

Improving oral health through community water fluoridation

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HAVE YOUR SAY

Introduction and background

Thank you for taking the time to read this document which contains information about community water fluoridation.

Improving oral health and preventing tooth decay is a responsibility of each Local Authority. Durham County Council, South Tyneside Council and Sunderland City Council have a range of strategies and approaches in place to improve the oral health of our local communities. While children's oral health has improved over the last twenty years, our most recent data shows that nearly a quarter (23.9%) of 5-year olds in the North East had tooth decay in 2017, despite tooth decay being largely preventable.

We are currently exploring the role that varying the existing community water fluoridation scheme in our area could play as part of a series of oral health promotion initiatives. This is because it is known that children who live in areas where the water supply is fluoridated have lower levels of tooth decay than those that live in non-fluoridated areas.

Some communities that already have fluoridated water in the North East include Newcastle upon Tyne, Gateshead, parts of County Durham including Derwentside, parts of Northumberland including Hexham and Alnwick and Hartlepool which is naturally fluoridated.

A feasibility study has been carried out that showed the community water fluoridation scheme covering Derwentside could be extended to cover most of the remainder of County Durham, South Tyneside and Sunderland in a way that is operable and efficient. Because of the way the water system is constructed, it would also affect the water supply to a very small number of residents in Darlington, Gateshead, Hartlepool, Stockton and Cumbria.

This proposed variation would reach large numbers of local residents and so the local authorities in these areas are considering holding a wide-ranging public consultation later in 2020. This document sets out information about community water fluoridation, why it is being considered and asks for your views to inform our consultation plans.

We want to make sure that, before we consult, we engage with as many individuals, organisations or groups as possible to draw upon their expertise and experiences. We would be grateful if you could look at the information contained in this document and give it due consideration. We would very much appreciate you taking the time to consider some key questions we pose and feedback your views in a way that is best for you.

Thank you for your time, we value the contributions you make, they will help us to consider all the issues involved so we can make better decisions. We look forward to discussing these important topics around oral health with our communities later in the year.



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Fluoridation and oral health

What is fluoride?

Fluoride is a mineral that occurs naturally in the environment - it is found naturally in both drinking water and seawater, in the soil and in certain foods.

When combined with other minerals, fluoride strengthens tooth enamel. The addition of fluoride to toothpaste has contributed over the last few decades to an overall improvement in dental health in England.

What is community water fluoridation?

Community water fluoridation (CWF) is the addition of fluoride to the drinking water supply. It adjusts the naturally occurring level of fluoride to an optimum concentration of around 1 part per million, and is recommended as a public health measure to reduce tooth decay. Community water fluoridation is supported by the World Health Organization, numerous medical and dental organisations in other countries and in England by the NHS, Public Health England and our own regional and local dental committee and network.

Fluoride in water has contributed to the decline in dental decay over the past 60 years since research in the United States discovered that people living in an area of naturally fluoridated water had much better dental health than those who did not. This is because fluoride protects teeth in a number of ways that combine to prevent and slow the decay process. These effects benefit children and these benefits continue into adulthood. When teeth are forming during early childhood, it becomes part of the tooth enamel and makes it stronger and more resistant to decay. Fluoride can also help even after teeth are formed, it works with saliva to protect tooth enamel from plaque and sugars.

There is good evidence that fluoride is effective in reducing decay and that community water fluoridation is an effective way of using fluoride to reduce decay. Other fluoride interventions, such as fluoride toothpaste and fluoride varnish, are also important, effective ways of reducing tooth decay and there is an even greater reduction in decay levels when, for example, fluoride toothpaste is used together with water fluoridation. However, community water fluoridation is the only intervention which can potentially benefit everyone in an area.

Research also shows that where people receive water that is fluoridated at a concentration of around 1 part per million, there is no convincing evidence of other health harms.

[Links to sources of information can be found at the end of this document.](#)

Which areas have fluoridated water?

In England six million people already live in areas with fluoridated water, including many in parts of the North East, as well as the West and East Midlands.

