**THE REGIONAL MUNICIPALITY OF PEEL**

**COMMUNITY WATER FLUORIDATION COMMITTEE**

**AGENDA** **CWFC - 3/2016**

**DATE:** **Thursday, April 14, 2016**

**TIME:** **8:30 AM – 9:30 AM**

**LOCATION:** **Regional Council Chamber, 5th Floor**
**Regional Administrative Headquarters**
**10 Peel Centre Drive, Suite A**
**Brampton, Ontario**

**MEMBERS:** **F. Dale; J. Downey; A. Groves; M. Palleschi; C. Parrish; K. Ras; J. Sprovieri; J. Tovey**

*Chaired by Councillor C. Parrish or Vice-Chair Councillor J. Sprovieri*

## 1. DECLARATIONS OF CONFLICTS OF INTEREST

## 2. APPROVAL OF AGENDA

## 3. DELEGATIONS

## 4. REPORTS

4.1 History of Community Water Fluoridation and World Health Organization (WHO) Oral Health Data (Oral)
Presentation by Dr. de Villa, Medical Officer of Health

4.2 Mechanisms of Action of Fluoride (Oral)
Presentation by Dr. de Villa, Medical Officer of Health

## 5. COMMUNICATIONS

## 6. OTHER BUSINESS

## 7. IN CAMERA MATTERS

## 8. NEXT MEETING

Thursday, May 26, 2016, 8:30 a.m. - 9:30 a.m.
Regional Council Chamber, 5th Floor
Regional Administrative Headquarters
10 Peel Centre Drive, Suite A
Brampton, Ontario

## 9. ADJOURNMENT

# History of Community Water Fluoridation

Community Water Fluoridation Committee
April 14, 2016

Eileen de Villa, MD, MBA, MHSc, CCFP, FRCPC
Medical Officer of Health

Region of Peel
Working for you

# History of Community Water Fluoridation

**Early 1900s:**

Research on fluoride began

**1945:**

Level of fluoride in drinking water adjusted in

- Grand Rapids, Michigan
- Brantford, Ontario

# History of Community Water Fluoridation

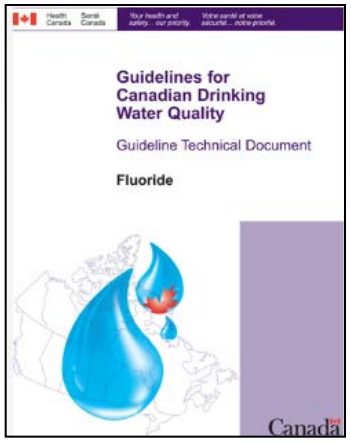
**1961:**

- Province of Ontario enacts the *Fluoridation Act*

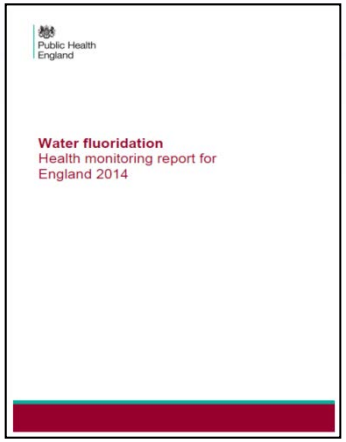
# History of Community Water Fluoridation

## Current State:

- Over 70 years of community water fluoridation
- Ongoing research and review
- In Ontario, the estimate for fluoridated water system coverage in 2012 was 67.3%
  - In comparison, 74.7% of the US population on community water systems was receiving fluoridated water in 2014







# Community Water Fluoridation Decisions

- Local decisions on community water fluoridation are influenced by various factors, such as:
  - Technical
  - Financial
  - Resident/community input
- Examples of recent decisions:
  - Parry Sound, Windsor, Prince George (B.C.), Calgary (Alberta), Waterloo
  - Terrace (B.C.), Toronto

