

SUBMISSIONS ANALYSIS REPORT - FLUORIDATION REVIEW

Summary of Submissions

This Report: This report provides a summary of the main themes and points included in submissions to Council’s Fluoridation consultation.

Submission Period: 1 March – 2 April 2013

Total Submissions: 1557

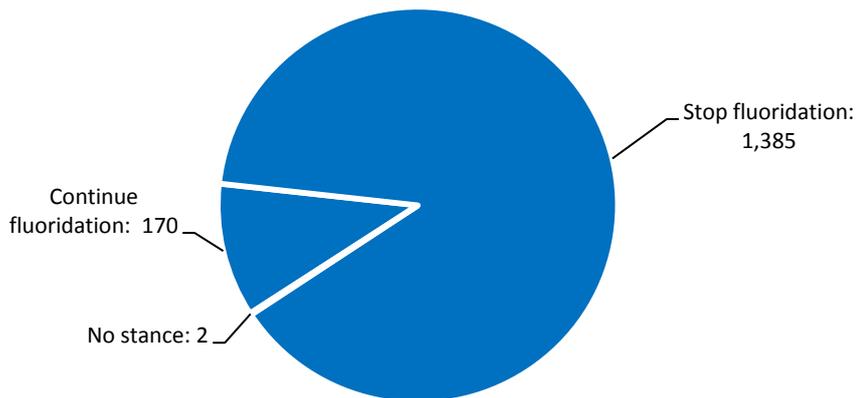
Hearing Requests: 141

Hearing Dates: 28, 29, 30 May & 4 June 2013

SUMMARY OF SUBMISSIONS

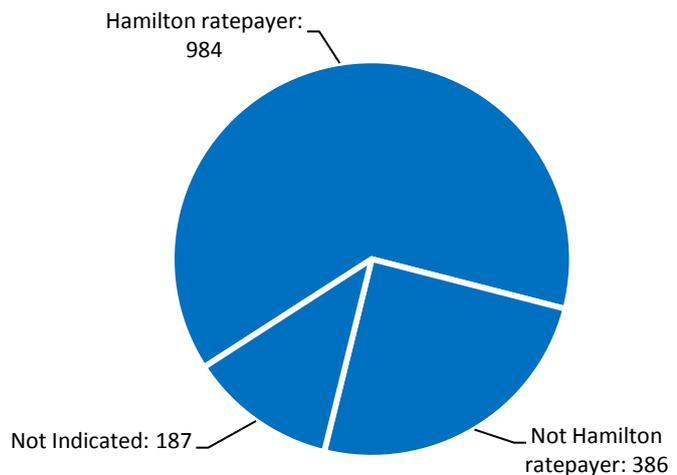
The following graphs show the number of submissions in support or opposition to the continuation of the fluoridation of Hamilton’s water, and the number of submitters who are Hamilton residents, ratepayers and Hamilton water users.

Of the 1,557 submissions received 1,385 (89%) seek Council to stop the practise of adding fluoride to the Hamilton water supply.



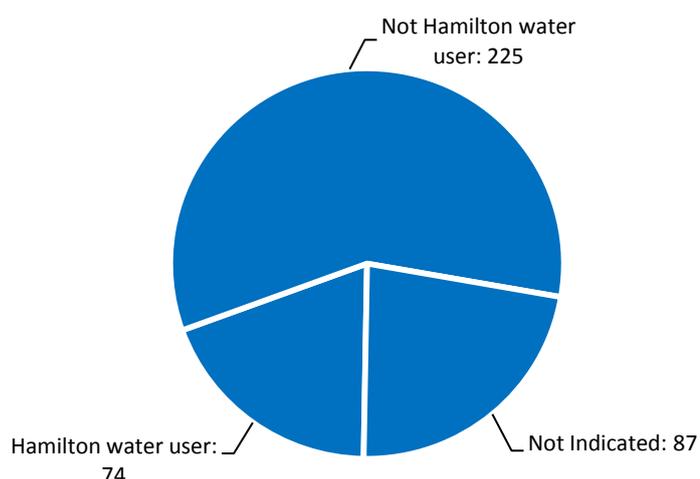
170 (10.9%) seek Council to continue the practise of adding fluoride and 2 (0.1%) submitters did not indicate a stance.

