



# Northumberland

## County Council

CABINET

DATE: 8<sup>TH</sup> OCTOBER 2019

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### ORAL HEALTH STRATEGY UPDATE

**Report of: Executive Director of Adult Social Care & Children's Services**

**Cabinet Member: Cllr Veronica Jones, Adult Health and Wellbeing**

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#### **Purpose of report**

1. This report is to up date Cabinet on the progress being made with the Northumberland Oral Health Strategy and provide an overview of activity to date to tackle oral health inequalities across the county.
2. The report provides an update on the technical appraisal undertaken by Northumbrian Water to consider the feasibility of expanding the community water fluoridation scheme in Northumberland, following approval from the Health and Wellbeing Board in July 2017 and more recently in March 2019.
3. The report requests approval to take the next legislatively defined steps for varying the current scheme in Northumberland.

#### **Recommendations**

4. Cabinet is recommended to:
  - a. Note the progress made on the oral health action plan and next steps for delivery;
  - b. Note that Northumbrian Water has confirmed that the proposal put forward to vary the Northumberland community water fluoridation scheme is operable and efficient and technically possible to implement;
  - c. Agree that the potential increase in revenue costs will be met from the allocated ring-fenced public health grant;

d. Agree to consult with the Secretary of State for Health and Social Care (SoSHSC) as to whether the variation being proposed is operable and efficient (s88C)<sup>1</sup> and, subject to the SoSHSC confirmation:

- Contact affected Local Authorities to decide whether further steps should be taken in relation to the proposal (s88D) and invite them to notify the Council as to whether they wish to participate in the process (s88F);
- Provided the local authorities consulted do not oppose taking further steps on the proposals and do not wish to participate in this process, agree to undertake public consultation (date to be determined) in accordance with the relevant legislation (s88E(2)).<sup>2</sup>

### **Link to Corporate Plan**

5. This report is linked to the 'Living' priority included in the NCC Corporate Plan 2018-2021. Extending the current community water fluoridation scheme will improve the oral health of our most deprived communities and will reduce oral health inequalities.

### **Key issues**

6. Local authorities have statutory responsibilities for the promotion of good oral health and decision making on the fluoridation of water. Oral health is an important aspect of a child's overall health status and children's school readiness, and is seen as a marker of wider health and social care issues including poor nutrition and obesity. While children's oral health has improved over the last twenty years, poor oral health continues to make a significant contribution to the burden of disease in children and young and is an area where there are significant inequalities.

7. The Northumberland Oral Health Strategy and action plan (2019 - 2022) was approved by the Health and Wellbeing Board in March 2019. Community water fluoridation is a safe, cost-effective and universal measure to improve oral health and reduce inequalities. The Health and Wellbeing Board (July 2017 and March 2019) has supported the expansion of the current community water fluoridation scheme as part of the Northumberland Oral Health Strategy. Northumberland's dentists and paediatricians also support community water fluoridation as does the MP for Berwick-Upon-Tweed.

8. The Health and Wellbeing Board supported the further exploration of the process through the commissioning from Northumbrian Water of a detailed technical appraisal of how operationally viable it would be to expand the scheme and what the cost implications would be. The Northumbrian Water technical appraisal has highlighted the operational features and cost implications of a proposed expansion of the Northumberland scheme. Northumbrian Water has confirmed that the proposal is operable and efficient.

9. Should Cabinet choose to progress with the next steps in the legislative process to vary the community water fluoridation scheme, the Council, as the proposer of the variation, is required to consult with the SoSHSC as to whether the proposal is 'operable and efficient'. Should the SoSHSC agree that that is the case, local progression will require all affected local authority areas<sup>3</sup> to be consulted to determine whether they would

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<sup>1</sup> Section 36 of the Health and Social Care Act (Procedural requirements in connection with fluoridation of water supplies) inserts s88B - s88O into the Water Industry Act 1991.

<sup>2</sup> Section 11 - The Water Fluoridation (Proposals and Consultation) (England) Regulations 2013 (Consultation in relation to a variation or termination proposal).

<sup>3</sup> Which has been interpreted as any local authority which is part of the arrangements the SoSHSC has with Northumbrian Water i.e. Cumbria, Durham, North Tyneside, Newcastle and Gateshead Local Authorities as well as Northumberland County Council.

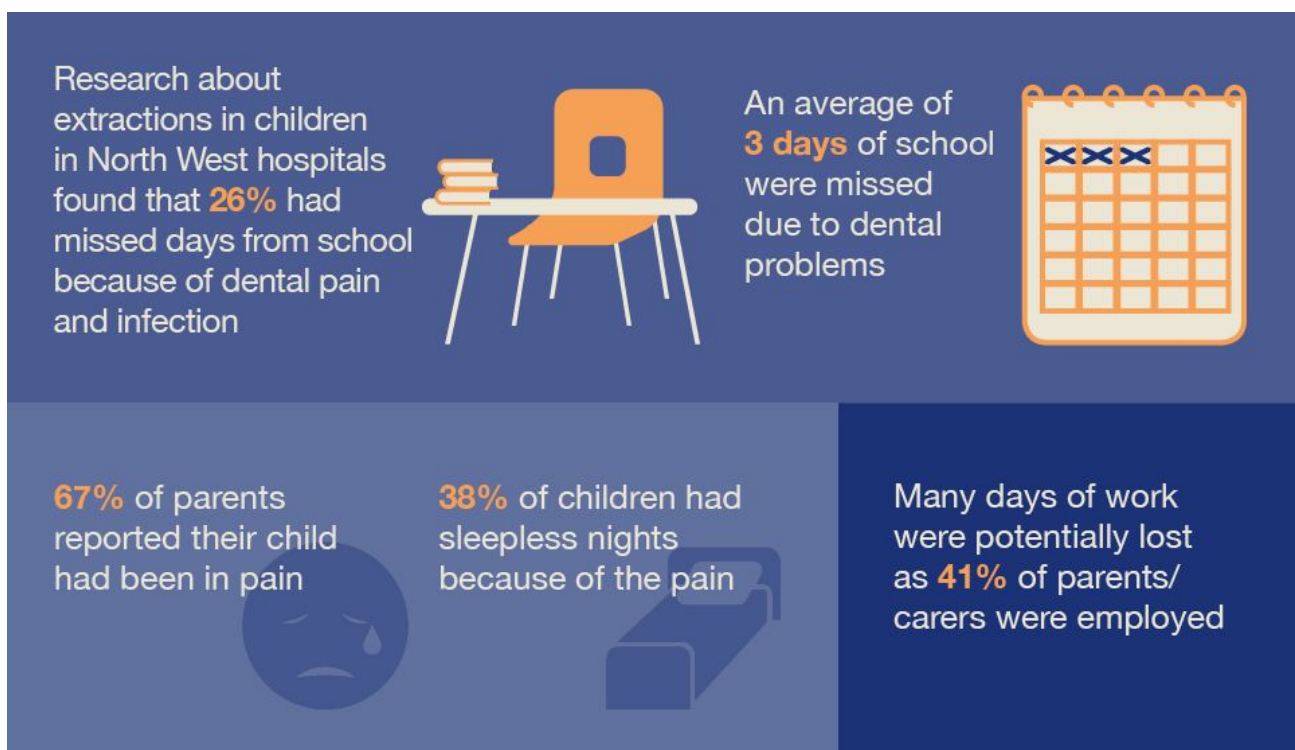
wish to participate in progressing the proposal. It is assumed, since the proposal to vary the scheme in Northumberland only affects Northumberland residents, that other local authorities will decline to participate and the process will continue on a single authority basis. At this point, the Council can then proceed to formal consultation.