# International Examples of Population-Wide Access to Fluoride

Water fluoridation

Salt fluoridation

Milk fluoridation

Universal dental care/ programs

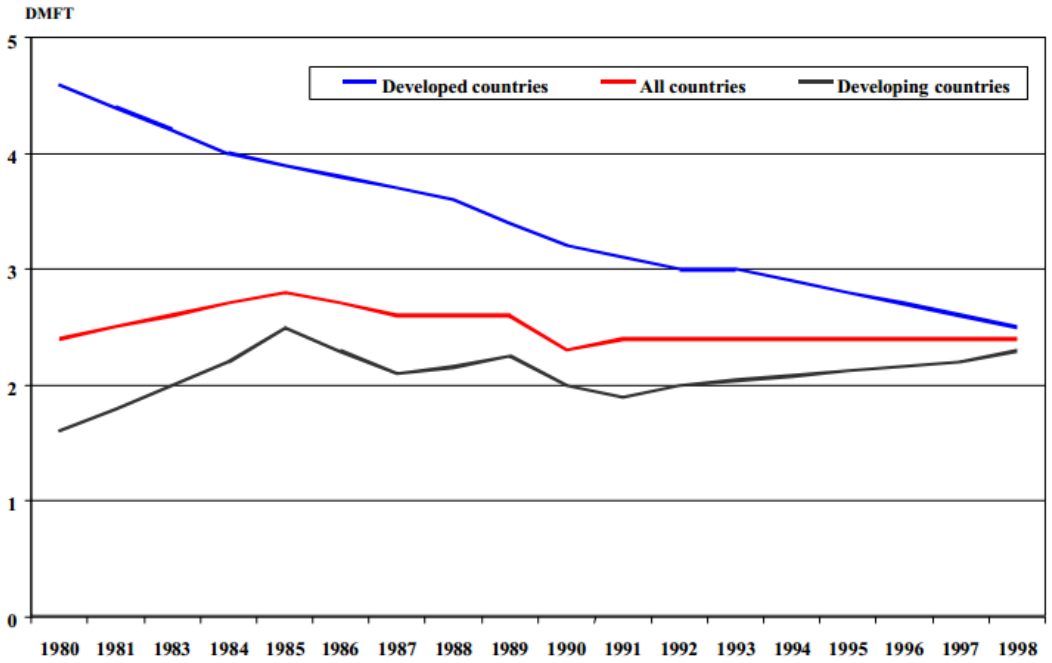
# World Health Organization (WHO) Oral Health Data

# WHO Data

- 1967 WHO Global Health Data Bank established
- WHO has encouraged standardized methodology/criteria to allow for international comparisons
- 1996 WHO established an online database supported by the WHO Collaborating Centre in Oral Health, at Malmo University, Sweden

# World Oral Health Report, 2003

**Figure. 7: Changing levels of dental caries experience (DMFT) among 12-year-olds in developed and developing countries**




**Source: Dr. Poul Erik Petersen, World Health Organization**

# Fluoride: Mechanisms of Action

Community Water Fluoridation Committee
April 14, 2016

Eileen de Villa, MD, MBA, MHSc, CCFP, FRCPC
Medical Officer of Health

Region of Peel
Working for you

# Sources of Fluoride

- It is a natural component of the biosphere and the 13th most abundant element in the earth's crust. Found in:
  - Food
  - Soil
  - Air
  - Systemic and topical sources

