

NSW Standing Committee on Public Works  
Parliamentary Inquiry into Coastal Infrastructure  
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Closing Date extended to 31 May 2005

28 May 2005

Dear Madam

Please accept the following as my submission to the Parliamentary Inquiry into Coastal Infrastructure. I do not require this submission to be kept confidential.

I am writing to express my objection to the expenditure of public funds for the installation of WATER FLUORIDATION.

I submit that fluoridation is neither safe nor effective because the proper studies have never been carried out to determine whether fluoridation is either safe or effective.

Furthermore that any concerns relating to fluoridation in terms of its interaction with human health must be extended to encompass the concerns that relate to fluoride's effects on the health of the environment and the long-term integrity of infrastructure pipes; pumps; and sewage treatment systems.

Fluoride is strongly electro-negative. Its traditional uses have been to etch glass and metal and as a pesticide and rodenticide. The effects of fluoridation on the lifespan of metal pipes and pumps have never been properly investigated. The effects of fluoride on the function of biologically based sewage treatment systems have never been properly investigated. These likely negative side-effects of the addition of fluoride to water supplies are glossed over and ignored because of the over-riding belief that fluoride is essential for the prevention of tooth decay.

This submission seeks to show that fluoride has never been shown to effectively reduce tooth decay but the illusion that it is essential for decay prevention has meant that it has never been properly studied for its potential adverse effects on biological health or the integrity of water and sewerage infrastructure.

## 1. COMMITMENT TO PROMOTE FLUORIDATION

The NSW Government repeatedly advises that it has a "strong commitment" to the "promotion of fluoridation as a proven public oral health measure".

But as a consequence of taking this position the NSW Government appears to have closed its mind to the actual science of the argument and refuses to respond to questions or examine the published evidence with a properly objective attitude to the subject. The NSW Government appears to be failing in its duties to the community by failing to demonstrate good faith through proper consideration of potentially opposing points of view.

No issue is beyond debate but the NSW Government appears to be dealing with fluoridation as if the subject is so well proven as to be beyond debate.

We contest that fluoridation is only a closed issue because it does not bear close scrutiny and the NSW Government is acting improperly in attempting to quell the legitimate debate.

## **2. DEMOCRATICALLY AND ETHICALLY UNSOUND**

Water fluoridation is estimated to cost in excess of \$1million per water supply to install plus approximately \$50-80,000 pa in operational costs. The NSW Government is coercing local councils to install fluoridation on the promise of State funding for the initial capital costs if councils fluoridate now. This is even in situations where communities have previously held Electoral Office Polls reporting that there is NOT support for fluoridation.

For instance the mid north coast councils of Hastings; Kempsey; Bellingen and Coffs Harbour have all held Electoral Office Polls at least once previously – but mostly twice (and in the case of Kempsey three times) – and in all cases the result was a resounding NO to fluoridation. Despite this history (or perhaps because of it) officers of the NSW Department of Health intentionally delayed approaching these councils concerning fluoridation until after the council elections last year. Please see Item 4 of the attached letter marked 'Clout to Coffs'. This action effectively prevented the issue from becoming a matter for debate during the council elections and prevented the opportunity for councils to go to their communities to conduct a Poll in conjunction with the council elections.

Councils were given six weeks until 30 June 2004 to decide to fluoridate by accepting 100% State funding for installation ... or face the cost themselves. There was also the suggestion that if fluoridation was not accepted that the councils might suffer a reduction in state government funding in future. Our communities were communicated with by means of paid advertisements from Health NSW (see attached sample 'Coffs advert'). Health NSW did not conduct a single public meeting to discuss the matter in our region. Additionally we now have volumes of correspondence with parties at all levels in the NSW Government but without a single meaningful reply to a single one of questions.

Health NSW is taking the approach that fluoridation is so well proven as to be beyond debate. Actually it seems it is only beyond debate because the NSW Government has adopted a "strong commitment" to being "pro-active in promoting fluoridation" and therefore they decline to engage in any discussion that jeopardises that position.