10. The revenue costs for this proposal will be met from the ring-fenced Public Health Grant and are estimated at £84,557 to £109,924 per annum but could be as high as £182,136. Capital costs are estimated at £2,147,800 and fall to the SoSHSC.

## Background

### Oral health and oral health inequalities

11. Oral health is important for general health and wellbeing. Poor oral health can affect someone's ability to eat, speak, smile and socialise normally, for example due to pain or social embarrassment. Tooth decay is the most common oral disease affecting children and young people in England, yet it is largely preventable. Toothache and the need for dental treatment is one of the main reasons for school absenteeism.



Source: PHE (2017). Health matters: Child dental health. Public Health Matters. 14 Jun 17.

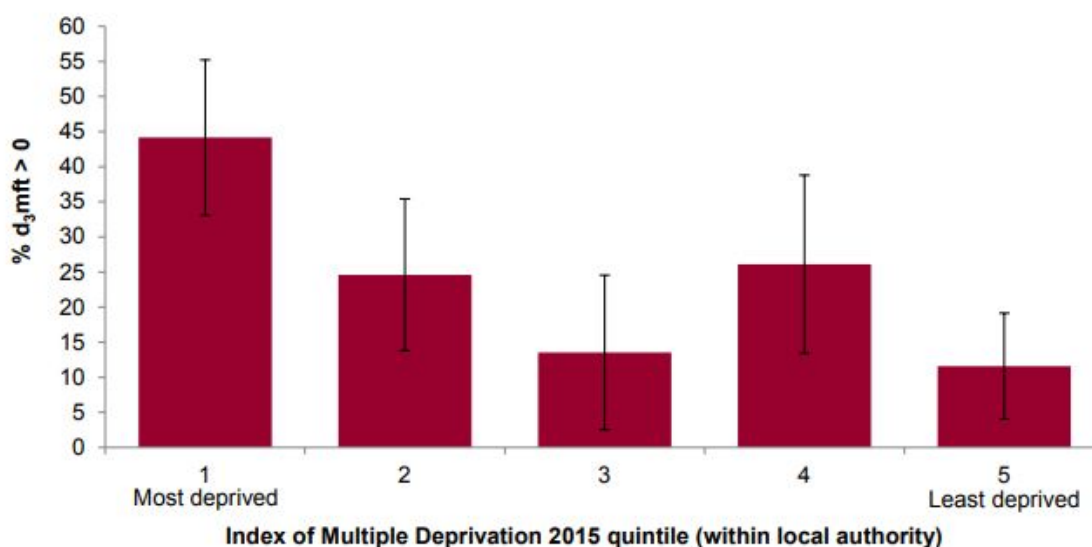
12. Poor oral health is also financially costly. In 2015 the average cost of an episode of tooth extraction in hospital for a child was £836 and over the period 2015/16 to 2017/18 there were 486 admissions for dental decay in 0-5 year olds in Northumberland. Almost all will require a general anaesthetic which presents a small but real risk of life-threatening complications for children and carries significant morbidity for children undergoing this procedure as well as being distressing for the child and their family. Children who have high levels of disease in primary teeth have an increased risk of disease in their permanent teeth. If treated, these teeth will require long term maintenance throughout life.

13. While children’s oral health has improved over the last twenty years, almost 1 in 5 (22.6%) of five year olds examined in Northumberland had tooth decay in 2016/17. This is about the same as the North East and England average.<sup>4</sup>

14. One of the statutory responsibilities of the local authority is to take whatever actions it thinks appropriate to improve the health of the people in its area. The new Northumberland Joint Health and Wellbeing Strategy has a theme focused on giving every child and young person in Northumberland the best start in life with overarching ambitions to improve life and healthy life expectancy and reduce inequalities. Reducing oral health inequalities is also recognised in the Northumberland JSNA and a feature in the Children and Young People’s Plan.

15. Although the oral health of children in Northumberland, as assessed by the proportion free of dental decay, is about the same as that for England, this masks wide variations in dental disease between children living in different electoral divisions. Across the county, the proportion of children with decayed, missing or filled teeth is higher in the most deprived 20% of areas compared to those in the least deprived (Table 1). This highlights the need to narrow the gap in oral health inequalities.

Table 1. Prevalence of decay by Index of Multiple Deprivation 2015 quintiles for Northumberland local authority (including 95% confidence limits shown as black bars).



Source: PHE (2017). Dental Health Profile. Northumberland. PHE. July 2017.

### Oral Health Strategy Update

16. The Northumberland Oral Health Strategy and Action Plan 2019-2022 was presented to the Health and Wellbeing Board in March 2019 for approval. The strategy and action plan is based on a comprehensive oral health needs assessment undertaken in 2017. The plan itemises 14 actions to be implemented over the 3-year period of its timespan. Despite the short timeframe so far, progress is being made across the majority of actions and a summary is outlined in Table 1. An oral health strategy group is being formed to monitor and progress actions.

<sup>4</sup> Proportion of 5 year old children free from dental decay 2016/17, Oral Health Profile, PHE Fingertips.

Table 1: Update Against Oral Health Action Plan recommendations

<b>Giving every child the best start in life</b>	
1	Consideration to be given to extending the existing community water fluoridation scheme in order to protect those communities at highest risk of dental decay. Action: NCC
	<b>Progress: Northumbrian Water detailed engineering report complete. Confirmation received from Northumbrian water that the proposal is operable and efficient.</b>
2.	Explore the feasibility of targeted provision of toothbrush and toothpaste packs by health visitors at the 6 month and 2 year checks in those areas of greatest need (i.e. those areas with the highest decay and general anaesthetic rates). Action: NCC Public Health
	<b>Progress: Learning from Durham County Council approach and exploring how this can be delivered in Northumberland. Mandated checks by Health Visitors are at newborn, 12 months and 2½ years. Health Visitors also do a non-mandated check at 3-4 months. All checks include oral health element.</b>
3.	Ensure that community midwives, health visitors, social care staff and others in early years settings promote messages regarding the reduction of consumption of sugary drinks and the promotion of water as the drink of first choice. Clear and consistent messages to be delivered in health promotion and health education work with families and young children. Action: Children and Young People's Strategic Partnership (CYPSP)
	<b>Progress: Oral health training forms part of the Integrated Wellbeing Service (IWS) commissioned by Public Health and delivered by Northumbria Healthcare NHS Trust. IWS currently uses Health Education North East for oral health training but is soon to be leading this training itself. Plan to pilot a workbook. NCC and Trust will work together on content.</b>
4.	Health visitors, midwives and early years settings to ensure that breastfeeding advice and support also includes messages regarding oral health promotion. Action: NCC Public Health/Northumbria Trust
	<b>Progress: Exploration underway</b>
5.	Breastfeeding policy to be reviewed to ensure that issues relating to early childhood caries are addressed. Action: NCC Public Health/Northumbria Trust
	<b>Progress: Both Council and Trust policies acquired. Oral health links with breast feeding not explicitly referenced, both policies due for review in 2021. Through policy, Northumberland County Council encourages and supports staff members to breastfeed their babies, including upon their return to work and supports the Department of Health recommendation for mothers to breastfeed for six months and to continue breastfeeding for at least a year. The policy is based on the UNICEF UK Baby Friendly Initiative standard, relevant NICE guidance and the Healthy Child Programme.</b>
6.	Work with Newcastle University Dental School to explore opportunities for supervised brushing in those areas with the highest risk of dental decay. Action: NCC Public Health
	<b>Progress: The Newcastle Dental School 'Brush up' programme is student led and only takes place in Newcastle schools. There is a new requirement from Sept 2019 for Foundation Year dentists working in community practice to undertake an oral health project. We are working with the regional dental network to develop a mutually beneficial approach for Northumberland.</b>
<b>Improving the oral health of older people</b>	
7.	Support residential care settings to improve the oral health of their residents. This should include the introduction of an Oral Health Lead in every residential care setting and compliance with NICE guidelines and quality standards on oral health for adults in care homes. Action: Adult Social Care Services
	<b>Progress: Older Persons Care Home contract outlines expectations regarding service user access to dentistry. Consideration of recommendations made in CQC 'Smiling Matters. Oral Health Care in Care Homes' report.</b>
8.	NHS England review of domiciliary dental care to be considered by the Northumberland Health and Wellbeing Board with a view to identifying actions for the Northumberland system. Action: NHSE/Northumberland HWB
	<b>Progress: Await publication of NHSE review, expected Autumn 2019</b>

