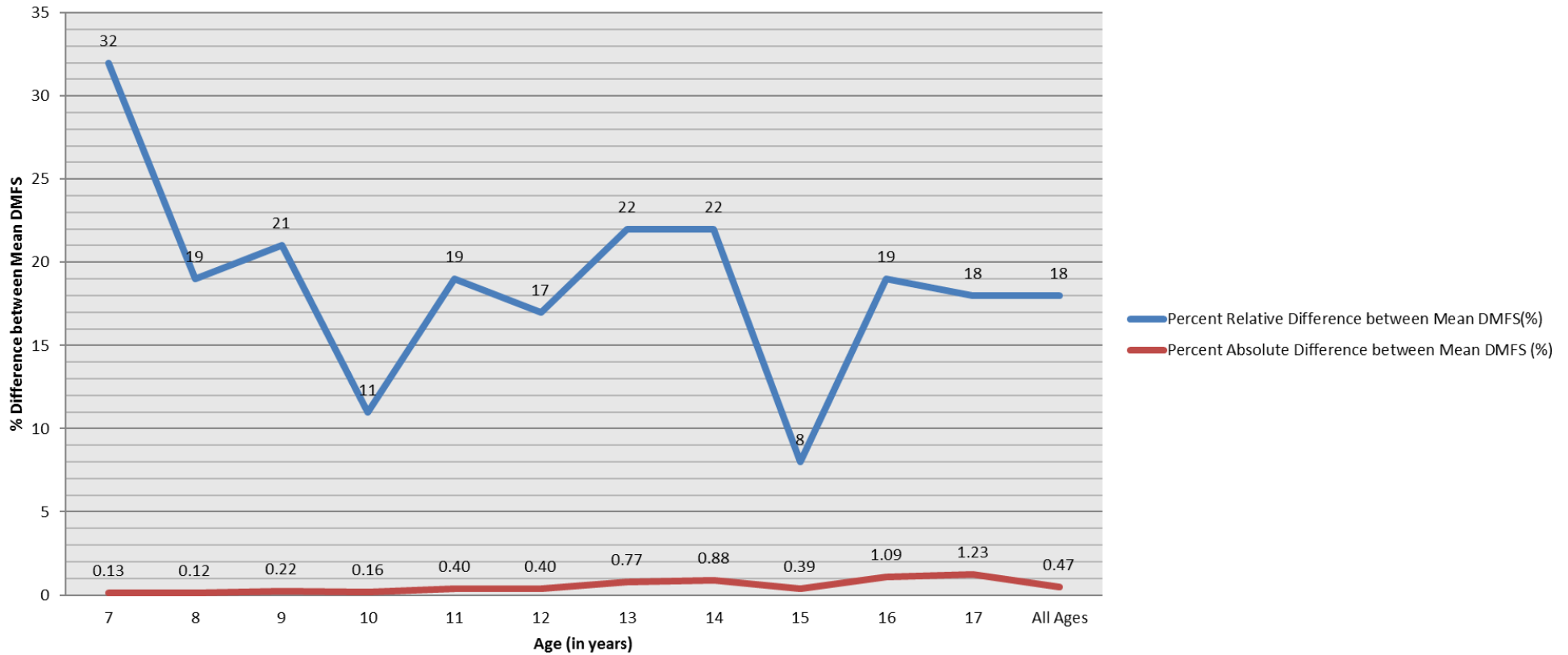
### Percent Relative Difference between Mean DMFS vs. Age