Of the total 1,557 submissions received 984 (63%) were made by Hamilton ratepayers or residents, 386 (25%) were made by people who live outside of the city and 187 (12%) submitters did not provide a response to this question.



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Of the 386 submitters who were not Hamilton ratepayers, a further 74 submitters indicated they were Hamilton water users.



SUMMARY OF SUBMISSIONS BY TOPIC

The following tables show the key topics that are discussed in the submissions and the number of submissions that have commented on each of these topics. Please note: submitters may have discussed multiple topics in their submission.

CONTINUE	
Topic	Number of submissions commenting on the topic
A. Cost effective population based strategy to prevent dental cavities.	124
B. Support for the current dosage of 0.7 - 1mg/l.	15
C. There is scientific evidence to support fluoridation of the water	45
D. Have experienced the benefits of fluoridation of the water	46
E. Other reasons	44

STOP	
Topic	Number of submissions commenting on the topic
F. Violation of human rights / mass medication	994
G. Fluoridation of the water is linked to a number of illnesses, risks and harm	807
H. Fluoridation is ineffective/does not prevent tooth decay	741
I. Fluoridation is no longer best practise	182
J. Fluoridation has a greater impact on minority populations	171
K. The practise of adding fluoride to the water supply is wasteful	132
L. Ceasing the practise of adding fluoride to the water supply will result in cost savings	96
M. Other reasons	34

PROCESS	
Topic	Number of submissions commenting on the topic
N. Council does not have the mandate to make this decision	22

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O. Disagree with the use of the special consultative procedure.	16
P. Concerns over a conflict of interest	4

CONTINUE: A CLOSER LOOK AT THE REASONS

TOPIC A: Cost effective population based strategy to prevent dental cavities **124 submissions comment on this topic**

The majority of submitters in support of continuing fluoridation recognised poor oral health is a significant issue throughout New Zealand including within the Waikato DHB region, in particular for Maori and Pacific Island populations. They indicate that there is therefore a substantial benefit to be gained from strategies that will address this. Key health agencies such as Waikato DHB and Ministry of Health shared this view.

In terms of being cost effective, submitters contended that fluoridating the water supply is the least expensive way to deliver the benefits to all residents of a community. Figures frequently cited referred to the cost of 20-50 cents per person to fluoridate the water for communities of more than 20,000 people. Aligned to this view was the costs (both social and financial) of not fluoridating, that is the general cost of community healthcare paid by New Zealand ratepayers. Several submitters quoted the statement that every \$1 invested in this preventive measure yields approximately \$38 savings in dental treatment costs.

It was suggested that fluoridation of the water supply is an effective strategy due to the accessibility of water. This ensures a baseline of protection for all (particularly children) irrespective of socio-economic background or access to dental services.

The suggestion that fluoride benefits those in the lower socioeconomic group the most emerged as a sub-theme. It was suggested that families in lower socio-economic positions might not have toothbrushes so topical fluoride treatment (e.g. toothpaste) would not be applied and therefore the benefits are not obtained. People in this lower socio-economic group were recognised as having the greatest risk of dental disease.

It was commonly felt that in an age where the foods eaten are increasingly sugary and unhealthy, fluoride is a simple way of combating some of the negative effects on the teeth by poor diet - especially with children who may not clean their teeth on a regular basis. A number of submitters suggested that all residents of a community can enjoy fluoride's protective benefits just by drinking tap water and consuming foods and beverages prepared with it.

Submitters note that other countries similar to New Zealand also support water fluoridation, including Australia, the United Kingdom, the USA and Canada and indicated that the World Health Organisation (WHO) and the World Dental Federation also support fluoridation.