Service development and commissioning	
9.	Ensure that oral health improvement is considered as a component of all commissioned services for children and older people. Action: CYPSP/NCC Adult Social Care Services/NHS Northumberland CCG
	<b>Progress: Public Health to provide more detail and and discuss with commissioners.</b>
Partnership working	
10.	Ensure that the local Making Every Contact Count approach encompasses oral health considerations. Action: NCC Public Health
	<b>Progress: Discussions underway to include oral health messages in MECC regional and local training. Content to be developed. Proactive targeting of MECC training to dental practitioners to be explored as part of the overall MECC plan.</b>
11.	Through the Northumberland Cancer Strategy, encourage partners to work together to increase awareness in Northumberland residents of oral cancer and the risk factors associated with it, especially for those most at risk (e.g. smokers, those drinking more than 25g alcohol per day and those at increased risk of exposure to Human Papillomavirus). Action: NHS Northumberland CCG
	<b>Progress: Further actions to be identified.</b>
12.	Work with partners to improve the availability of robust data to enable accurate assessment of oral health in Northumberland (this should include arrangements to access data from private dental providers). Action: NCC Public Health
	<b>Progress: Data from private dental providers is not currently available.</b>  <b>NCC Public Health is investigating a number of avenues:</b> <ul style="list-style-type: none"> <li>● Accessing info from NHS Business Authority/Prescription Service.</li> <li>● Dental access data has been mapped by age, gender, MSOA and ward on numbers of people receiving treatment. Data current for 24 months up to March 2016. Mapped by rates per 1000.</li> <li>● NCMP data to be linked with dental datasets</li> <li>● SHAPE Atlas Tool now includes dental access data.</li> </ul>
13.	Undertake regular monitoring and review of the oral health plan to demonstrate progress and determine any additional actions required. Action: Northumberland HWB
	<b>Progress: PH staff brief DPH regularly. An Oral Health Strategy and Action Plan implementation group is being formed with key stakeholders.</b>
14.	Work with schools to promote good oral health and develop an oral health promotion campaign. Action: Education services; NCC Public Health
	<b>Progress: Education and Public Health will work together to present oral health promotion and campaign possibilities to Headteachers. Planning for a Spring 2020 input. Oral Health lesson plans have been circulated via e-Courier, will revisit.</b>

17. Having received confirmation from Northumbrian Water that the proposal to vary the Northumberland scheme is operable and efficient, based on the detailed engineering feasibility report commissioned by the Council, the remainder of this report will focus on the legislative steps required to expand the Northumberland community water fluoridation scheme.

#### Fluoride and community water fluoridation

18. Fluoride is widely present in the environment, occurring naturally in virtually all water. The concentration of fluoride in water is normally expressed as milligrams of fluoride per one litre of water (mg/l) or in parts fluoride per million parts of water (ppm). In the UK, the naturally occurring level of fluoride in water is typically around 0.1 to 0.2 mg/l,

although in some localities (for example Hartlepool) it is about 1mg/l. The optimum level of fluoride in water to reduce dental decay in temperate climates is approximately 1mg/l.

19. Community water fluoridation ensures that, where the natural fluoride concentration is too low to provide dental health benefits, it is raised to and maintained at the optimum level. The first water fluoridation scheme was introduced in the USA in 1945 and there is now extensive coverage by similar schemes, with over 200 million US citizens having a public water supply which has fluoridated water. Following pilot schemes in the UK, the first substantive water fluoridation scheme was for Birmingham in 1964. As at 1 Jan 16, 26 local authorities had community water fluoridation schemes covering the whole or parts of their area with some six million people in England receiving a fluoridated water supply, principally in the North (Gateshead, Newcastle, North Tyneside and parts of County Durham, Cumbria and Northumberland) and the West and East Midlands (Scunthorpe, Birmingham and parts Lincolnshire and Nottinghamshire). Over two-thirds of the population of the West Midlands live in an area where the level of fluoride is adjusted.

20. Communities encompassed by the existing scheme in Northumberland include Alnwick, Alnmouth, Howick, Embleton, High Newton-by-the-sea, Seahouses, Haltwhistle, Henshaw, Haydon Bridge, Corbridge, Haddon on the Wall and Prudhoe. North Northumberland is part of the existing community water fluoridation scheme but has not been receiving fluoridated water since the mid-2000s due to infrastructure failure; the restoration of fluoridated water is being progressed by Public Health England (PHE). In the south east of the County, some of the more southern wards receive artificially fluoridated water, whereas those in the east and north of that area (e.g. Ashington) are not part of a fluoridation scheme. As a result, some of Northumberland's least deprived communities are receiving fluoridated water, whereas some of the most deprived communities are not. A map of the current community water fluoridation scheme is attached at Appendix 1. A map showing the proposed variation is attached at Appendix 2.

### Fluoridation - is it effective

21. A large number of studies and systematic reviews of studies over the last 10-20 years have demonstrated a clear dental health benefit from water fluoridation. The exact estimate of the size of the benefits varies depending on the methodology used, the time period included and the countries covered. Typical examples of the benefits identified include:

- Fewer decayed, missing and filled teeth in children in fluoridated communities compared to children in non-fluoridated communities e.g. The odds (adjusted for ethnicity) of having dental decay were estimated to have reduced by 23% for five-year-olds living in the least deprived areas and 52% for five-year-olds living in the most deprived areas in areas where the concentration of fluoride in drinking water was  $\geq 0.7\text{mg/l}$ , compared to the lowest fluoride concentration ( $< 0.1\text{mg/l}$ ).<sup>5</sup>
- Reduction in tooth decay in adults exposed to fluoridated water e.g. For adults, a 21 percent reduction in dental decay for those aged 18 to 44 years and a 30 percent reduction for those aged 45+ (as measured by tooth surfaces affected).

