



# OLR RESEARCH REPORT

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## WATER FLUORIDATION

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You asked for an update to OLR Report [2007-R-0655](#), describing Connecticut law on water fluoridation.

### BACKGROUND

Most water supplies contain trace amounts of fluoride. When a water system adjusts the level of fluoride above the naturally occurring amount, it is referred to as community water fluoridation.

According to 2010 statistics from the Centers for Disease Control and Prevention (CDC), approximately 73.9% of the U.S. population whose water comes from public water supplies (about 204 million people) have access to fluoridated water. In Connecticut, that figure is 91.0%, which ranks 14<sup>th</sup> in the nation. Among the entire U.S. population (including those whose water does not come from public water supplies), 66.2% have access to fluoridated water (<http://www.cdc.gov/fluoridation/statistics/2010stats.htm>).

According to the CDC, water fluoridation prevents tooth decay in two ways: (1) primarily through direct contact with teeth throughout life and (2) when consumed by children during the tooth forming years. CDC states that water fluoridation is the most inexpensive way to deliver the benefits of fluoride to all residents of a community.

Other sources of fluoride are available. It can be applied directly to teeth through toothpaste, mouth rinses, and fluoride treatments in dental offices. More information about other fluoride products is available on the CDC's website:

[http://www.cdc.gov/fluoridation/fluoride\\_products/index.htm](http://www.cdc.gov/fluoridation/fluoride_products/index.htm).

In 1962, the U.S. Public Health Service recommended that fluoride concentrations in drinking water be 0.7 to 1.2 milligrams per liter (mg/L), depending on ambient air temperature for the area (areas with higher average temperatures would require less fluoride). In 2011, the U.S. Department of Health and Human Services (HHS) proposed new guidance recommending that community water systems adjust their fluoride level to 0.7 mg/L. The proposal stated that this concentration would provide “the best balance of protection from dental caries (cavities) while limiting the risk of dental fluorosis” (dental fluorosis is a change in the appearance of tooth enamel caused by excessive fluoride intake). The HHS guidance is advisory only. More information, including the rationale for the updated recommendation, is available in the Federal Register notice announcing the proposal (76 Fed. Reg. 2383 (Jan. 13, 2011), available at <http://www.gpo.gov/fdsys/pkg/FR-2011-01-13/pdf/2011-637.pdf>).

## **CONNECTICUT LAW**

A Connecticut statute, passed in 1965, provides that whenever the fluoride content of public water supplies serving 20,000 or more people is less than 0.8 mg/L, the person, firm, corporation, or municipality having jurisdiction over the supply must add a measured amount of fluoride to the water so as to maintain a fluoride content of between 0.8 mg/L and 1.2 mg/L ([CGS § 19a-38](#)). (While not identical, 1 mg/L is, loosely speaking, 1 part per million.)

A Department of Public Health (DPH) publication, *Water Fluoridation in Connecticut: A Resource Guide for Potable Water Production Facility Operators*, states that for Connecticut, “the most benefit to oral health is achieved when waters are fluoridated to 1.0 mg/L. Optimal fluoridation is achieved when the fluoride level in potable water is maintained in the control range of 0.8 to 1.2 mg/L” ([http://www.ct.gov/dph/cwp/view.asp?a=3139&q=387318#Water\\_Fluoridation](http://www.ct.gov/dph/cwp/view.asp?a=3139&q=387318#Water_Fluoridation)).

There are also references to fluoride in the Public Health Code concerning the testing of the quality of public drinking water for inorganic chemical levels (see Conn. Agencies Regs., [§ 19-13-B102](#)).

## **ADDITIONAL RESOURCES**

The following sources provide more information on fluoridation.

- CDC: <http://www.cdc.gov/fluoridation/>
- DPH: [http://www.ct.gov/dph/lib/dph/drinking\\_water/pdf/Water\\_Fluoridation\\_Fact\\_Sheet.pdf](http://www.ct.gov/dph/lib/dph/drinking_water/pdf/Water_Fluoridation_Fact_Sheet.pdf)
- American Dental Association: <http://www.ada.org/fluoride.aspx>
- National Institutes of Health, National Institute of Dental and Craniofacial Research: <http://www.nidcr.nih.gov/OralHealth/Topics/Fluoride/>

JO:car