We maintain that the NSW Government is (a) scientifically incorrect in their assessment of fluoridation and (b) democratically corrupt in failing to follow the recommendations of the WHO and NHMRC which state that fluoridation should not go ahead unless with the express agreement of the communities concerned and (c) ethically corrupt in failing to mention the potential adverse effects of fluoride.

Is the NSW Government intentionally misleading the community or is it simply negligent in failing to properly assess and reveal fluoride's negative effects?

## **3. INEFFICIENT AND INEFFECTIVE**

Fluoridation is promoted as the easy answer to public dental care but the weight of evidence suggests that fluoridation does not reduce decay rates to any substantial amount.

- **FLUORIDE HAS NOT BEEN PROVEN TO REDUCE TOOTH DECAY**

The most comprehensive review of the fluoridation epidemiology literature is the UK York University's 'Systematic review of water fluoridation' (Mc Donagh 2000). The review concluded that fluoridation might reduce decay by up to 15% (i.e. less than one decayed tooth per child) but that this calculation did not account for the adverse effects on decay rates through the incidence of dental fluorosis nor the potential adverse effects on human health. The York review is controversial in that fluoridation proponents claim it supports their case when anyone actually reading the document quickly realises that it does not. Attached please find a letter from the Chairman of the York review Prof. Trevor Sheldon in which he notes (1) how the review findings have been "misrepresented" by fluoridation promoters and (2) that the main finding of the review was the surprising lack of quality research into fluoridation by any country at any time.

**SOURCE:**

**McDonagh M et al. (2000).** A Systematic Review of Public Water Fluoridation – Final Report. NHS Center for Reviews and Dissemination; University of York; September 2000.

**McDonagh M et al. (2003).** What the York Review on the fluoridation of drinking water really found. NHS CRD; University of York; Oct. 2003.

[www.york.ac.uk/inst/crd/fluoridnew.htm](http://www.york.ac.uk/inst/crd/fluoridnew.htm)

**Sheldon T (2004).** Letter dated 09-10-04 ([attached](#)).

- **FLUORIDE ACTS TOPICALLY NOT SYSTEMICALLY**

It is now recognised that fluoride does not act on teeth systemically (by consumption) but topically (by application). There is actually no good reason to consume fluoride to affect dental health.

**REFERENCES:**

**'[F]luoride's predominant effect is posteruptive and topical'.** - Centers for Disease Control and Prevention. (2001). Recommendations for Using Fluoride to Prevent and Control Dental Caries in the United States. *Morbidity and Mortality Weekly Report* August 17 50(RR14): 1-42.

**'The prevalence of dental caries in a population is not inversely related to the concentration of fluoride in enamel, and a higher concentration of enamel fluoride is not necessarily more efficacious in preventing dental caries'.** - Centers for Disease Control and Prevention. (2001). Recommendations for Using Fluoride to Prevent and Control Dental Caries in the United States. *Morbidity and Mortality Weekly Report* August 17 50(RR14):1-42.

**'Current evidence suggests that the predominant beneficial effects of fluoride occur locally at the tooth surface, and that systemic (preeruptive) effects are of much less importance'.** - Fomon SJ; Ekstrand J; Ziegler E. (2000). Fluoride Intake and Prevalence of Dental Fluorosis: Trends in Fluoride Intake with Special Attention to Infants. *Journal of Public Health Dentistry* 60: 131-9.

**'Fluoride incorporated during tooth development is insufficient to play a significant role in caries protection'.** - Featherstone JDB. (2000). The Science and Practice of Caries Prevention. *Journal of the American Dental Association* 131: 887-899.

**'[L]aboratory and epidemiologic research suggests that fluoride prevents dental caries predominately after eruption of the tooth into the mouth, and its actions primarily are topical for both adults and children'.** - Centers for Disease Control and Prevention. (1999). Achievements in Public Health 1900-1999: Fluoridation of Drinking

Water to Prevent Dental Caries. *Morbidity and Mortality Weekly Report* 48(41): 933-940; 22 October 1999

**'Until recently the major caries-inhibitory effect of fluoride was thought to be due to its incorporation in tooth mineral during the development of the tooth prior to eruption...There is now overwhelming evidence that the primary caries-preventive mechanisms of action of fluoride are post-eruptive through 'topical' effects for both children and adults'.** - Featherstone JDB. (1999) Prevention and Reversal of Dental Caries: Role of Low Level Fluoride. *Community Dentistry & Oral Epidemiology* 27: 31-40.