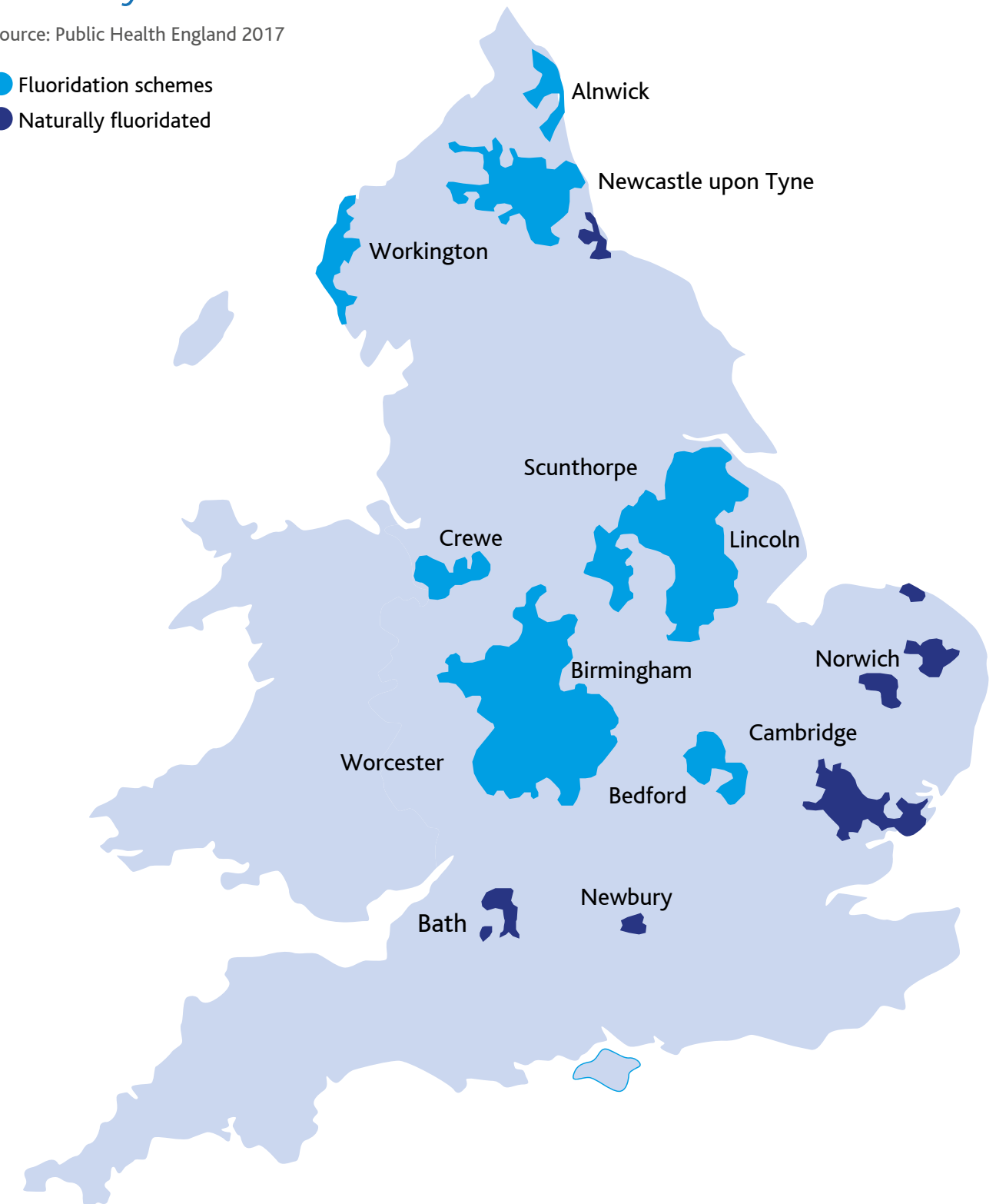
Currently 26 local authorities have community water fluoridation schemes covering the whole or parts of their area.