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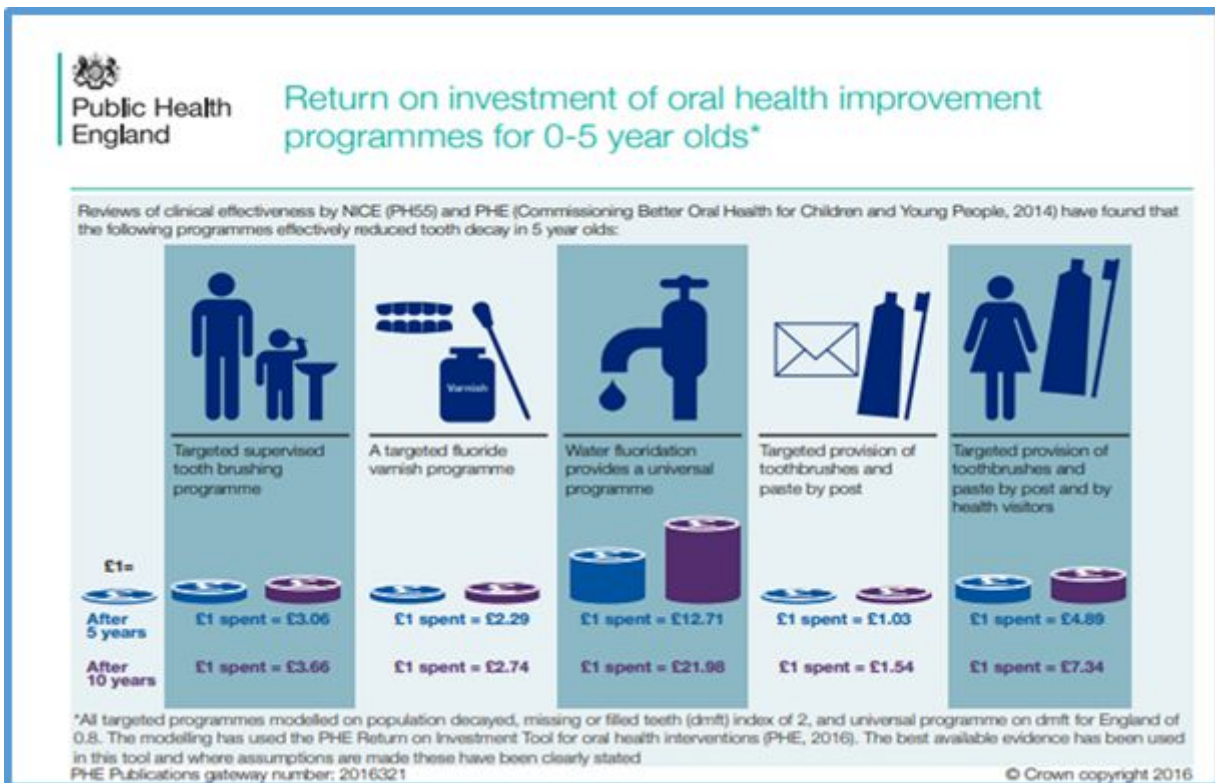
<sup>5</sup> PHE (2018). Water Fluoridation Health monitoring report for England 2018. March 2018.



This estimate is based on the Australian National Survey of Adult Oral Health (NSAOH).<sup>6</sup>

- Reduction in hospital admissions and general anaesthetic for children. The number of admissions for dental decay related extractions in 0-19 year olds was estimated to be 59% lower in areas where the concentration of fluoride was  $\geq 0.7\text{mg/l}$ , compared to areas with  $< 0.1\text{mg/l}$ . The trend between decreasing incidence of dental extraction and increasing concentration of fluoride is significant.<sup>5</sup>

22. Reviews of cost-effectiveness have estimated that on average, for every £1 spent, there is a return on investment of £12.71 after five years and £21.98 after 10 years for water fluoridation; this compares favourably with £3.06 and £3.66 for a targeted tooth brushing scheme over the same time frames.<sup>7</sup> A more bespoke ROI for Northumberland suggests that the ROI after 10 years could range from £14.85 to £19.31 (taking into account rates of dental decay from the 2015 survey in 5 year olds and a range of revenue costs) breaking even in the second year. Water fluoridation is the only oral health improvement intervention which is universal in those areas covered by a community water fluoridation scheme; and that does not require behaviour change by individuals. Appendix 3 shows how the proposed variation maps onto our more deprived communities.



Source: PHE (2016). Return on Investment of Oral Health Interventions Tool. PHE & York Health Economics Consortium. October 2016.

23. Within the UK, water fluoridation is endorsed as a public health intervention by Public Health England (PHE), the British Medical Association Board of Science, the

<sup>6</sup> Moore D, Poynton M (2015). Review of the benefits and costs of water fluoridation in New Zealand. Report prepared for the Ministry of Health. September 2015.

<sup>7</sup> PHE(2016). Return on Investment of Oral Health Interventions Tool. PHE & York Health Economics Consortium. October 2016.



Faculty of Public Health of the Royal College of Physicians, the Faculty of Dental Surgery of the Royal College of Surgeons of England, the British Dental Association, the British Society for Paediatric Dentistry and many other bodies representing health professionals. The recent government Prevention Green Paper actively supports community water fluoridation and outlines an intention to remove barriers to fluoridating water to encourage more local areas that are interested to come forward with proposals. More locally, a letter of support from the Northumberland Tyne and Wear Local Dental Network is at Appendix 4.

24. Internationally, water fluoridation has the support of the World Health Organisation, the US Center for Disease Control, the Australian Government National Health and Medical Research Council and the New Zealand Ministry of Health. Over the past ten years there has been an increase in fluoridation coverage around the world, particularly in the United States, Brazil, Chile, Australia and Malaysia, adding around 50 million people who receive this public health measure.

#### Fluoridation - is it safe

25. Some 370 million people worldwide have an artificially fluoridated water supply and there is over 70 years' experience of the measure. Routine monitoring of health in these areas has not revealed any health problems associated with water fluoridation. PHE is required by legislation to monitor and report on the effects of water fluoridation schemes on the health of people living in the areas covered every 4 years. The most recent report<sup>8</sup> states that:

*'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.'*

*'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.'*

26. Dental fluorosis is a common disorder which in its mild form, presents as white mottled patches affecting about 25% of the tooth surface area. Fluorosis considered to cause at least mild aesthetic concern was more common in children in two cities which received fluoridated water compared to two cities which did not (10.3% versus 2.2%). However, when asked about their opinion on the appearance of their teeth, there was no difference between children and young people surveyed in fluoridated and non-fluoridated cities, suggesting that the presence of fluorosis does not appear to cause aesthetic concern or, where it does cause concern there is an equal level of dissatisfaction due to other factors eg trauma, orthodontic malalignment or dental decay.

#### Opposition to fluoride

27. Fluoridation is bad for your health. There have been a number of reviews of the scientific evidence regarding the impact of water fluoridation on general health stretching back to the early days of water fluoridation in the UK. Many non-dental health conditions

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<sup>8</sup> PHE (2018). Water fluoridation: health monitoring report for England 2018. March 2018.

have been linked to water fluoridation, but there is no consistent scientific evidence to support any of these suggested associations.

28. Ethical opposition. The topic of water fluoridation has prompted debates about whether it is ethical:

- The right of an individual to drink water that has no fluoride added. The adjustment of the quantity of fluoride to an optimum level cannot be compared with adding to water a substance not found there ordinarily. Water fluoridation effectively replicates a naturally occurring benefit where fluoride is already present at the optimum level of 1ppm so there is no such thing as a 'right' to drink unfluoridated water, only a personal preference.
- Water fluoridation is 'mass medication'. Fluoridation may be viewed as being similar to other measures to add or remove elements to food or water that confer an overall benefit to the consumer. Eg. iodine to salt, vitamins to margarine, folic acid to bread or chlorine to water (to kill bacteria). In New Zealand recently, the Supreme Court issued a judgment confirming that local authorities have the legal authority to fluoridate water supplies and in doing so, are not breaching people's individual right to refuse to undergo medical treatment.<sup>9</sup>

29. Hard evidence that water fluoridation is unsafe will weaken arguments in favour of it, but even with a minimum of unknown risk there is an argument that would question the ethics of withholding something that is on balance beneficial. In the decades over which schemes have been operating across the world, there has been no successful human rights challenge to this public health measure in the UK, EU or USA.