- **FLUORIDE IS NOT A NUTRIENT**

It was once believed that fluoride should be classed as a nutrient because of its importance for dental health. It is now widely recognised that fluoride is not a nutrient. No disease is caused by its lack within the body and no disease can be prevented by its consumption.

REFERENCES:

**"These contradictory results do not justify a classification of fluorine as an essential element, according to accepted standards".**

SOURCE: National Academy of Sciences. (1989). *Recommended Dietary Allowances: 10th Edition*. Commission on Life Sciences, National Research Council, National Academy Press. p. 235.

**"Fluoride is no longer considered an essential factor for human growth and development".**

SOURCE: National Research Council (1993). *Health Effects of Ingested Fluoride*. National Academy Press, Washington DC. p. 30.

**"First, let us reassure you with regard to one concern. Nowhere in the report is it stated that fluoride is an essential nutrient. If any speaker or panel member at the September 23rd workshop referred to fluoride as such, they misspoke. As was stated in Recommended Dietary Allowances 10th Edition, which we published in 1989: 'These contradictory results do not justify a classification of fluoride as an essential element, according to accepted standards'.**

SOURCE: Alberts B, Shine K. (1998). *Letter from Bruce Alberts, President, National Academy of Sciences, and Kenneth Shine, President, Institute of Medicine to Dr. Albert Burgstahler*. November 18, 1998. <http://tinyurl.com/5dl2y>

**'Fluoride is not an essential nutrient'.**

SOURCE: **Institute of Medicine (IOM)**. (1997). *Dietary Reference Intakes for Calcium, Phosphorus, Magnesium, Vitamin D, and Fluoride*. Standing Committee: Scientific Evaluation of Dietary Reference Intakes; Food and Nutrition Board. National Academy of Sciences; National Academy Press; p 293.

- **DECAY RATES BEGAN FALLING BEFORE FLUORIDE USE WAS WIDESPREAD**

It is widely reported by World Health Organisation and others that fluoride consumption (whether by water or salt) is not significantly associated with lower rates of decay when comparing all countries or industrialised countries alone.

See for instance: WHO (Online). WHO Oral Health Country/Area Profile Programme. Department of Noncommunicable Diseases Surveillance/Oral Health. WHO Collaborating Centre Malmö University Sweden.

Western Pacific (including Australia) <http://www.whocollab.od.mah.se/wpro.html>;

Europe

<http://www.whocollab.od.mah.se/euro.html>;

Americas

<http://www.whocollab.od.mah.se/amro.html>;

Other published reports show that fluoridation began falling in all industrialised countries at least as early as 1960.

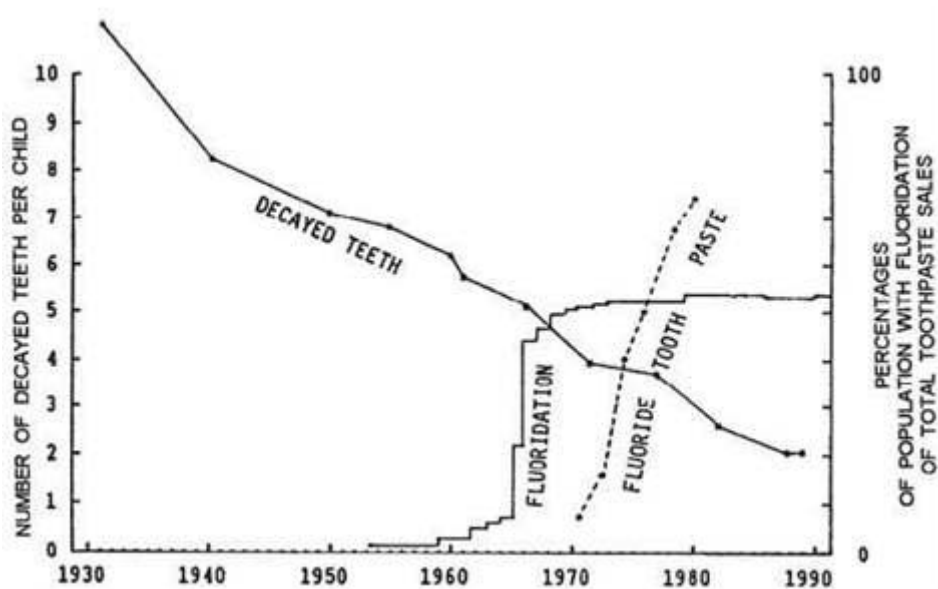
SOURCE:

Diesendorf M. (2003). A kick in the teeth for scientific debate. *Australasian Sc.* Vol24-8 Sept 2003:35-37.

Diesendorf M & A. (1997b). New Evidence on Fluoridation. *Aust. New Zealand J. Pub. Health* 21:187-190.

Diesendorf M. (1986). The Mystery of Declining Tooth Decay. *Nature.* 322: 125-129.  
<http://www.fluoridealert.org/diesendorf.htm>

As New Zealand's Principle Dentist the late Dr John Colquhoun was charged with reviewing the results of fluoridation and as a result 'changed his mind' about fluoridation. His research showed that decay rates had been falling in New Zealand since post-Depression and his published graph follows:



SOURCE: Compiled from New Zealand Health Department records of 5 year-old's tooth decay (1930-1990) together with extent of fluoridation and toothpaste sales.

PUBLISHED: Colquhoun J. (1997). 'Why I Changed My Mind About Fluoridation'. *Perspectives in Biology and Medicine.* 41. Autumn 1997. pp1-16.

There is Australian evidence that fluoridation does not lead to lower rates of tooth decay:

- the latest Australian dental survey by Adelaide University reports NO significant difference in decay rates in the permanent teeth of children drinking fluoridated compared to unfluoridated water. Armfield JM, Spencer AJ. (2004) Consumption of nonpublic water: implications for children's caries experience. *Community Dent Oral Epidemiol* 32:283-296 p283.
- The latest Child Dental Health Survey NSW 2000(2003) reports that the largely unfluoridated Mid North Coast Health Region has LOWER rates of decay in children's permanent teeth than four out of the five Sydney Health Regions and many fluoridated Regions of NSW.
- Save Our Kids Smiles (SOKS) 2004 data shows that the unfluoridated Hastings and Kempsey in the Mid North Coast have LOWER rates of decay in children's permanent teeth than neighbouring Nambucca (fluoridated since 1963).
- 100% fluoridated areas such as Sydney are not reporting the decline of tooth decay but rather are experiencing a decay crisis (SMH 15-02-05 page 1 etc and 16-02-05).

Only approximately 1% of fluoride added to water supplies reaches the mouth of the consumer with about 99% being delivered into the general environment; stormwater overflows; and the sewerage treatment system.

As fluoride is now known not to reduce decay by being consumed but only by being applied topically this universal addition of the corrosive chemical fluoride to water and the environment seems doubly wasteful and inefficient.

I submit that the money spent of fluoridation is better spent on direct dental care and that fluoridation is causing an unregulated burden on the health of the community and its infrastructure.

#### 4. FLUORIDE IS A CORROSIVE POISON

Chemists recognise fluoride as a toxin that is only slightly less toxic than Arsenic and slightly more toxic than Lead. The traditional uses of fluoride are as pesticides and as an industrial etcher.

SOURCE:

**US National Toxicology Program (NTP) (2002). 'Nominations Reviewed 2002'.**

<http://ntp.niehs.nih.gov/ntpweb/index.cfm?objectid=25BF6193-BDB7-CEBA-F78410BF0592A139>

The only reason that the toxin fluoride is added to water supplies is on the pre-text of reducing tooth decay. Because of this pre-text fluoride has never been properly examined for its corrosive and negative effects on infrastructure pipes and fittings and on the environment in general.