The communities with fluoride added to the water supply in the North East are Newcastle upon Tyne, North Tyneside, Gateshead, parts of County Durham including Derwentside and parts of Northumberland including Hexham and Alnwick. Hartlepool is supplied with water that is naturally fluoridated. In general, the dental health of children in areas which have fluoridated water is better than in comparable areas without it.

Map showing fluoridation schemes and naturally fluoridated water

Source: Public Health England 2017

- Fluoridation schemes
- Naturally fluoridated



Why is community water fluoridation being considered?

We know that children who grow up in non-fluoridated areas are more likely to suffer from tooth decay than those in areas where the water is fluoridated. Decay does not just mean fillings, it can mean pain and infection, time off school and children being admitted to hospital for tooth extractions. The consequences of decay are lifelong; extracted teeth are lost forever; fillings need to be replaced.

Community water fluoridation is associated with a reduction in the number of 5-year olds who experience dental decay and it also decreases the severity of the decay. Public Health England's Health Monitoring Report for England 2018 found that for 5-year olds living in areas of deprivation or disadvantage, community water fluoridation decreases the likelihood of experiencing dental decay by 52% compared with 28% for the general population of 5-year olds. Admissions to hospital for dental decay related extractions in children and young people aged 0 - 19 years has also been shown to be lower in areas with fluoridated water.

Water fluoridation also strengthens and preserves adult teeth. It is an important way to help the rising number of people living into older age have the best possible chance of keeping their teeth for a lifetime.



5 year-olds in fluoridated areas are 28% less likely to have had tooth decay than those in non-fluoridated areas



In fluoridated areas there are 55% fewer hospital admissions of very young people for tooth extractions than in non-fluoridated areas

Source: Public Health England 2017

Who will benefit?

In the main children and vulnerable adults would benefit the most from community water fluoridation. There would also be positive impacts for other vulnerable people, like those with disabilities. There is substantial evidence to show that people from areas of deprivation or disadvantaged backgrounds experience considerably more dental disease than other residents. Vulnerable groups in society are also more likely to suffer from poor oral health, for example, people with disabilities, people with poor mental health, those in care settings and the frail or older people.

The Public Health England Water Fluoridation Health monitoring report for England 2018, which compared a range of health indicators for local authorities in this country, found lower rates of tooth decay among children from fluoridated areas than those from non-fluoridated areas. No convincing evidence of harm to the health of people supplied with fluoridated water was found.

Other approaches for improving oral health

Supervised fluoride tooth brushing schemes

Regular use of fluoride toothpaste has been shown to reduce levels of dental decay and the increased use of fluoride toothpaste has been largely responsible for the reductions in dental decay that have been observed over the last 20-30 years.

Published research has indicated that these schemes are effective in reducing levels of dental decay and that there remains a significant reduction in decay levels between children in test and control groups at 30 months after the schemes have ended. Evidence also shows that the introduction and uptake of a tooth brushing program contributes positively to the dental health of children and reduces dental health inequalities.

Tooth brushing schemes can be established in targeted settings such as early year's day care facilities. They can also be used to promote other oral health messages, such as seeing a dentist.

Fluoride varnish

Fluoride varnish is another option for increasing the availability of topical fluoride, (i.e. fluoride applied to the surface of the tooth) regardless of the levels of fluoride in the water supply. Public Health England recommends that all children have fluoride varnish applied to their teeth twice a year. Research has shown that this can reduce dental decay in baby teeth by 37%, and in adult teeth by 43%. However, when provided as a public health measure it is a relatively expensive intervention and it can only be provided by dental health care professionals.

Is community water fluoridation cost effective?

The cost effectiveness of community water fluoridation can be estimated by comparing the savings that would be made from treating fewer instances of dental decay.