#### Process for varying the Northumberland Community Water Fluoridation Scheme

30. Parliament has given its express consent in the Water Industry Act 1991 to the deployment of water fluoridation as a public health measure, by passing legislation to that end. However, parliament has also decreed that decisions about particular water fluoridation schemes should be made locally, not nationally, and only through a rigorous process defined in legislation. The legislation as it stands prescribes specific roles for and duties of various agencies in all aspects of water fluoridation.

31. Upper tier and unitary local authorities propose and make decisions to implement new schemes and work jointly with other local authorities affected by any proposed/agreed scheme. Water companies advise on the technical feasibility of schemes and, when requested to do so by the SoSHSC, implement and operate them in accordance with the legislation and regulations. The SoSHSC determines whether the arrangements which would result from a local authority's proposal for a fluoridation scheme would be operable and efficient. The SoSHSC also funds the capital costs of new schemes. A flow chart describing the due process that must be adhered to is at Appendix 5.

#### Local Progress as at October 2019

32. Progress to date includes:

- a. The preliminary scoping phase. This has been completed. The Northumberland Oral Health Strategy included an assessment of need across the county and

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<sup>9</sup> New Health New Zealand Incorporated v South Taranaki District Council [2018] NZSC 60

outlined an action plan which included exploring the feasibility of water fluoridation in Northumberland.

b. Initial feasibility study. This has been completed. The desktop feasibility study highlighted the potential to expand the community water fluoridation scheme across the proposed areas; deemed it potentially operable to implement across the geography proposed; and estimated that the preliminary costs looked sufficiently reasonable to warrant progression to a more detailed technical appraisal. It is not feasible to extend community water fluoridation across the whole county as private water supplies cannot be included and it is not cost-effective for small water treatment works supplying a relatively small number of properties to deliver fluoridated water.

c. Detailed technical appraisal. This has been completed.

d. Water company consultation. The council has consulted with Northumbrian Water to establish whether the proposal is operable and efficient; Northumbrian Water have confirmed that it is.

### Findings from the detailed technical appraisal

33. The detailed technical appraisal include the following key points:

- Operability (technically viable to implement). The scheme can be delivered across the proposed area of Northumberland within the known health benefits levels of 0.7 - 1.0 mg/l. This threshold is closely regulated to ensure maximum health and safety controls of the water supply.
- The vast majority of people within Northumberland can receive fluoridated water with the exception of six small communities which are supplied from bore holes in the Tyne Valley and those who receive their water from private water supplies (approximately 14,439 people).
- No populations outside Northumberland will be affected by this proposal.
- Efficiency (cost implications). The revenue costs of the scheme is currently funded from the Public Health grant and the average annual charge is approximately £87,331 per annum but has varied from £66,404 to £138,769. At present, the SoSHSC (advised by PHE) meets the capital cost of schemes and recovers the revenue (operating) costs from Local Authorities. Local Authorities are responsible for meeting the cost of feasibility studies but locally, NHS England has contributed half. The installation costs of a single fluoridation facility are significant so a large number of households need to be in each separate water distribution segment to make installation cost-effective.
- Revenue costs have been modelled at 50p to 65p per head of population. For the additional population covered by the proposal the anticipated extra revenue cost is estimated at between £84,557 and £109,924 per annum but could be as high as £182,136 (based on 18/19 costs). This funding increase can be accommodated through the existing public health grant.
- There is further discussion to be had with NHS England with regard to their contribution to the revenue costs as the financial benefits gained through the

reduction in tooth decay and dental extractions will be seen within the NHS as well as social care. The Prevention Green Paper (July 2019) supports this approach.

- Capital costs falling to the SoSHSC are estimated at approximately £2,147,800.

A summary of the number of households and an estimate of the number of residents who are currently part or not part of an existing or future community water fluoridation scheme is in Table 2.

**Table 2. Numbers of households and estimates of residents in areas with community water fluoridation.**

<b>Water status</b>	<b>Number of Households (% of Total Households)<sup>Note 1</sup></b>	<b>Estimated number of residents (x2.2 people per household)</b>
Fluoridated	58558 (37.9%)	<b>128828</b>
Not fluoridated but part of existing Community Water Fluoridation Scheme (North Northumberland)	12447 (8.1%)	<b>27383</b>
<b>Total existing scheme</b>	<b>71005 (46%)</b>	<b>156211</b>
Proposed	76870 (49.8%)	<b>169114</b>
<b>Total proposed scheme</b>	<b>147875 (95.8%)</b>	<b>325325<sup>Note 2</sup></b>
No proposal for fluoridated water	6563 (4.2%)	14439

Note 1. ONS estimates of the total number of Northumberland households = 154,438

Note 2. The number of residents and households have been calculated by using residential property point data (2019) multiplied by the ONS average number of people per household for the county (2.2). This is an estimate of the number of people who are in the current scheme and the proposed variation. The actual number may be slightly different but this is the best methodology we currently have for calculating the number of residents in water quality zones.

### Proposed Next Steps

34. The next step in the legislative process is to write formally to the SoSHSC to:

- Make a formal variation proposal;
- Consult with the SoSHSC to seek a view on whether the variation proposed is operable and efficient;
- Notify the SoSHSC that Northumbrian Water considers the proposal to be operable and efficient.

35. The legislation covering this area is untried since being amended in 2013. As a result, it is unclear as to whether the SoSHSC has one set of arrangements with Northumbrian Water covering Northumberland, Durham, North Tyneside, Newcastle, Gateshead and Cumbria; or whether there are multiple sets of arrangements for each Local Authority area. This determines what the definition of a Local Authority 'affected' by the proposal is. To err on the side of caution, the legal advice is that the assumption is for a single set of arrangements. As a result, should the SoSHSC agree that the proposal is operable and efficient, Northumberland County Council will be required to write to all other Local Authorities which are part of the existing arrangements that the SoSHSC has with Northumbrian Water and establish whether they are in favour of further steps being taken on the proposal; and whether they wish to be part of the process going forward. Since the

implementation of this proposal does not impact on any residents outside Northumberland, it is reasonable to assume that other Local Authorities will not be interested in forming a joint committee to take forward the decision making process, leaving the council to oversee the required 3 month consultation and decision making process as a single Local Authority.

36. Both the consultation and the subsequent decision-making in relation to the proposal are laid down in legislation.<sup>10</sup> Strategic advice on the consultation process has been commissioned from an independent associate of The Consultation Institute who will also be advising on commissioning a separate independent organisation to deliver and report on the outputs of the consultation. This ensures that the outcome is fair, transparent and independent.

37. A recommendation will then be brought back to Cabinet for a decision based on the extent of support for the proposal and the strength of the scientific evidence or any ethical arguments put forward; taking into consideration the Joint Strategic Needs Assessment and the Joint Health and Wellbeing Strategy; considering the capital and operating costs; and considering any other scientific evidence including benefits to health and wellbeing. If the decision is that the Cabinet supports the proposal, then a letter is sent to the SoSHSC to request Northumbrian Water to vary the scheme.

#### Overview and scrutiny

38. Northumberland's Health and Wellbeing Overview and Scrutiny Committee (HWB OSC) are aware of the Health and Wellbeing Board's support for varying the current scheme. It has been agreed that HWB OSC will be both part of the formal consultation and provide overview and scrutiny of the process as a whole, including the outcome of the consultation, as part of the pre-Cabinet decision-making process. In view of the cross-cutting impact of the proposal, HWB OSC should consider inviting members from other OSCs to be included in those considerations.

