



Public Health  
England

Protecting and improving the nation's health

# Water Fluoridation

## Health monitoring report for England 2018

Short summary

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# Short lay summary

## Background

Tooth decay (dental caries), caused by regularly eating and drinking sugary foods and drinks, is a significant problem for adults and children in England. A quarter of five-year-olds experience tooth decay and around 40,000 children and young people have teeth removed (due to decay) in hospital each year. Fluoride is naturally occurring and likely to be found in drinking water and many foods in varying amounts. It is also added to toothpaste. Less severe tooth decay has been observed in populations whose drinking water contains greater concentrations of fluoride than in populations with low drinking water fluoride concentrations. For this reason, water fluoridation schemes adjust fluoride levels in water supplies in some parts of England in an effort to reduce dental decay. This Public Health England monitoring report, on behalf of the Secretary of State for Health and Social Care, compared data on the health of people living in areas of England with differing concentrations of fluoride in their drinking water supply.

## Dental health

- Five-year-olds in areas with water fluoridation schemes were much less likely to experience tooth decay, and less likely to experience more severe decay than in areas without schemes.
- The chances of having a tooth/teeth removed in hospital because of decay were also much lower in areas with water fluoridation schemes.
- Children from both affluent and deprived areas benefitted from fluoridation, but children from relatively deprived areas benefitted the most.
- Dental fluorosis<sup>1</sup>, at a level that may effect the appearance of teeth, was observed in 10% of children/young people examined in 2 fluoridated cities<sup>2</sup>. However, there was no difference between children and young people surveyed in fluoridated and non-fluoridated cities when asked about their opinion on the appearance of their teeth, taking into account concerns which have resulted from any cause (eg poor alignment, decay, trauma or fluorosis).

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<sup>1</sup> mottling of the teeth as a result of exposure to fluoride, of which fluoridation schemes may contribute

<sup>2</sup> Children were surveyed in fluoridated cities (Birmingham, Newcastle) and non-fluoridated cities (Manchester, Liverpool)

## Non-dental health outcomes

Taken alongside the existing wider research, our results **do not** provide convincing evidence of higher rates of hip fracture, Down's syndrome, kidney stones, bladder cancer, or osteosarcoma (a cancer of the bone) due to fluoridation schemes.

## Conclusion

The findings of this report agree with the view that water fluoridation is an effective and safe public health measure to reduce the frequency and severity of dental decay, and narrow differences in dental health between more and less deprived children and young people.