Most submitters within this topic recognised water fluoridation as one part of an oral health strategy, a strategy that also includes the use of fluoridated toothpaste, regular brushing, and dental care and lifestyle choices such as diet. The Waikato DHB in particular notes that community water fluoridation is an important adjunct part of the strategy, not an alternative to other oral health care activities.

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The Ministry of Health note that the NZ Oral Health Survey (2009) found that 54% of participants were strongly or moderately in favour of fluoride, 19.6% against and 26% didn't have a strong opinion either way (n: 3475).

Verbatim Comments
<i>Fluoridation of the water supplies ensures a baseline of protection for all children who have access to it irrespective of socio-economic background or access to dental services.</i>
<i>As a rate-payer and tax-payer I prefer to have the community incidence of tooth decay reduced in this way than have to pay higher taxes to deal with the adverse effects of tooth decay in the community.</i>
<i>Water fluoridation is an important, cost effective public health initiative, which has positive effects for people of all age and social economic levels. While there are some legitimate health concerns most are simply not well supported or are due to misinformation and poor research.</i>
<i>You as City Councillors have the opportunity and indeed the obligation to make the right choice to provide the greatest benefit for the greatest number of your people.</i>
<i>Fluoride is one of the simplest, cheapest and most effective interventions to improve overall dental health.</i>
<i>Those most vulnerable to poor oral health are people in the most deprived communities. Fluoridation of the water supply is the most practical, sensible and safe way to improve health for these people.</i>
<i>Fluoride will ensure that the children of Hamilton who have non caring or disorganised or poor parents have teeth that will not give them pain and infection. It will save the country money as well as these children grow up healthy and with their own teeth.</i>
<i>To those who consider there might be a risk from fluoride, I ask you to weigh that view against the very definite and known risks of high rates of dental disease and treatment: Treatments often requiring general anaesthetics which involve significant costs and some degree of risk. Oral health is inextricably connected to good general health.</i>

TOPIC B: Support for the current dosage of 0.7 - 1mg/l.

15 submissions comment on this topic

The general sentiment of these comments was that fluoride in this dose (0.7 - 1mg/l.) is considered safe. Submitters also contended that fluoride works best when a low concentration product is applied with high frequency and it was felt that water fluoridation achieves this. Several submitters noted the toxicity as being related to dose rather than exposure. It was observed that many substances (salt, vitamins A&D, chlorine, iodine, iron and fluoride) are dangerous at very high levels but beneficial or even essential at low levels.

Verbatim Comments
<i>One of the guiding principles of health is that "poison makes the dose". Maintaining the fluoride in drinking-water below the recommended limits enables the population to receive the benefits without the associated risks to health.</i>
<i>Like many things, there is such a thing as too much fluoride (aka a toxic dose). However, it is likely that a child or even an adult would need to consume such a large quantity of fluoridated water</i>

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that they would succumb to the toxic effects of drinking too much water before ingesting a toxic dose of fluoride.

There is currently no scientific research or evidence worldwide that demonstrates fluoride added to drinking water at 0.7-1.0 ppm poses any health risk and the overwhelming balance of scientific research worldwide continues to demonstrate that fluoride added to drinking water at 0.7-1.0 ppm has a beneficial effect by reducing the incidence of dental decay.

Fluoridating water supplies involves topping up the natural fluoride content of water to a level that is known to provide extra protection for teeth. That level is still low at 0.7 parts per million for Hamilton.