The only way that fluoridation can be presented as a 'cost-effective' measure is by failing to measure or monitor any of its likely negative effects.

It is NOT the case that fluoridation is well researched and monitored. Please see the attached letter from the NHMRC in which it is reported that ALL the planned fluoridation health and safety studies were stopped in 2002 by the Australian Health Administration Corporation on the grounds of "insufficient resources". As these were to be the first such Australian studies it can now be said with assurance that Australia is practicing fluoridation without benefit of even the most basic and highly recommended health studies.

It is NOT the case that any legitimate health authority gives unqualified support to fluoridation. Fluoride promoters quote the least (to them) challenging of statements but neglect to mention the provisos that are actually attached to the comments of the health authorities.

For instance the WHO states quite clearly in their Drinking Water guidelines and their Fluoridation Technical Reports that fluoridation should be preceded by an accurate measurement of people's actual daily fluoride intake from all sources such as food and medication before adding fluoride through the water supply.

SOURCE:

WHO 'Drinking Water Guidelines'(present and all past editions):

Fluoride	<1.5ppm	Climatic conditions, volume of water
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		consumed, and intake from other sources should be considered when setting national standards
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**“Dental and public health administrators should be aware of the total fluoride exposure in the population before introducing any additional fluoride programme for caries prevention, and the cost-effectiveness of such programs should be carefully considered”**

WHO (1994). *Fluorides and Oral Health*. WHO Technical Report Series 846.

The same recommendations are made by the Australian National Health and Medical Research Council (NHMRC) in their reports of both 1991 and 1999. In 1999 the Australian National Health and Medical Research Council repeated its findings from eight years earlier in saying:

*In view of the classification of fluoride as an ‘equivocal’ carcinogen in high dosage, they (NHMRC 1991) felt it was imperative that public health recommendations in the future be based on accurate knowledge of the total fluoride intake of Australians ... (Unfortunately) No Australian reports were available which would have permitted the Working Group to precisely estimate the current intake of fluoride which various individuals are ingesting, nor the differential amount of fluoride which is being stored in Australian skeletons. (NHMRC1999:Ch8).*

[This statement has recently been downgraded to say that “fluoride is an equivocal carcinogen in rats” but please note that clinical researchers suggest that humans are MORE not less susceptible to fluoride toxicity than rats or mice.]

SOURCE:

**National Health and Medical Research Council (NHMRC).** (1991). *The Effectiveness of Water Fluoridation*. Canberra: NHMRC; p98.

**National Health and Medical Research Council (NHMRC).** (1999). *Review of Water Fluoridation and Fluoride Intake from Discretionary Fluoride Supplements: Review for NHMRC; RMIT & Monash University; 1999; Ch8.3; 6-8.*

Despite these strong recommendations for fluoride intake studies (at the very least) these studies were all cancelled by the Health Administration Corporation in 2002.

SOURCE:

**National Health and Medical Research Council NHMRC** (2005). Letter to North Coast Area Health. 24 February 2005 ([attached](#)).

We have recently been advised by officers of NSW Health that their ‘bible’ on fluoridation is the Environmental Health Criteria (EHC) 227 ‘Fluorides’. Inspection of that document shows that it begins from the presumption that consuming fluoride helps reduce tooth decay. But it also states quite clearly that much more research is needed into all aspects of fluoride’s effect and specifically that fluoride intake tests are essential. For example:

S 11.1 . There are few data from which to estimate total exposure to and the bioavailability of fluoride, and there are inconsistencies in the characterization of its adverse effects.

There is a need to improve knowledge on the accumulation of fluoride in organisms and on how to monitor and control this.

The biological effects associated with fluoride exposure should be better characterized.