In England in 2015-2016



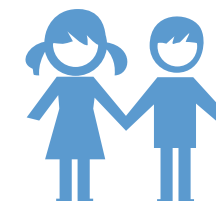
£836

was the average cost of a **hospital tooth extraction** for a child aged 5 and under



£50.5m

was spent on **tooth extractions** among those **under the age of 19**



£7.8m

was spent on **tooth extractions** among the **under 5s**

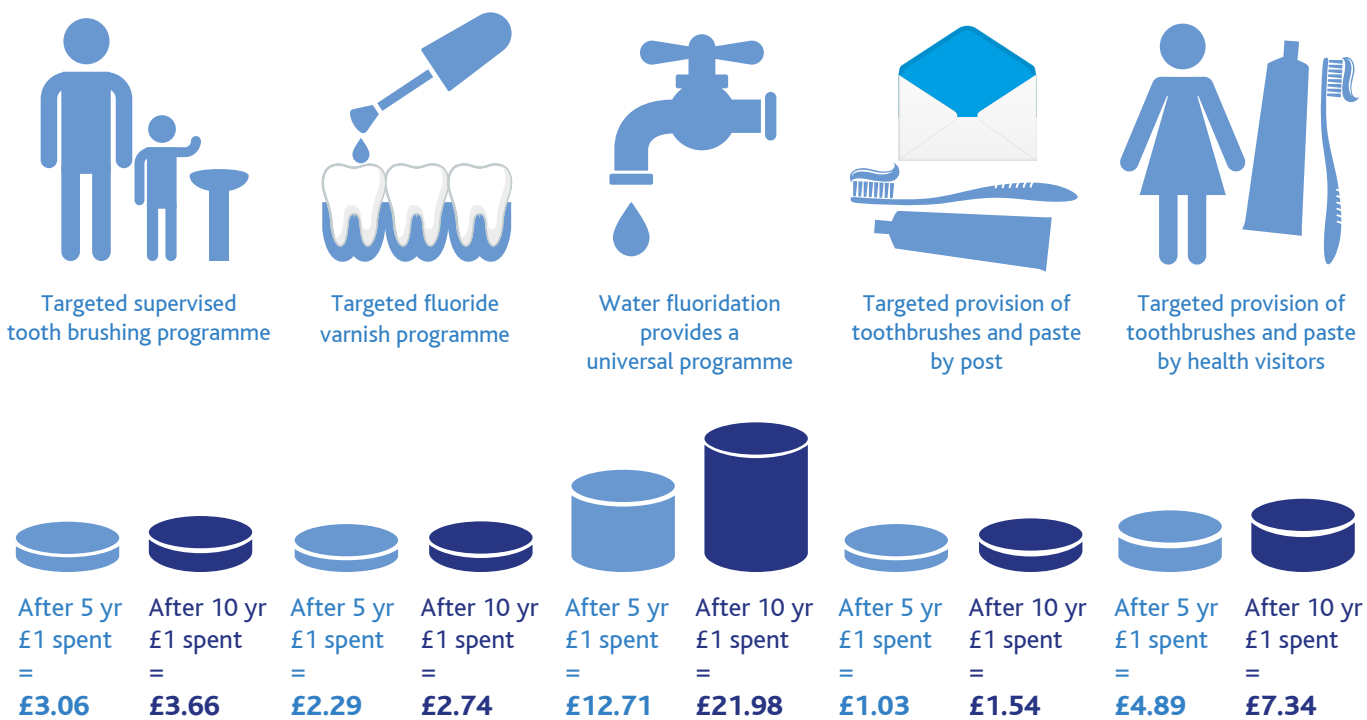
Source: Public Health England 2017

Reviews of clinical effectiveness by NICE (PH55) and Public Health England (Commissioning Better Oral Health for Children and Young People, 2014) have found that the return on investment for water fluoridation for £1 spent is £12.71 after five years and £21.98 after 10 years, this compares favourably with £3.06 and £3.66 for a targeted tooth brushing scheme over the same time frames.



Return on investment of oral health improvement programmes 0-5 year olds*

Reviews of clinical effectiveness by NICE (PH55) and PHE (Commissioning Better Oral Health for Children and Young People, 2014) have found that the following programmes effectively reduced tooth decay in 5 year olds:



* All targeted programmes modelled on population decayed, missing or filled teeth (dmft) index of 2, and universal programme on dmft for England of 0.8. The modelling has used the PHE Return on Investment Tool for oral health interventions (PHE, 2016). The best available evidence has been used in this tool and where assumptions are made these have been clearly stated PHE Publications gateway number 2016321.