TOPIC C: There is scientific evidence to support fluoridation of the water
45 submissions comment on this topic

A body of scientific literature supporting water fluoridation was referenced. The key pieces of research commonly cited consisted of:

- NZ Oral Health Survey (2009) <http://www.health.govt.nz/publication/our-oral-health-key-findings-2009-new-zealand-oral-health-survey>
- A 2004 study on water fluoridation and dental caries in 5- and 12-year-old children from Canterbury and Wellington (HubMed website) <http://www.hubmed.org/display.cgi?uids=15346876>
- Public health advisory committee (PHAC) 2003 review that looked at evidence of the effect of water fluoridation with respect to reducing inequalities in oral health.
- Public Health Commission Report (1994) which reviewed 15 NZ fluoridation studies

Submitters also referenced a large body of international evidence that supports the benefits of water fluoridation including prevention of dental caries. Key reports frequently cited were:

- McDonagh et al., Systematic review of water fluoridation, British Medical Journal, 2000
- Armfield et al., Water Fluoridation and the Association of Sugar-Sweetened Beverage Consumption and Dental Caries in Australian Children, American Journal of Public Health, 103 (3), 2013.

Verbatim Comments

Simply put, the massive statistical evidence from our own population over 5 decades does not show up any of the claimed problems from fluoridation. Therefore, there is no reason to stop.

A recent study of children in Australia shows that greater exposure to fluoridated water significantly reduced the association between children's consumption of sugar-sweetened beverage and dental caries. As sugar consumption in New Zealand is higher per capita than Australia, Great Britain or USA, the challenge children's teeth face from sugar induced decay in New Zealand is considerable.

The Public Health Commission determined fluoridation prevents up to 12 decayed, missing or filled teeth per person Fluoridation costs only 20c per person per year

The scientific evidence of any negative effects of fluoride addition is negligible, with the worst proven effect being minor aesthetic damage. The arguments against fluoridation I have seen have all been emotive and flawed (e.g., toxic or causes illness at the doses in the water supply, or it is an industrial waste product), and ignore the true social cost of not adding it in safe concentrations to the water supply.

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I'm a chemist. Educated in the University of Waikato Chemistry Department. There is a academic there, who is a specialist in inorganic chemistry. In particular, the chemistry of Fluorine. It is undoubtedly an element with great potential, in terms of progress in methods of chemical synthesis. But beyond this, it's health benefits are undeniable. There is a reason, that water has been fluoridated for many years now.

The scientific evidence of any negative effects of fluoride addition is negligible, with the worst proven effect being minor aesthetic damage. The arguments against fluoridation I have seen have all been emotive and flawed (e.g., toxic or causes illness at the doses in the water supply, or it is an industrial waste product), and ignore the true social cost of not adding it in safe concentrations to the water supply.

TOPIC D: Have experienced the benefits of fluoridation of the water

46 submissions comment on this topic

Submitters relayed their own oral health histories and experiences. Their experiences of fluoridated water were explained as being either: beneficial due to drinking fluoridated water or lacking because of the absence of fluoride in their drinking water.

Verbatim Comments

My husband and I are living proof that fluoride in water is beneficial to mainly the dental health of people. I grew up in Kerikeri where there is no fluoride in the water, my husband grew up in Hamilton. I have had multiple teeth fillings and have had to spend a lot of money on my oral health. My husband has never had a filling and has great oral health.

I grew up without fluoridated water and my teeth tell that story - I so wish I had had the benefits of fluoridated water.

I am a health care professional who used to be involved in surgeries for removing rotten teeth from toddlers. My parents both have terrible teeth and mine are perfect. The difference in care was fluoride in water and toothpaste

When I started practice in NP and Stratford in 1974 (a short time after the introduction of fluoridation of the NP and Stratford water supplies) my regular workload included removing all of the teeth, from an average of five patients, every week.. Many of these procedures required general anaesthetics in hospital. Most of the patients were aged in their 20's and 30's but even more disturbing some were still teenagers. By the 1980's and 1990's due to the decision to fluoridate the water in the New Plymouth and Stratford, there was a marked improvement in dental health: The need for this sort of work diminished to such an extent that for the combined years 2007/2008, only 1 patient required a full dental clearance.

I am a dental specialist in Hamilton and have treated its residents for 20 years. I have seen first hand the benefits of fluoride on the health of children's teeth compared to those who live in Tauranga.