#### Timeline

39. Appendix 6 outlines the proposed timeline with actions relating to the legislative processes.

#### Appendices

1. Existing Community Water Fluoridation Scheme - Northumberland.
2. Proposed Variation to the Northumberland Community Water Fluoridation Scheme.
3. Map of proposed variation and ward level deprivation (to follow).
4. Due process flow chart
5. Proposed timelines for proposal to vary Northumberland community water fluoridation scheme.

#### **Implications**

<b>Policy</b>	No implications
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<sup>10</sup> The Water Fluoridation (Proposals and Consultation) (England) Regulations 2013.

<b>Finance and value for money</b>	<p>The technical appraisal for the proposed variation to the community water fluoridation scheme has been estimated to be approx £2,147,800 million for the capital costs (responsibility of SOSHSC); and approx 50p to 65p per head of population for the revenue costs (£84,557 and £109,924 per annum). Any increases in revenue costs for the Council will be met from the Public Health grant.</p> <p>Should the option to progress be agreed to the next stages there will be costs relating to public consultation which are yet to be determined.</p> <p>RoI tools indicate community water fluoridation provides the biggest RoI compared to other oral health interventions.</p>
<b>Legal</b>	<p>The process of making a fluoridation scheme is regulated by the Water Industry Act 1991 and the Water Fluoridation (Proposals and Consultation) (England) Regulations 2013. The legislation is untried and its interpretation influences the legislative process to follow. Legal advice has been taken and the process to be followed errs on the side of caution.</p>
<b>Procurement</b>	<p>Independent communications and consultation consultancy will be procured to strategically coordinate and implement the 3 month public consultation should the work progress to this stage. The revenue costs for fluoridation schemes are administered through Public Health England who invoice LAs.</p>
<b>Human Resources</b>	<p>No implications</p>
<b>Property</b>	<p>Planning permission may be required for elements of the additional infrastructure required.</p>
<b>Equalities</b> (Impact Assessment attached) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A <input type="checkbox"/>	<p>Public health aims to reduce inequalities and improve health outcomes by reviewing public health outcomes data and developing relevant policies, strategies and intentions as appropriate. A specific equality impact assessment will be undertaken as part of the consultation process.</p>
<b>Risk Assessment</b>	<p>If the actions within the plan are not progressed the risks to population health are that inequalities will not be reduced and residents will continue to have preventable dental ill health and avoidable treatment. There is an economic and social cost to this.</p> <p>Reputational risk to the LA may arise from challenge by a third party.</p>
<b>Crime &amp; Disorder</b>	<p>No implications</p>

<b>Customer Consideration</b>	A full and comprehensive consultation would be undertaken with affected residents.
<b>Carbon reduction</b>	A carbon increase resulting from an increase in the use of fluoride should be partially or wholly offset by the carbon reduction resulting from lower usage of NHS resources.
<b>Health and Wellbeing</b>	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. Water fluoridation is one component of a multiple oral health action plan.
<b>Wards</b>	Wards affected by the proposal will be identified as part of the consultation process

**Background papers**

None

**Report sign off**

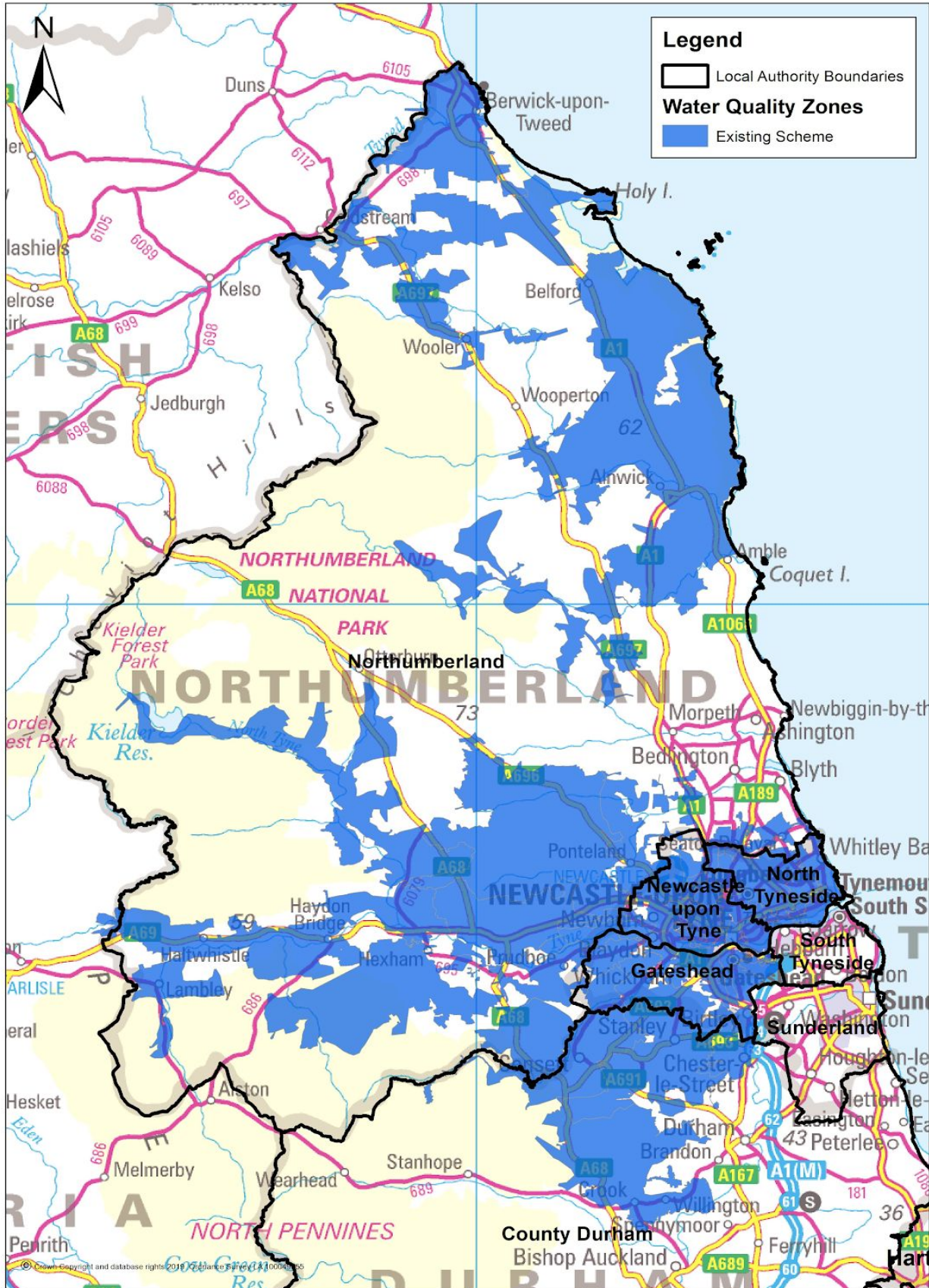
	Full Name of Officer
Monitoring Officer/Legal	Liam Henry
Service Director Finance & Interim S151 Officer	Alison Elsdon
Relevant Executive Director	Cath McEvoy-Carr
Chief Executive	Daljit Lally
Portfolio Holder(s)	Veronica Jones

**Author and Contact Details**

Elizabeth Morgan FFPH - Director of Public Health  
 Email: [elizabeth.morgan@northumberland.gov.uk](mailto:elizabeth.morgan@northumberland.gov.uk)  
 Tel: 01670 620111