Are there arguments against community water fluoridation?

Public Health England have reported that no convincing evidence has been found of harms to health associated with community water fluoridation.

It is true that too much fluoride can cause dental fluorosis, this affects the appearance of teeth causing them to appear mottled.

In England, it is uncommon for instances of dental fluorosis to be severe enough to seriously affect the appearance of teeth because fluoride levels in water are carefully monitored by the Drinking Water Inspectorate and adjusted if necessary. This is also the case when used in combination with recommended levels of fluoride toothpaste and fluoride varnish.

Some people argue that, irrespective of any impacts on health, addition of fluoride to the water supply removes choice for residents. That is, they cannot receive their water via the public supply without fluoride.

What are the legal requirements around community water fluoridation?

Community water fluoridation is expressly permitted in legislation by parliament. The Health and Social Care Act 2012 amended the Water Industry Act 1991 and returned responsibility for decisions on community water fluoridation to local authorities as part of their public health responsibilities. Legislation is in place to govern the way in which a new scheme can be introduced by Local Authorities and how an established scheme may be varied or terminated.

Legislation also sets out the process for formal public consultation on a community water fluoridation proposal. It includes guidance on collaborating with other local authorities whose residents may be affected by the proposal; and for taking account of a range of key factors when making final decisions.

Oral health in our region

Adults

Data available from the most recent national Adult Dental Health Survey which took place in 2009 showed that 92% of North East residents had some teeth. Generally, the more teeth a person retains the better their oral health and function will be; 21 teeth are generally considered adequate. In 2009 86% of the residents of the UK had at least 21 teeth compared to 82% in the North East. This was the lowest rate between all the England Strategic Health Authorities at the time.

Older people

We have an increasing proportion of older residents and older people are retaining their teeth for longer. We need to consider how the oral health of this growing group will be managed, especially for those with additional complications such as dementia for whom receiving dental care can be very difficult. Thorough assessments, and support from skilled and knowledgeable staff can help prevent the pain, disturbed sleep and health problems that poor oral health can cause.

Children

While children’s oral health has improved over the last twenty years, tooth decay remains the most common oral disease affecting children and young people in England. However, it is largely preventable. Public Health England’s oral health survey of 2017 found that nearly a quarter (23.9%) of 5-year olds in the North East had experience of tooth decay. Among these children, the average number of teeth that were decayed, missing or filled was 3.1. At age five, children normally have 20 primary teeth.

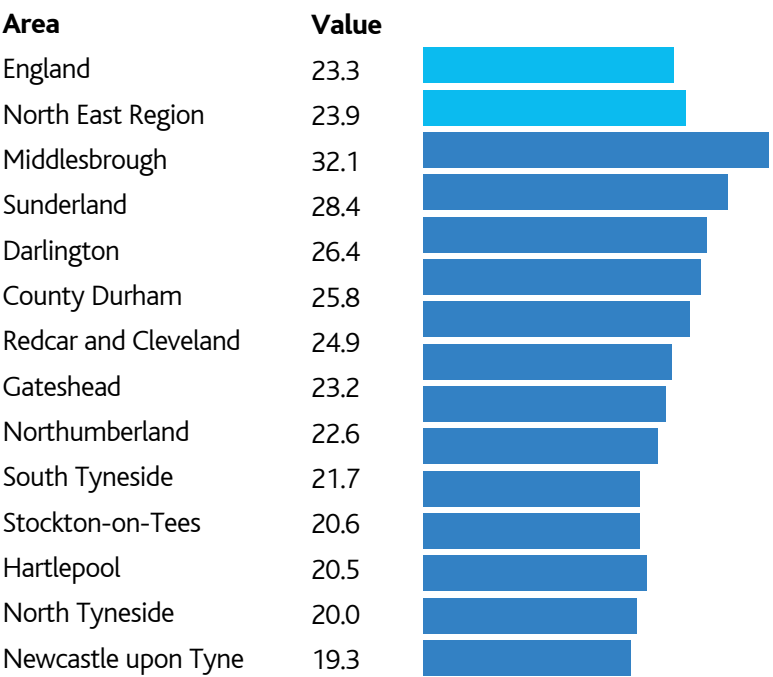
In addition, almost 9 out of 10 hospital tooth extractions among children aged 0 to 5 years are due to preventable tooth decay. Public Health England (PHE) data shows tooth extraction is the most common cause of hospital admissions among children aged 6 to 10 years old.

