

Community Water Fluoridation**Introduction**

The Bay of Plenty District Health Board (BOPDHB) is required under legislation:

- to improve, promote, and protect the health of people and communities;
- to promote the inclusion and participation in society and independence of people with disabilities;
- to reduce health disparities by improving health outcomes for Maori and other population groups;
- to exhibit a sense of social responsibility by having regard to the interests of the people to whom it provides, or for whom it arranges the provision of, services;
- to exhibit a sense of environmental responsibility by having regard to the environmental implications of its operations.

The BOPDHB has prepared a series of position statements which show its commitment to these objectives, and outlines its viewpoint on different health issues. This position statement on Community Water Fluoridation also links to the Health Inequalities position statement, and is implemented through the DHB's Annual Plan and Maori Health Plan.

1.0 The Bay of Plenty DHB affirms the following:

- 1.1 It supports the Ministry of Health policy to promote community water fluoridation programmes as one of a wider range of strategies to protect and improve the oral health of all people with their natural teeth, particularly children and population groups most at risk of dental decay.
- 1.2 It will work with all local authorities in the BOPDHB district to maintain or introduce community water fluoridation in appropriate drinking water supplies where technically possible. This will include engagement in public referenda and other local authority processes, such as tribunals, and ten year and annual plans, through normal Board processes including the provision of information on oral health and community water fluoridation.
- 1.3 It will seek the advice of the Ministry of Health to ensure that it has the best and latest information on community water fluoridation.
- 1.4 It will continue to support the employment of suitably qualified technical staff in its Public Health Service to monitor local authority compliance of the drinking water standards in relation to fluoride levels.

- 1.5 It will work with iwi and Maori agencies to provide information as requested on community water fluoridation in relation to impacts on Maori oral health.
- 1.6 It will support the work of its Community Dental Service to help improve the oral health of children and adolescents in the BOPDHB district. The service has adopted a preventative approach and uses topical fluoride applications and encourages tooth brushing twice daily with fluoride toothpaste. Community water fluoridation is however the most cost-effective way to provide fluoride to achieve oral health benefits and reduce health inequalities.
- 1.7 It will support the oral health gains achieved through community water fluoridation by promoting the eating of healthy foods, reducing sugary foods and drinks, providing good access to publicly-funded dental health services, and promoting regular dental check-ups at all ages.

2.0 The Bay of Plenty DHB notes that:

- 2.1 New Zealand drinking waters have low naturally-occurring levels of fluoride. There is only one small water supply outside of the BOP where the natural fluoride levels exceed the NZ Drinking Water Standards maximum of 1.5 mg/l. In some countries where fluoride levels significantly exceed the desirable level, fluoride is extracted as part of the treatment process. The addition of fluoride to a level of 0.7 to 1.0 mg/l provides oral health benefits to all people with their natural teeth. Benefits are greatest for children, when their baby and permanent teeth are breaking through the gums.
- 2.2 Of 267 drinking water supplies in New Zealand serving 1000 people or more, 33% (88) are fluoridated by the local authority. This means that 55.5% of New Zealanders on municipal water supplies (2,126,000) receive fluoridated drinking water. Christchurch and Tauranga are the only two major urban areas not fluoridated.
- 1.3 It is cost effective to fluoridate drinking water supplies for populations greater than 750 people. Fluoridation of drinking water supplies is one health measure that provides greater benefit to low income people and those with poor oral health, thus reducing health inequalities, including for Maori.
- 2.4 There is potential to fluoridate the drinking water supplies for over 80% of the population in the Bay of Plenty (separately from Whakatane and Ohope areas). This could be raised by the BOPDHB through its Health in All Policies approach of working more closely with local government.
- 2.5 The BOPDHB's community dental service sees approximately 47,000 children every year, who are aged from birth to 12 years (Year 8 of school). The service also sees approximately 250 adolescents in the Eastern Bay of Plenty who do not attend a contracting Oral Health Services Agreement dentist. The service monitors the oral health status of these children with 5 year old caries free and Year 8 decayed, missing and filled teeth data by tracking monthly and reporting annually to the Ministry of

Health.

- 2.6 National data show that children living in areas with community water fluoridation have better oral health than those in un-fluoridated areas. Findings of the 2009 New Zealand Oral Health Survey show adults and children living with community water fluoridation have significantly better oral health, with an average of 2.5 fewer decayed, missing or filled teeth than those in non-fluoridated areas.