**Percent Absolute Difference between Mean DMFS vs. Age**



### Percent Difference Between Mean DMFS vs. Age



# Spotlight on Fluoridation in Calgary, Alberta, Canada

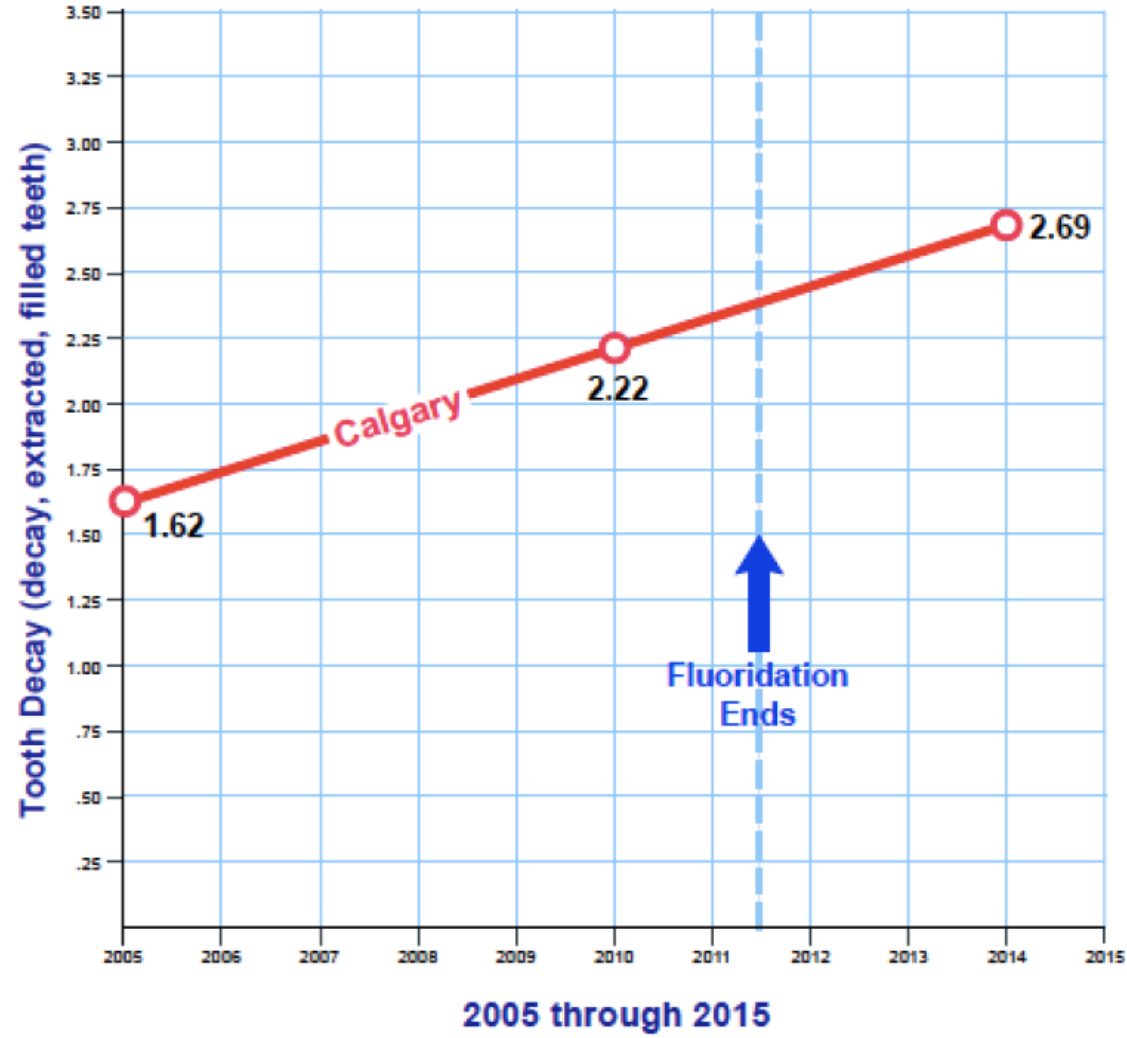


In 2011, Calgary stopped water fluoridation. In February 2019, the Calgary City Council and pro-fluoridation lobbyists directed the University of Calgary's O'Brien Institute for Public Health to conduct a review of fluoridation.

**The O'Brien Institute published their report in July, highlighting the neurotoxic risk posed to the fetus by fluoride.**

On July 22, the city council voted 13-1 to **cancel** O'Brien's presentation. It was eventually shown to the council.

38.7% of Canadians have fluoridated water (as opposed to 74.4% of people in the US). Fluoridated Edmonton has significantly **HIGHER** decay rates than Calgary.



# What about bottle-fed babies?

Human breast milk is very low in fluoride. (.004 ppm f vs .7 ppm– bottle fed baby can get greater than 250 x the level of mother's milk!)

How can you possibly control the dosage??







# Neurotoxicology Research

**Professor Bruce Lanphear, MD MPH**  
**Simon Fraser University**  
**Vancouver, B.C.**







# Public Awareness Coalition

**Dr. John Staniland, MD**  
**Fluoride Action Network**





# Panel Questions



# Next Steps



- Receive feedback from the Quality of Life Committee on current community fluoridation practice at the City of Dallas
- December 2023, provide memo to the Quality of Life, Arts and Culture Committee with responses to October and November Briefings



# Dallas Water Utilities: Community Water Fluoridation in Dallas, Texas

**Quality of Life, Arts & Culture Committee**  
**November 7, 2023**

Sarah Standifer, Director (I)  
Sally U. Wright, Assistant Director  
Dallas Water Utilities

Dr. Griffin Cole, DDS, NMD  
International Academy of  
Oral Medicine and Toxicology

Professor Bruce Lanphear, MD MPH  
Simon Fraser University

Dr. John Staniland, MD  
Fluoride Action Network



**City of Dallas**