These children will usually be having a general anaesthetic which is never without risk and can be traumatic for the child and their family or carers.

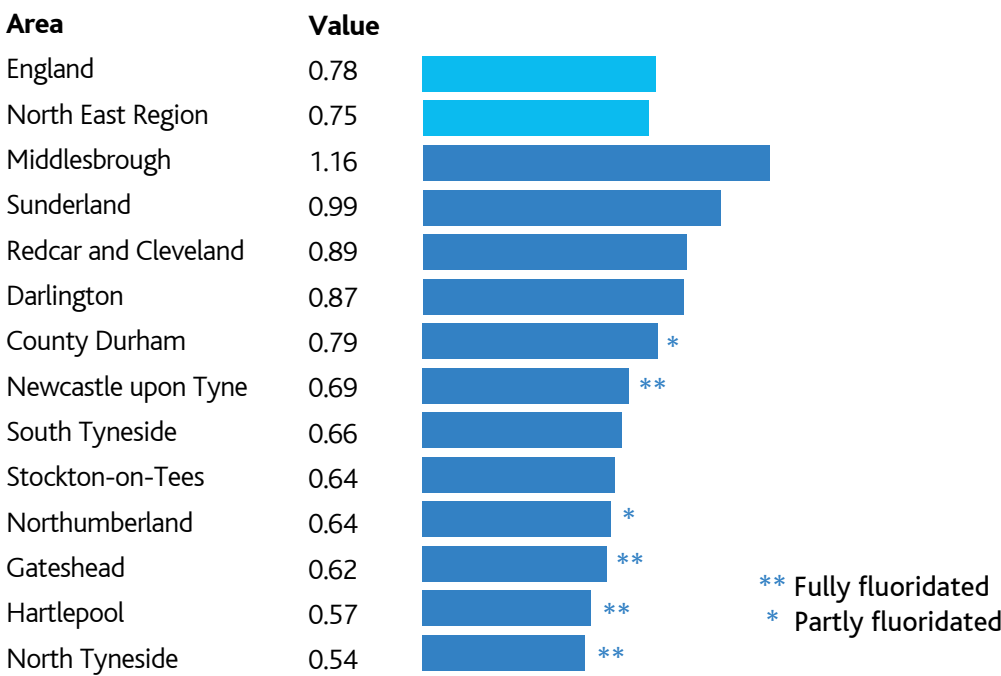
We know that children living in areas of deprivation or disadvantaged communities are at higher risk of having poorer oral health, however, children living in areas of deprivation or disadvantaged areas with fluoridated water have better oral health than comparable areas without fluoridated water.

At this stage we are seeking views on this proposal to vary the current community water fluoridation scheme with specific stakeholders, like you, who may have a professional, a representative or policy interest in reducing health inequalities and improving oral health.

Percentage of 5 year olds with experience of visually obvious dental decay: 2016-17



Average numbers of decayed, missing or filled teeth in 5 year olds: 2016-17



Why we are asking your views

We are keen to hear your views, both about community water fluoridation and how we can best consult with our communities.

We are keen to reach as many stakeholders as possible.

Here are some of the groups we are sharing this information with:

- Elected members
- Health and Wellbeing Boards
- NHS Foundation Trusts
- Senior Local Authority Officers
- British Fluoridation Society (BFS)
- British Dental Association (BDA)
- Health Overview and Scrutiny Committee (HOSC)
- NHS England
- Healthwatch
- Anti Fluoridation Alliance
- Universities

We will also share this information with local groups who represent those residents who are likely to be impacted most by health inequalities.

