

# Water fluoridation in Scotland?

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On 23 September 2021, the four UK Chief Medical Officers (CMOs) stated 'there is strong scientific evidence that water fluoridation is an effective public health intervention for reducing the prevalence of tooth decay and improving dental health equality across the UK'.<sup>1</sup>

Water fluoridation started in the USA in 1945 and is currently practised in about 25 countries. In the USA, 74% of the population receives fluoridated water, with over 200 million people having their water fluoridated at the optimum level. Around 185 million more people have their water artificially fluoridated in other countries. Currently over six million people in England are supplied with optimally fluoridated water. There are no water fluoridation schemes in Scotland. In sharp contrast, the Republic of Ireland has 73% (3.2 million) of their population benefiting from water fluoridation.<sup>2</sup>

On the Scottish Water website, I discovered that my water supply, along with about 500,000 Edinburgh and Midlothian residents, is shared with the Scottish (Holyrood) Parliament (postcode EH99 1SP). It was tested eight times last year and found to have a mean level of 0.12 ppm fluoride.<sup>3</sup> This natural level of fluoride, shared with Members of the Scottish Parliament (MSPs), would need to be increased by a factor of around 9 to optimally and effectively reduce tooth decay. However, owing not to dithering but to active government inaction, no one benefits from water fluoridation in Scotland. The January 2018 Scottish Oral Health Improvement Plan stated: 'Although we recognise that water fluoridation could make a positive contribution to improvements in oral health, the practicalities of implementing this means we have taken the view that alternative solutions are more achievable'.<sup>4</sup> These 'alternative solutions' have not been published subsequently.

The Scottish Childsmile programme showed that tooth decay is a largely preventable disease

but continues to have a miserable impact on individual health and wellbeing, the NHS and society as a whole. As with most ailments, caries is linked to socioeconomic inequalities, with Primary 1 (five-year-old) children from the most deprived areas in Scotland suffering the greatest burden of disease.<sup>5</sup> Given that the UK faces a cost-of-living crisis and there is a forecast increase in the percentage of Scottish children growing up in poverty,<sup>6</sup> we can expect dental health to become even more unequal. People in countries benefiting from water fluoridation also gain from the fluoride sources used in Childsmile; fluoride toothpaste and their dental workforces use fluoride varnish. Nursery toothbrushing and fluoride varnish applications were largely suspended in March 2020 during the COVID-19 pandemic when nursery & primary schools closed.<sup>7</sup> In contrast to the interruption to Childsmile in Scotland, water fluoridation in England continued throughout the COVID-19 pandemic. While fluoride can be applied to teeth in other ways (eg through the use of fluoride toothpaste or application of fluoride varnish), adding fluoride to water supplies has the advantage of preventing caries regardless of individual oral hygiene practice, access to dental care or socioeconomic status.

Fluoridation is an important additional dental public health intervention for tackling the health inequalities associated with tooth decay, and as it is complementary, should be included in the Scottish Childsmile programme.<sup>8</sup> Improvement in dental health in Scotland will continue when water fluoridation is integrated into Childsmile.

The Westminster Government moved to legalise fluoridation in a free vote in the House of Commons when they passed the Water (Fluoridation) Act 1985. This law applied across the UK. The legislation was consolidated into the 1990 Water Act and still applies in Scotland. The Water Act (Fluoridation of Water Supplies) 2003, in

England and Wales, was required as judicial review showed that private water companies 'had an overriding responsibility to their shareholders, and under the current law, no other consideration (including a public interest such as health)'. Whereas in Scotland, water is still a public utility and the Water (Fluoridation) Act 1985, consolidated into the 1990 Water Act, still applies.

While I welcome the CMOs' statement as a significant development, establishment of water fluoridation schemes in Scotland will require wide-ranging engagement with the public and other stakeholders. There is also a need for non-partisan political and strategic public health leadership both at local and national levels, as was found with banning smoking in public places and the early adoption of minimum alcohol unit pricing in Scotland.<sup>9</sup> ■

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