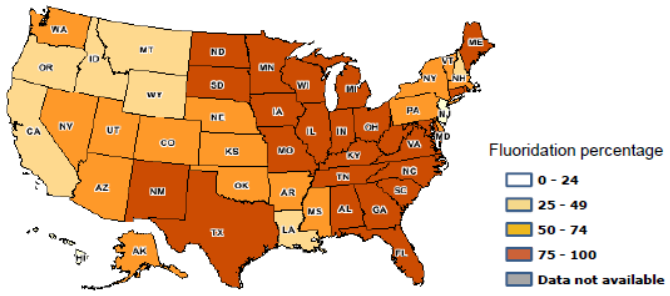
Fluoridation: Promoting Oral Health and Limiting Long Term Effects

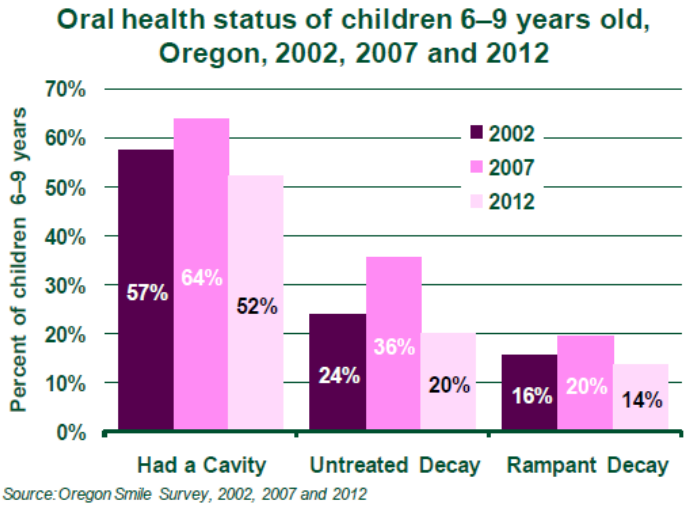
Every spring, the City receives a few inquiries as to whether or not we fluoridate the water. Since the 1960s, the City has been adding fluoride to the water system at the EPA recommended rate of 0.7 mg/l (milligrams per liter). Most people are grateful for the information, but some are skeptical. Below is some history regarding fluoridation of public drinking water in the US.

Oregon currently ranks 48 out of 50 states in access to fluoridated water. Only Hawaii and New Jersey rank lower.



Source: Oregon Health Authority: Public Health Division, Oral Health Unit, (2014).

FIGURE 1



Source: Oregon Smile Survey, 2002, 2007 and 2012

In the 1940's, the National Institute of Health tested a hypothesis to determine if people who drank fluoridated water would have a reduction in tooth decay. Their study, over a 15 year period beginning in the 1940's, found a 50% -70% reduction in tooth decay in children from communities with fluoridated water. They also found a reduction in tooth decay in adults by 20%-40%. These great reductions in tooth decay led to a national movement, and the fluoridation of public drinking water systems began. The Centers for Disease Control (CDC) declared fluoridation of community water one of the "10 great public health achievements of the 20th century" (CDC). According to the CDC and the US Department of Health and Human Services, widespread use of fluoride has been a major factor in the decline in the prevalence and severity of tooth decay in the United States. When used appropriately, fluoride is both safe and effective in preventing tooth decay.

Untreated tooth decay leads to more serious health concerns, including systemic infections. Fluoridation is seen as a cost effective way to help people protect their teeth from decay. It does not discriminate based on income, age, or access to care: anyone drinking public water benefits from it.

Community water fluoridation has been one of the most effective ways of improving oral health, especially for children. Yet, Oregon ranks 48th among states in the percent of population having fluoridated drinking water (CDC, 2012), with only 27% of Oregonians having access to fluoridated water, compared to 74% in the rest of the United States (OHA, 2014). In Oregon's 2012 "Smile Survey," results showed that 52% of children in first through third grade had cavities, which represents 66,000 children in Oregon. 20% had untreated tooth decay, and 14% (more than 17,000 children) had rampant decay (7 or more decayed teeth).

Out of the concerns regarding fluoridation of public drinking water, the EPA completes a thorough review, once every six years, of the use of fluoride. The most recent review was completed in 2011. Recommendations published by the EPA as a result of the review were based on studies, which took into account the widespread access people have to fluoride today and the long-term effects of fluoride use. The EPA maintained its maximum contaminate level (MCL) of 4 milligrams per liter (for systems that have natural occurring fluoride). However, the EPA changed recommended levels of community water systems that fluoridate the water from a range of 0.7-1.2 mg/l to just 0.7 mg/l.

The City of Florence is one of only 50 community water systems in Oregon that either add fluoride or have naturally occurring fluoride in their water systems (Oregon Health Authority) and the fluoridation of our water is at the EPA recommended level of 0.7 mg/l.