When comparing people who lived in non-fluoridated areas with those living in fluoridated areas at the time of the survey:

- among people aged 2 years and over, those living in non-fluoridated areas had significantly more severe dental decay than people living in fluoridated areas, after adjustment for age, sex, ethnic group and neighbourhood deprivation.
 - 44.5% of 8 to 30-year-olds had some dental fluorosis, with the majority of fluorosis being questionable or very mild; moderate dental fluorosis was rare (2.0%), as was severe fluorosis (0.0%).
 - there were no significant differences in the prevalence of dental fluorosis in people aged 8 to 30 years between those living in areas with water fluoridation and those in areas with no water fluoridation, after adjustment.
- 2.7 Te Ao Marama, the Maori Dental Health Association, has considered the balance between improved oral health for Maori and cultural concerns, and fully supports fluoridation of community water supplies, and the use of dental products which contain fluoride.
- 2.8 The Centers for Disease Control and Prevention has included community water fluoridation in the list of the *Ten Great Public Health Achievements United States 1900-1999* based on the opportunity for prevention of death, illness and disability in a population.
- 2.9 The High Court decided in 2014 that community water fluoridation is not “medical treatment” for the purposes of section 11 of the NZ Bill of Rights Act 1990. Section 11 states that “Everyone has the right to refuse to undergo any medical treatment”. The High Court judgement is that this section does not cover public health interventions delivered to the population at large or inhabitants of a particular locality. Further, fluoridation is no different from other established health measures such as chlorination of water, pasteurisation of milk, and the addition of iodine to salt or folic acid to bread.
- 2.10 There is no international or New Zealand evidence that demonstrates any significant harm from the addition of fluoride to drinking water supplies in a controlled way. There have been no substantiated increases in bone fracture or cancer rates in populations that fluoridate their water supplies. The only non-beneficial health effect that has been demonstrated in optimally fluoridated areas is increased levels of very mild or mild dental fluorosis. Dental fluorosis is a type of enamel condition that can result

from excessive intake of fluoride during tooth formation only, with a wide range of severity. Fluorosis occurs from the total accumulation of fluoride in teeth, no matter where the fluoride comes from. In its mildest forms, enamel fluorosis appears as flecking of the tooth enamel, and is not considered to have cosmetic or functional impact on the tooth or individual. There have been no reports of serious fluorosis attributable to community water fluoridation in Australia or New Zealand. Total fluoride intake is important as a risk factor for dental fluorosis and this is reduced through:

- o a lower recommended range of 0.7-1.0 mg/l and a lower maximum of 1.5 mg/l in NZ water supplies than in many other countries;
- o advice on appropriate use of fluoridated toothpaste, including different amounts of regular strength toothpaste (at least 1000 ppm) for different age groups, the need for adults to supervise their children when using toothpaste, and advising that toothpaste should not be eaten;
- o ensuring that fluoride is not added to infant formula that is marketed in NZ.

2.11 The recommended upper level of intake of fluoride for children 0–6 months is 0.7 mg/day and for children aged 7–12 months 0.9 mg/day. If infant formula is given to babies using fluoridated water, then that upper level of intake may be exceeded, and there is a possibility that infants will have mild, but not moderate, fluorosis in their first teeth. Professor Peter Gluckman in his report *Health effects of water fluoridation: A review of the scientific evidence* states that “advice from Australia indicates that infant formula is safe for consumption whether reconstituted with fluoridated or non-fluoridated water. Fluoridated water supplies in New Zealand are also considered safe for use in infant formula, though as with recommendations elsewhere, if parents are concerned with the risk of mild fluorosis, low-fluoride bottled water can be used for reconstitution in order to reduce fluoride exposure in this age group.”

Adopted by the BOPDHB Board at its meeting on 23 March 2016.

Review This position statement will be reviewed in three years, or as necessary.

Further information is available from:
Ministry of Health www.health.govt.nz

Toi Te Ora-Public Health www.toiteorapublichealth.govt.nz

“Fluoride in Drinking-water” J.Fawell, K.Bailey, J.Chilton, E.Dahi,
L.Fewtrell and Y.Magara. (WHO,2006) IWA Publishing
www.iwapublishing.com

Te Ao Marama www.teaomarama.org.nz

NZ Oral Health Survey 2009 www.health.govt.nz/publication/our-oral-health-key-findings-2009-new-zealand-oral-health-survey

New Health New Zealand Inc v Attorney-General for and on behalf of the Minister of Health [2014] NZHC 2487 [9 October 2014]

“Health effects of water fluoridation: A review of the scientific evidence.” A report on behalf of the Royal Society of New Zealand and the Office of the Prime Minister’s Chief Science Advisor.