

Water Fluoridation Public Health Association of New Zealand Policy

The Public Health Association notes that:

- The lifetime benefit from drinking fluoridated water is estimated to be the prevention of 2.4 to 12.0 decayed, missing or filled teeth per person (PHC 1994).
- Water fluoridation contributes to equity of health outcomes as the benefit of dental caries prevention is greater for people in lower socio-economic groups, Maori and children (PHC 1995).
- A New Zealand survey (Treasure et al 1992) showed that fluoridation protected 5-year-olds in lower socio-economic groups (SES groups 4-6) from more decay than it did for those in higher socio-economic groups SES groups 1-2.
- A review of the efficacy of water fluoridation, based on surveys conducted from 1979 to 1989 in Australia, Britain, Canada, Ireland, New Zealand and the United States concluded that the current data show a consistently and substantially lower decay prevalence in fluoridated communities (Newbrun 1989).
- The effectiveness of water fluoridation has decreased as the benefits of other forms of fluoride have spread to communities lacking optimal water fluoridation but there is still a significant benefit from water fluoridation (PHC 1995).
- Recent information has shown that water fluoridation is effective throughout a person's life time, preventing root caries in adults and older people, so that fluoride can be seen to be of benefit to anyone with their natural teeth, not just children (Grembowski et al 1992; Hunt et al 1989; Newbrun 1989; PHC 1995; Thomas et al 1992; WHO 1994).
- At a population level, it is estimated that water fluoridation prevents between 58,000 and 267,000 decayed, missing or filled teeth in New Zealand per year (PHC 1994). Based on current levels of 50 percent of the population receiving fluoridated water, it is estimated that the annual cost savings are up to \$14.3 million (PHC 1995).
- The number of elderly people with their own teeth is expected to increase dramatically in the next fifty years. Prevalence studies reveal fewer root caries among older people in fluoridated areas (Thompson 1997).
- The Centers for Disease Control and Prevention has included water fluoridation in the list of the *Ten Great Public Health Achievements 1900-1999* based on the opportunity for prevention of death, illness and disability in a population.
- The risks of adverse health outcomes from ingestion of fluoridated drinking water are considered negligible to nil. Recent reports by the Public Health Commission, National Health Medical Research Council of Australia and World Health Organization address many of the concerns raised regarding cancer, bones and fractures. In the review of published literature and other reports on fluoride research, it is noticeable that many of the articles that raise fears about water fluoridation lack substance or repeat previous statements already shown to be without scientific validity. For example, many studies are *in vitro* and cannot, therefore, be extrapolated to public health effects on the human population. If the results were applicable to humans, there would be solid epidemiological evidence of increased rates of adverse health effects in fluoridated areas when compared with non-fluoridated areas. This is not the case, as there is no such epidemiological evidence.
- The National Health and Medical Research Council of Australia draft *Review of Water Fluoridation and Fluoride Intake from Discretionary Fluoride Supplements* (Melbourne, 1999) notes that 'water fluoridation ... continues to provide significant benefits for both deciduous and permanent teeth. The evidence for a protective effect on dental health is strongest in childhood but can also be demonstrated in adults. ... [It] remains the most

effective and socially equitable means of achieving community-wide exposure to the caries-preventive effects of fluoride. It should remain unchanged until evidence accumulates that further action fluoride exposure is required. ...There is insufficient evidence to establish a link between fluoridated drinking water and an increased risk of bone or other cancers. The evidence does not suggest an increased risk of osteoporosis from exposure to drinking water fluoridated at the optimal levels ...'

- Reports of independent experts in relevant fields of medicine, epidemiology, oral health and water engineering have been unanimous that benefits of water fluoridation outweigh any (very small) potential risks. Research studies on the safety of water fluoridation have been reviewed repeatedly by international and Australasian experts, including a World Health Organization expert group (WHO 1994). The conclusion of all these reports is uniform. There are no significant health risks associated with water fluoridation at optimal levels. Mortality rates and health statistics (other than for oral health) in fluoridated and unfluoridated communities are similar.
- Cost-benefit analysis shows that, based on national demography, the cost of fluoridation is equal to or less than the averted dental cost savings for populations between 800 and 900 people; and the cost-benefit is increasingly positive for water fluoridation for populations over 1000 people (Wright et al, November 1999).

The Public Health Association affirms the following principles:

- The adjustment of fluoride to between 0.7 and 1.0 ppm in drinking water is the most effective and efficient way of preventing dental caries in communities receiving a reticulated water supply. (This is the level recommended by the Ministry of Health and World Health Organization.).
- The Public Health Association recommends the continuation of water fluoridation programmes and their extension where technically feasible.

The Public Health Association believes that the following steps should be taken:

1. That the roles of central and local government in supporting the fluoridation of water supplies be investigated, including central government subsidies for water fluoridation, the ability of central government to direct a water supplier to adjust the level of fluoride in drinking water to between 0.7 and 1.0 ppm, and the ability for health authorities to charge water suppliers for the increased costs of Government-funded dental care where a water supply serving over 800 to 900 people is unfluoridated.
2. That the concerns of local government about the impact of the activities of anti-fluoridationists and the difficulty of councillors deciding between the relative arguments of anti-fluoridationists and public health advocates be considered by the Ministry of Health, together with mechanisms to resolve these concerns.
3. That the key messages relating to the safety and efficacy of water fluoridation be promoted by the Ministry of Health, public health service providers, oral health and other health professionals.

Review

This policy will be reviewed in July 2006 and thereafter every 3 years.

References

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