

Open Letter to New Zealand Associate Health Minister

The Honourable Peter Dunne

Fluoride Information Network for Dentists

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HEALTH RISKS TO NEW ZEALANDERS FROM FLUORIDE

While our public health authorities and their advisors consider dental fluorosis to be the only side effect of water fluoridation at the levels currently used in this country (0.7-1 milligrams per liter), they also acknowledge there is a very small margin between the levels considered safe and those which can cause harm.ⁱ

Toxicological risk assessment usually allows for a factor of 10 times below the NOEL (“No Observable Effects Level”, the lowest level at which toxic side effects are observed) in order to be protective of all people in a community, however in New Zealand the safety margin for fluoride content of tap water is only a factor around 1.5 times less than the level at which damage to tooth development (dental fluorosis) is observed in a large part of the population.ⁱⁱ

The US Department of Health and Human Services National Toxicology Program is currently re-evaluating its risk analysis of fluoride in view of recent research linking fluoride in water to Developmental Neurotoxicity and Endocrine disruption.

Other health side effects of having too much fluoride exposure are well documented, including skeletal and non-skeletal fluorosis, musculoskeletal disease, cardiotoxicity, hepatotoxicity and nephrotoxicity. Some of these effects can occur at levels below those used in water fluoridation, regardless of additional fluoride from other sources, particularly in people with iodine deficiency, low vitamin D and those with renal dysfunction.ⁱⁱⁱ

Although the Ministry of Health states that community water fluoridation is safe to all people in the levels used in New Zealand, this position does not allow for individual variation in consumption, physical differences, health status and the total fluoride intake from other sources such as diet, toothpaste and dental clinical materials.

The desktop estimates of fluoride ingestion are unreliable and out of date, and the margin of safety between what is considered safe for the average healthy person (3.5 mg per day for an adult and as low as 0.6 mg a day for an infant) and what is considered to be a health risk is easily exceeded by those with different baseline factors.

Groups identified to be at greater risk of exceeding toxicity limits include infants, young children, fetuses, diabetics, renal patients, athletes, outdoor workers, the elderly, high tea drinkers, high beer drinkers, Maori and low SES groups.^{iv}

For this reason, the World Health Organization strongly recommends that where health authorities implement water fluoridation, they must monitor total fluoride ingestion at the individual level.^v

WHO notes that community level analysis is inadequate for assuring safety of all individuals.

In New Zealand, water fluoridation is provided to about half the population under the assumption that it will help reduce tooth decay, although this is not borne out by the national tooth decay data, and its benefit in modern developed countries is questioned by mainstream science.^{vi vii viii}

While water fluoridation appears to be an unnecessary increment to New Zealanders' total fluoride burden generally, there is disproportionately greater risk to low Socio-economic groups due to poorer diet and less ability to avoid it should they choose to.

There is no monitoring of dose to individuals, and no research has been done into the contribution fluoride overdose is making to the health burden of the country.

Internationally, many countries have banned fluoridation either because of health concerns or because of human rights considerations. These countries include Japan, Scotland, Northern Ireland, China, Russia, Germany, Netherlands, Norway, Israel, Sweden, Austria, Belgium, Denmark, Finland, France, Croatia, Estonia, Greece, Hungary, Latvia, Switzerland, Luxembourg and the Czech Republic. In fact, less than 6 percent of the world's population drinks artificially fluoridated water, and their oral health is not showing any benefit compared to those who do not.^{ix}

Notably the practice of fluoridating water supplies appears to breach the UNESCO Universal Declaration on Bioethics and Human Rights (2005), to which NZ is a signatory (along with around 160 other countries) and in particular Article 6 which states that "*in no case should a collective agreement or the consent of a community leader or other authority substitute for an individual's informed consent*".^x

We are concerned that health department policy in this area is not favored by the most robust advice^{xi}, and that total fluoride levels in New Zealand are uncontrolled and may be exceeded by many citizens, affecting their quality of life and contributing to the burden on the health system.

We suggest the public health system would be seen to be acting responsibly to better protect the health of New Zealanders by:

1. Monitoring the fluoride levels in individuals, as outlined by the World Health Organization, particularly in fluoridated areas.
2. Monitoring fluoride levels in patients under treatment for bone and joint diseases, chronic fatigue, diabetes, asthma, cardiovascular, neurological, thyroid and other endocrine diseases, and in pregnant women.
3. Making fluoride testing freely available to citizens who are concerned about their fluoride intake levels.
4. Undertake proper analysis of Fluoride content of foods, conduct a proper risk analysis, and implement fluoride content labeling.

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ⁱ Health effects of water fluoridation: A review of the scientific evidence.

<http://www.royalsociety.org.nz/expert-advice/papers/yr2014/health-effects-of-water-fluoridation/>

ⁱⁱ The US Agency for Toxic Substances and Disease Registry(ATSDR) 2003 Chronic duration oral minimal risk Level (MRL) for fluoride. <http://www.atsdr.cdc.gov/toxprofiles/tp11-c8.pdf>

ⁱⁱⁱ Fluoride in Drinking Water: A Scientific Review of EPA's Standards. NRC Review (2006).
<http://www.nap.edu/catalog/11571.html>

^{iv} Estimated Dietary Fluoride Intake for New Zealanders. ESR Report to the NZ Health Department 2009 http://www.fluoridation.nz/uploads/4/2/8/8/42885971/esr_report_2009.pdf

^v Basic Methods for Assessment of Renal Fluoride Excretion in Community Prevention Programmes for Oral Health http://apps.who.int/iris/bitstream/10665/112662/1/9789241548700_eng.pdf

^{vi} US Centers for Disease Control and Prevention, Morbidity and Mortality Weekly Report, U.S. Centers for Disease Control and Prevention, Atlanta, GA, USA (2001) Recommendations for Using Fluoride to Prevent and Control Dental Caries in the United States
<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5014a1.htm>

^{vii} Scientific Committee on Health and Environmental Risks SCHER: Critical Review of any new evidence on the hazard profile, health effects and human exposure to fluoride and the fluorinating agents of drinking water.
http://ec.europa.eu/health/scientific_committees/environmental_risks/docs/scher_o_122.pdf

^{viii} Water fluoridation for the prevention of dental caries Cochrane Oral Health Group 2015
<http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD010856.pub2/epdf>

^{ix} WHO oral health country/area profile programme. www.whocollab.od.mah.se/expl/regions.html

^x UNESCO Universal Declaration of Bioethics and Human Rights (2005)
http://portal.unesco.org/en/ev.php-URL_ID=31058&URL_DO=DO_TOPIC&URL_SECTION=201.html

^{xi} Scientific and Critical Analysis of 2014 New Zealand Review: Health effects of water fluoridation: A review of the scientific evidence

https://www.researchgate.net/publication/274655749_Scientific_and_Critical_Analysis_of_2014_New_Zealand_Review_Health_effects_of_water_fluoridation_A_review_of_the_scientific_evidence

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