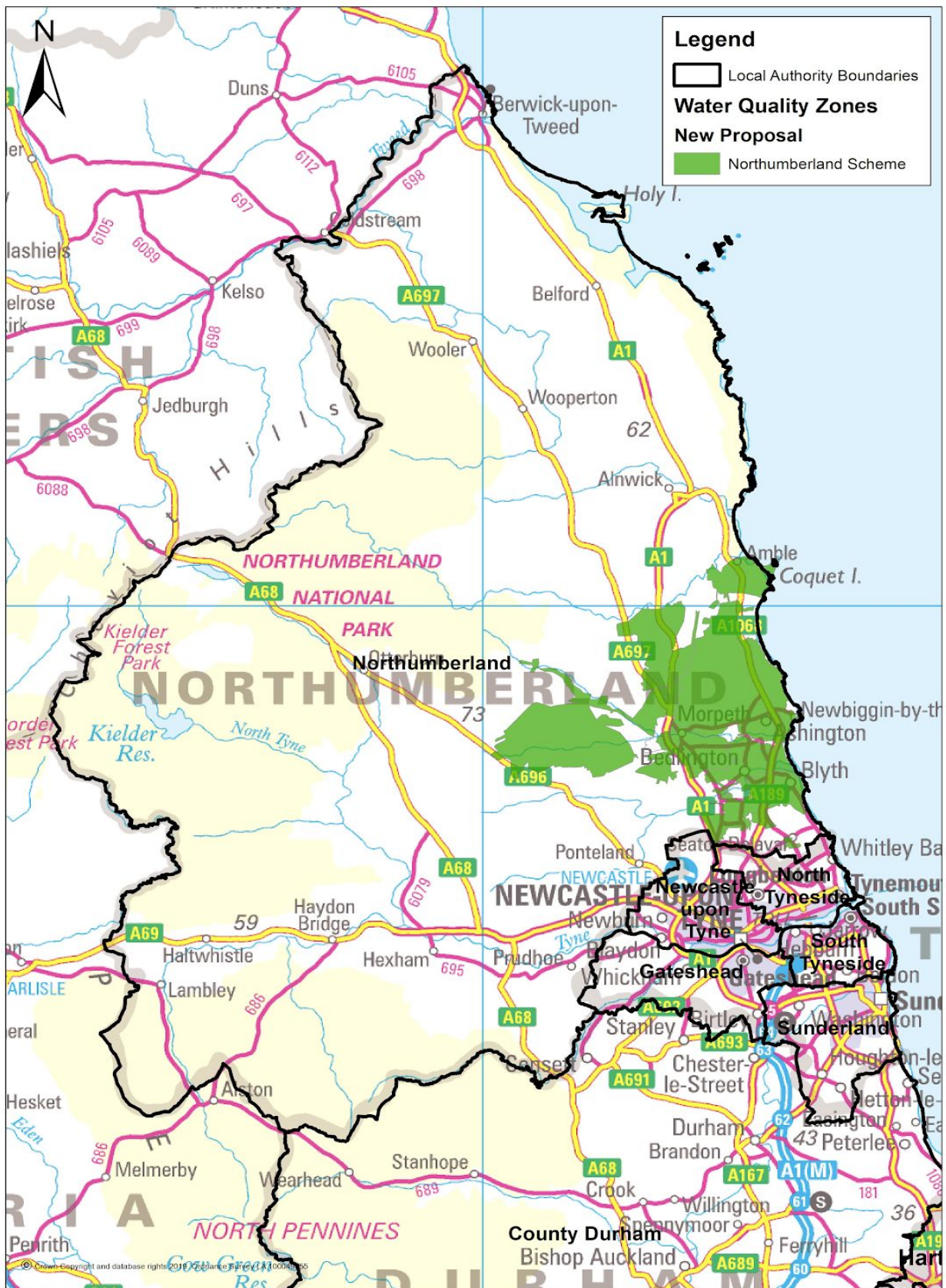


Existing Community Water Fluoridation Scheme - Northumberland

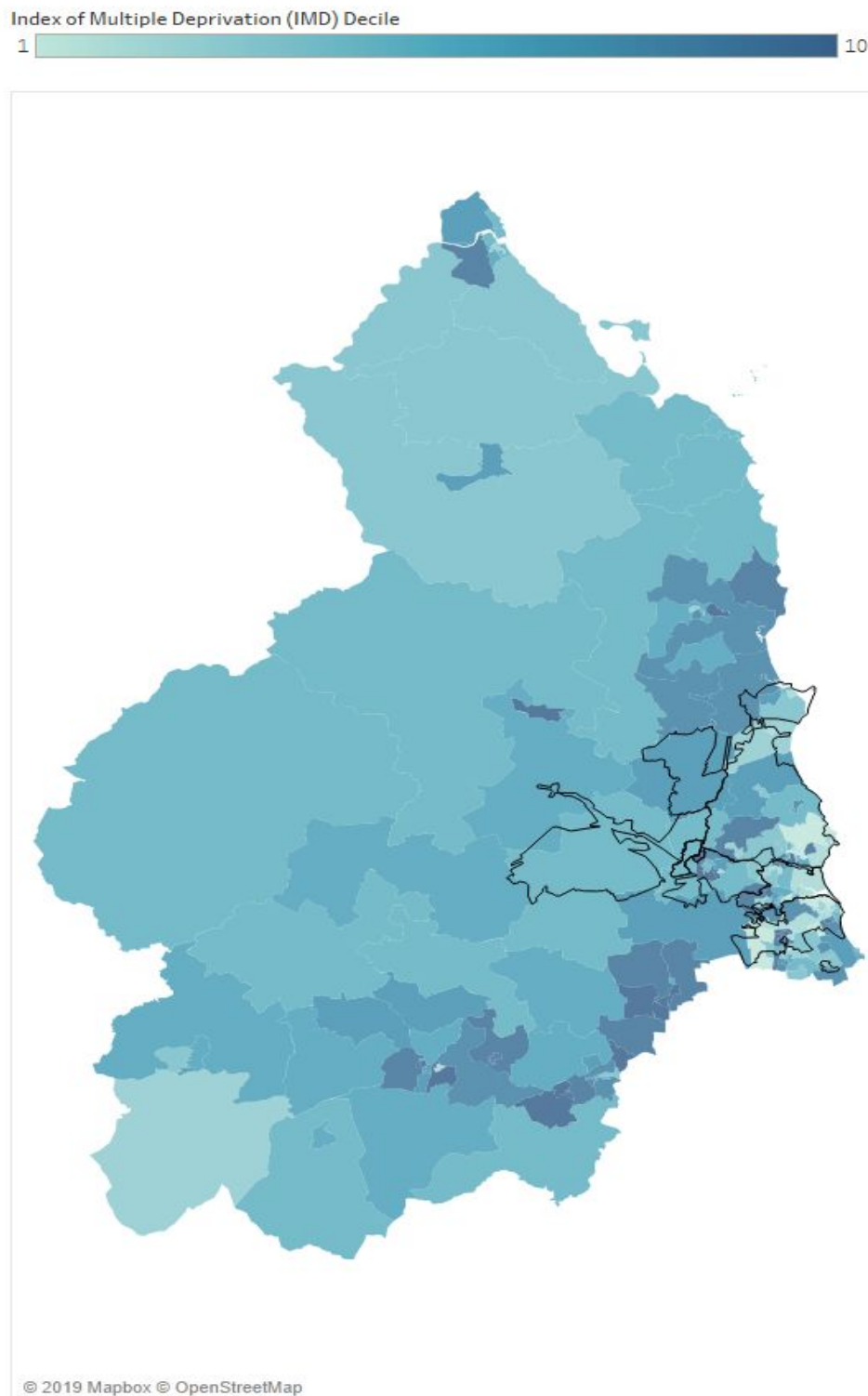




Proposed Variation to the Northumberland Community Water Fluoridation Scheme



Map of proposed variation and ward level deprivation (see Note)



Note. IMD 1 (pale blue) are the most deprived communities and IMD 10 the least deprived.