Next steps

During February and March 2020 County Durham, Sunderland and South Tyneside local authorities are seeking the views of local stakeholders and those who represent their communities at this formative stage. We will be asking five main questions that will provide views, information, detail and knowledge to help us understand the issues. These main questions are:

- 1 We want to ensure that our consultation reaches as many people as possible. What do you think are the best ways to gain the views of local people?
- 2 Community water fluoridation could benefit the following groups:
 - Children and young people
 - People from deprived communities
 - People from protected or vulnerable groups or communities such as people with learning and/or physical disabilitiesPlease tell us about any specific issues, concerns or views that we need to consider to ensure that we are engaging these groups during the public consultation stage.
- 3 Please detail below any other comments you wish to make or any additional issues you think we need to consider as part of this consultation planning stage. Please indicate yes/no if we can contact you about this offer of help in the future?
Please provide a key contact name, telephone and email (optional)
- 4 Are you in support of this scheme? (choose one)
 - Yes, very much so
 - Yes, to some extent
 - Neutral
 - Not really in support
 - Strongly against the scheme
 - Don't know / not sure

- 5 Are any of the groups you work with representative of any of the following equality groups (protected characteristics) as defined by the Equality Act 2010?
 - Age (all age groups or specific younger/older)
 - Disability (pan disability or specific disabilities or health conditions)
 - Gender reassignment
 - Pregnancy and maternity
 - Race
 - Religion and belief
 - Sex
 - Sexual orientation

The information we gather from this exercise will assist us in planning for any future consultation on the issue. It will be made available to a joint committee of members from local authorities that would be affected by varying the existing community water fluoridation scheme.

Through the programme we will gather the responses from our targeted stakeholders. We will look at what we have learned from which stakeholders and public from research, involvement, engagement and other activities.

This key information and insight will allow us to share and gain a collective understanding of the things to consider. This important information would be published and would be presented to a joint committee with representatives from all affected local authorities. If it's decided that a formal public consultation is needed, the feedback provided will help inform the development of our approach to this later in the year.

The three councils plan to have a joined-up approach to any public consultation and will simplify the way people give their views.

We will talk to local communities and find out their views in order to help us make a decision.

It is likely that our approach for formal consultation would consist of:

- A three-month consultation period so that time is given for consideration and response.
- Information and materials being available for residents across all affected areas of County Durham, Sunderland, South Tyneside and Cumbria, Darlington, Gateshead, Stockton and Hartlepool.
- Targeting those groups that will be most affected by the proposals, based on learning from this initial information gathering phase and intelligence from the Equality Impact Assessment.
- Public engagement including information published online.
- Paper versions of documentation available to meet a specific community need.
- Analysis of all feedback and responses via an independent analyst and a draft report published so that people can read it in advance of any decision being made.

As a result of this work responses and submissions would be analysed and used to inform any future decision on varying the current community water fluoridation scheme.

Sources of information

Improving oral health: a community water fluoridation toolkit for local authorities:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/774128/Fluoridation_Toolkit_-_Publications_gateway_version_20160304.pdf

Water Fluoridation Health Monitoring Report for England 2018:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/692754/Water_Fluoridation_Health_monitoring_report_for_England_2018_final.pdf

Public Health England: Water Fluoridation Health Monitoring Report for England 2018.

Executive summary:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/692754/Water_Fluoridation_Health_monitoring_report_for_England_2018_final.pdf

National Dental Epidemiology Programme for England: oral health survey of five-year-old children 2017 A report on the inequalities found in prevalence and severity of dental decay:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/692756/EXECUTIVE_SUMMARY_Water_Fluoridation_Health_monitoring_report_for_England_2018_DR.pdf

Public Health England: Child and Maternal Health: Oral health profile of five-year olds:

<https://fingertips.phe.org.uk/profile/child-health-profiles/data#page/9/gid/1938133263/pat/6/par/E12000001/ati/202/are/E06000047>

<https://fingertips.phe.org.uk/profile/child-health-profiles/data#page/9/gid/1938133263/pat/6/par/E12000001/ati/202/are/E08000024>

<https://fingertips.phe.org.uk/profile/child-health-profiles/data#page/9/gid/1938133263/pat/6/par/E12000001/ati/202/are/E08000023>

