



Dental Fluorosis in the United States:
A Statement by the American Fluoridation Society

APRIL 23, 2019 — A [new report](#) by the National Center for Health Statistics (NCHS) concludes that recent data showing an increase in the rate and severity of dental fluorosis in the United States are not reliable. Dental fluorosis is a change in the appearance of tooth enamel resulting when children are exposed to higher than usual levels of fluoride during the tooth-forming years (age 8 and younger). The NCHS report concludes that the reported increase in dental fluorosis between the last two periods of data collection “is not biologically plausible.”

Typically, fluorosis in the U.S. is very mild to mild, appearing as white spots on the tooth surface. These spots are often unnoticed and do not affect the health or function of the teeth. Moderate and severe forms of dental fluorosis are far less common in the U.S. According to the [Centers for Disease Control and Prevention](#), the severe form of dental fluorosis “hardly ever occurs in communities where the level of fluoride in water is less than 2 milligrams per liter.” Fluoridated water has a level of only 0.7 milligrams per liter.

Examiner inconsistency, error or other factors could have skewed the most recent set of data (2011-2016), which showed a major jump in the prevalence and severity of dental fluorosis from the 2001-2004 data. As the new NCHS report observes, the scoring method used for fluorosis “has high examiner subjectivity.” The report adds that “there may have been some change in the way the examiners evaluated the level of fluorosis over time.” And the NCHS report notes: “Distinguishing fluorosis from other enamel defects can also be challenging for an examiner.”

“It’s important for federal health officials to collect data to enhance our knowledge of oral health,” said Dr. Johnny Johnson, president of the American Fluoridation Society (AFS). “However, it’s crucial that the data be held to a high standard. I applaud the National Center for Health Statistics for doing this analysis and calling attention to a significant weakness in the latest fluorosis data.”

In recent weeks, AFS had heard from a number of dental professionals who questioned the 2011-2016 data, stating that they had not observed any jump in recent years of moderate to severe fluorosis. In addition, the recent data did not reflect previous national fluorosis data nor did it align with the findings of a North Carolina study, published in 2014. The [North Carolina study](#) of nearly 7,700 children found that more than seven in 10 children did not have teeth with fluorosis—and only 3.7% of them had dental fluorosis that was mild, moderate or severe.

Moreover, the North Carolina study found that tooth decay among school children in North Carolina is “a much bigger public health concern” than dental fluorosis. The study’s researchers found that fluorosis “had no impact” on the oral health quality of life of children or their families. Additionally, [research shows](#) that molars with fluorosis are more resistant to tooth decay than are molars without fluorosis.

For more information on the topics of fluoride and fluoridation, visit <https://americanfluoridationsociety.org>.