Liz Morgan FFPH  
Director of Public Health  
Adult Social Care, Children's Services and Public Health  
Northumberland County Council  
County Hall  
Morpeth  
Northumberland  
NE61 2EF

26 September 2019

Dear Liz,

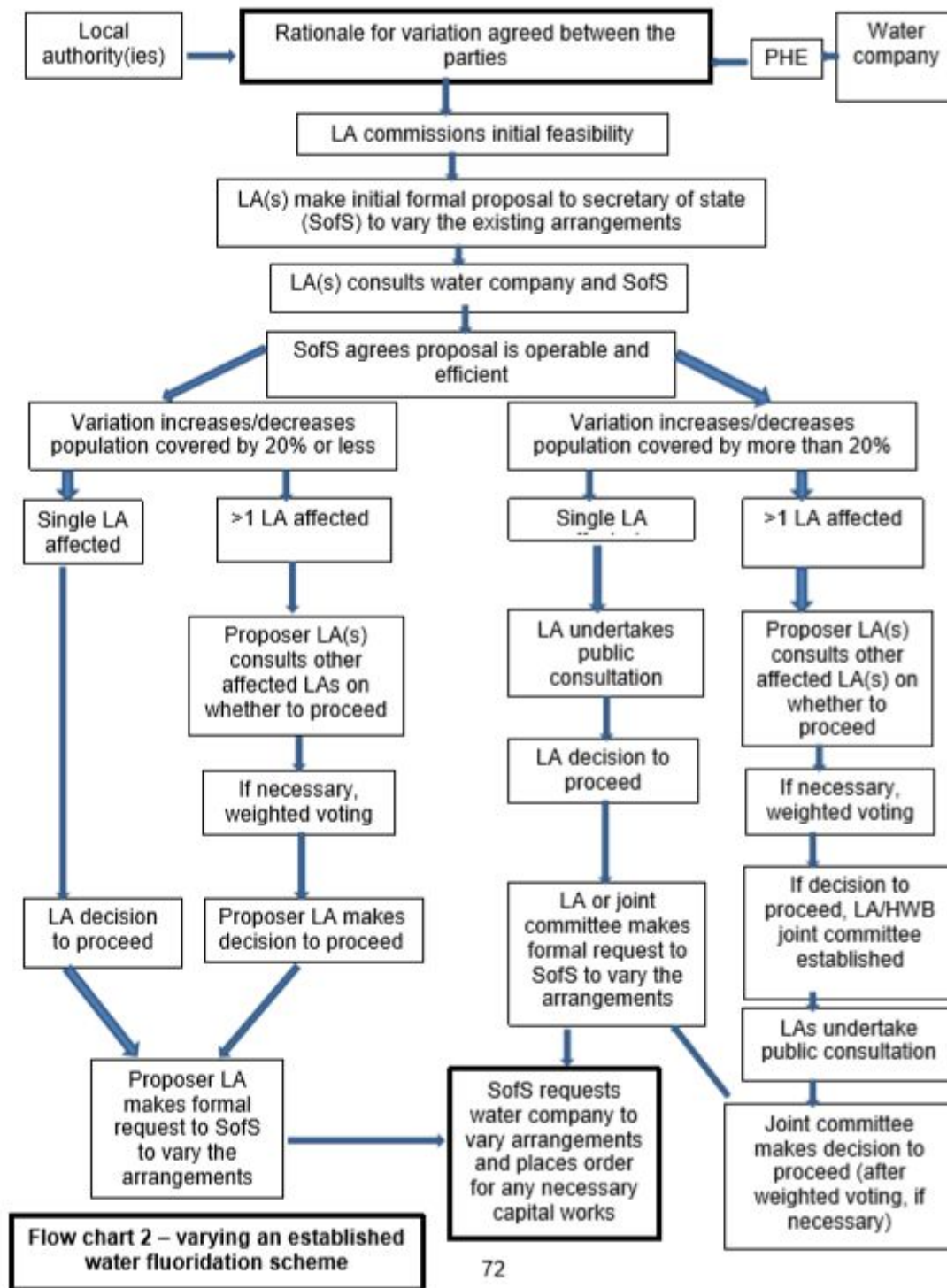
Further to your attendance at our Local Dental Network meeting and our discussions around the extension of Community Water Fluoridation in Northumberland, I would like to support this initiative in any way possible as it is the single most effective measure we have at reducing caries rates, particularly in the more deprived areas of our region. Northumberland Tyne and Wear Local Dental Network are strong advocates of fluoridation of the water supply and keen to have our local patients benefiting from it. If there are any practical measures we can assist in please do contact me.

Yours sincerely,

Simon

Simon Taylor  
Chair NTW Local Dental Network  
NHS England  
Waterfront 4  
Goldcrest Way  
Newburn Riverside  
Newcastle upon Tyne  
NE15 8NY

Due Process Flow Chart



## Appendix 6

### Proposed timelines for proposal to vary Northumberland community water fluoridation scheme

Action	Timescale
Report to Exec Directors	16 <sup>th</sup> September 2019
Report to Cabinet	Informal Cabinet  24 <sup>th</sup> September  Cabinet  8 <sup>th</sup> Oct 2019
Formal proposal to Secretary of State (SofS)	17 <sup>th</sup> Oct to 17 <sup>th</sup> Nov 2019
<p>On receipt of a response from SoSHSC, notify affected local authorities.</p> <p>Consultee local authorities must be given <b>up to three months</b> to consider the matter and give their opinion to the proposer. Should a consultee not respond within three months then they are taken to have withdrawn from this phase of the decision-making process (<i>wording from PHE Improving oral health: a community water fluoridation toolkit for local authorities</i>).</p> <p>To include in letter:</p> <ul style="list-style-type: none"> <li>- Proposal to expand water fluoridation and make available the opinion of the SoSHSC and Northumbrian Water</li> <li>- Provide the reason for making the proposal</li> <li>- Explain size of population impacted upon in each LA boundary</li> <li>- Outline stages as per legislation and requirement to consult for 3 months with the public.</li> </ul> <p>The assumption is that since the Northumberland proposal does not include any individuals from other LA areas, that all LAs will decline to participate or not respond</p>	18 <sup>th</sup> Nov 2019 to 18 <sup>th</sup> Feb 2020
Establish local working group	January 2020
Oral health update to H&WB Board	January 2020
Engagement with key stakeholders	January/February 2020
<p>Public consultation (possibly aligned with any other proposals which may be made by other local authorities in the region).</p> <ul style="list-style-type: none"> <li>● Commission external organisation to deliver public consultation</li> <li>● Attend OSC as part of consultation</li> </ul>	3 months  9 <sup>th</sup> May 2020 to 9 <sup>th</sup> August 2020

Local working group to review results from public consultation and determine recommendations to Cabinet.	September 2020
Report to Cabinet (via Execs/OSC/Informal Cabinet) with recommendations.	October 2020  (date TBC)
If the recommendation is to proceed, LA writes to SofSHSC to request Northumbrian Water varies the current scheme in accordance with the proposal including issuing an indemnity to the company	post October 2020