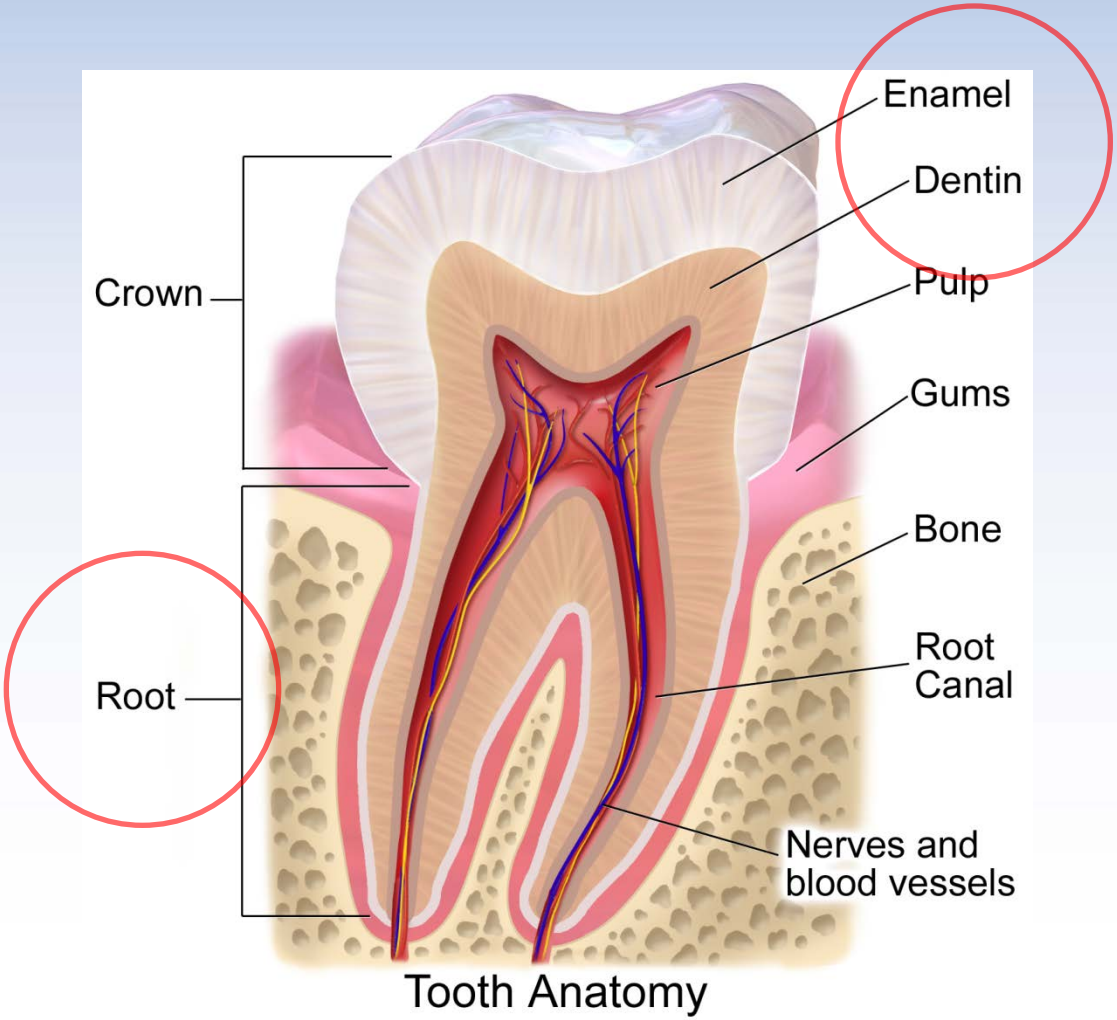
# Systemic Mechanisms

- Systemic – ingested in the body
- Absorbed into developing tooth enamel
- Benefits occur pre/during tooth eruption
- Creates a surface more resistant to decay
- Becomes integrated in salvia and bathes teeth

# Topical Mechanisms

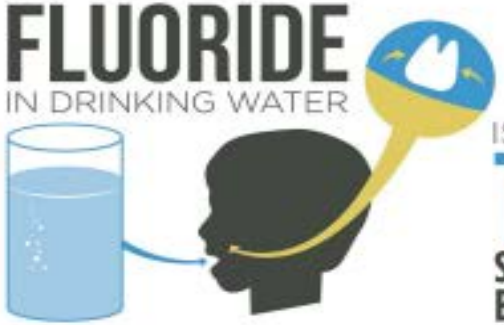
- Direct contact to exposed surface
- Benefits occur when tooth erupts
- Increases tooth's resistance to decay by reinforcing tooth minerals
- Direct and indirect effects on plaque formation

# How Fluoride Works




Tooth Anatomy

# HOW FLUORIDE WORKS




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**

# What Happens to Fluoride in Our Body?