There is a need:

- to determine total dietary fluoride intakes and bioavailability and elucidate the relative contribution of water and foodstuffs to fluoride intake;
- to develop robust markers of fluoride exposure and effects in animals and humans to further elucidate the mechanisms (including work on a molecular level) of fluoride's effects on bone, and how these might be reversed;
- to design high-quality studies at population and individual levels, to characterize the adverse effects of fluoride on bone, cancer and reproductive outcomes; available data sets should be exploited to generate sound epidemiological observations — for example, through a linkage between population registries in high-exposure areas and cancer or other disease registries;
- to characterize the potential interactions of fluoride with other elements — aluminium, copper, lead, arsenic, selenium — in the environment and their influence on fluoride bioavailability and mobility;
- to clarify quantitatively and mechanistically how environmental factors (e.g., atmospheric pollution, coal burning, climate, rainfall, altitude) and lifestyle (including occupation) influence fluoride exposure;
- to characterize the short- and long-term turnover of fluoride in the body and how factors such as bone remodelling and renal function influence this;
- to improve the routine quantitative analysis of fluoride in body fluids;
- to develop robust biomarkers in animals and humans;
- to investigate the passage of fluoride through the food-chain from the geochemical environment to the diet;
- to determine if fluoride has potential adverse effects on other systems, including the neurological system;
- to investigate what factors (age, genetic polymorphisms, diet, etc.) might make particular population subgroups more susceptible to the effects of fluoride; and
- to determine the mechanisms associated with the clastogenicity of fluoride.

Fluoridation is NOT a proven public health measure. It has known but unresearched adverse effects on human environmental health. The levels of daily fluoride intake are rising due to foods being processed with fluoridated water and due to the fluoride content of many medications. Fluoride is a known corrosive but its effects on infrastructure pipes and other systems have never been properly studied.

No systematic effort is being made to research or monitor the incidence and impact of these negative effects and it is only by failing to invest in the proper studies that fluoridation promoters are able to claim that the practice is in any way 'cost-effective'

The final point that needs to be made is that the exact chemical used in the majority (about 90% of fluoridation systems in Australia is SILICOFLUORIDE (H<sub>2</sub>SiF<sub>6</sub> or Na<sub>2</sub>SiF<sub>6</sub>) which is a pollutant waste product from the manufacture of phosphate fertiliser. It is delivered to water supplies as an industrial-grade product containing contaminants such as Arsenic (a 'known carcinogen') and Lead ('reasonably anticipated to be a human carcinogen') plus other heavy metals and likely radioactive decay products (depending on the source location of the phosphate rock). Silicofluoride has never been subject to toxicological testing and has never been registered or endorsed for safe human consumption by any agency whether in Australia or elsewhere. Researchers based in Dartmouth College USA report that silicofluoride consumption is associated with a higher uptake of Lead into children's blood. High blood Lead is otherwise known to be associated with the higher incidence of behavioural disorders in children. Silicofluoride contains Lead as its own contaminant. Some research reports a strong association between silicofluoride consumption and increased rates of violence and crime.

REFERENCES:

**Masters RD; Coplan MJ; Hone BT; Dykes B.** (2000). Association of Silicofluoride Treated Water with Elevated Blood Lead; *NeuroToxicology* 21 (6); 2000.

**Masters RD; Coplan MJ.** (1999). Water Treatment with Silicofluorides and Lead Toxicity; *Int. J. of Environ. Studies*; 56; 435-449; 1999.

**Masters, R. and Coplan, M.** (1999b) "A Dynamic, Multifactorial Model of Alcohol, Drug Abuse, and Crime: Linking Neuroscience and Behavior to Toxicology," *Social Science Information*, 38:591-624.

National Toxicology program (NTP) (2002). 'Nominations Reviewed 2002'. <http://ntp.niehs.nih.gov/ntpweb/index.cfm?objectid=25BF6193-BDB7-CEBA-F78410BF0592A139>

Thank you for considering this submission. Please advise me of the outcome of the deliberations of this Inquiry.

Yours sincerely

*Signed*

Lisa Intemann BAppSc (Cr)

Attachments:

- Letter dated October 2004 from Prof. Trevor Sheldon as Chair of the York University's 'Systematic review of water fluoridation'.
- Letter dated 24-02-05 from NHMRC re HAC cancelled fluoride studies.