Because as a youngster (I am now in my 70's)I had very bad teeth, and I compare my dental history with that of my husband,(growing up overseas) and my children (grew up in Hamilton) and I'm sure fluoride was the preventive.

You only have to ask someone in their 20s have they had any fillings and the majority have either had none or one.

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TOPIC E: Other reasons

44 submissions comment on this topic

A number of comments within this topic focused on refuting the claims from those who want fluoridation stopped, in particular the argument used to oppose the fluoridation of water supplies on the grounds it is an infringement of personal choice and is likened to “mass medication.”

In their submission, the Waikato DHB points out that the Human Rights Commission (1990) stated, "in all circumstances therefore, it is considered that the question of fluoridation of water supplies by public authorities does not constitute a denial of human rights."

In response to claims about mass medication, submitters noted that public health measures (sanitation by way of reticulated sewerage, compulsory wearing of cycle helmets, mandatory seatbelt laws, compulsory fencing of swimming pools, food hygiene legislation, clean air standards, treatment of drinking water) all involve some minor restriction of personal rights or freedoms for the greater good.

While some submitters did recognise the desire of those against fluoride to be able to consume food and water, free from additives they felt there are ways in which people can achieve their desire without disadvantaging the rest of the population.

A number of comments were made comparing the perceived risks of fluoride as being at a similar level or less of a risk than other chemicals ingested through everyday life or added to drinking water.

Verbatim Comments

Short of wearing a fully protective suit it is an unavoidable fact that in today's climate we are breathing in far more harmful chemicals than the infinitesimal amount of fluoride we at present ingest.

The addition of fluoride to drinking water is no more unacceptable 'mass-medication' than is the addition of chlorine for hygiene reasons. Retain fluoride and do not give in to the voice of the ill-informed.

People who do not want fluoride in the water can afford dental bills and can also afford to buy bottled water and not drink fluorinated water. We need to consider the people who can not afford dental bills so need to have fluoride in the water.

Arsenic levels in our drinking water pose a much higher health risk over a life time of exposure and even that risk is insignificant compared to other health risks we face from day to day such as excessive ingestion of sodium, saturated fats and sugar in the foods we eat.

I support fluoride in our water despite the media articles that set out to malign and stigmatise the process. It so reminds me of the "Microwaves are evil" Brigade. Or worse, the "Anti Vaccination Brigade".

I trust the democratic right to choice BUT responsible communities support those who cannot influence that choice in particular children.

AGAINST: A CLOSER LOOK AT THE REASONS

TOPIC F: Violation of human rights/mass medication

994 submissions comment on this topic

Overwhelming the most cited objection to the continuation of fluoridation was the strongly held view that it is a form of “mass medication.” The basis for this view is that water fluoridation uses the public water supply to deliver a drug to a person who has not given their consent for this. Submitters note that normal medical practice requires a patient to give their consent before they are given treatment, using medication. It is felt that with water fluoridation this right to informed consent is overridden.

Submitters challenge the Ministry of Health’s view (that it does not agree with calling fluoride a medication and that “it is merely adjusting natural elements which are already present in water”). Submitters propose that fluoride is being added to address a health issue and therefore making it medication.

Along this theme, a number of submitters contend that the NZ Bill of Rights provides for New Zealanders to be able to refuse medical treatment. Further submitters highlighted individual’s rights under the Health and Disability Code. They contend that the fluoridation of water contravenes rights contained in Clause 2 of the Health and Disability Commissioners’ Code of Rights, specifically the right to services of an appropriate standard (Right 4) and the right to make an informed choice and give informed consent (Right 7).

Submitters refute the argument (posed by those in support of fluoridation) that compulsion is appropriate in some situations for the good of the individual and the community, such as with the wearing of seat belts when a passenger is in a car or cycle helmets when riding a bicycle. They suggest the risk benefit ratio with water fluoridation is much less clear-cut.

A number of submitters referred to the government’s recent decision regarding the use of folate in bread as an important precedent. The addition of folate to bread was based on research showing that when pregnant mothers take folate it reduces spinal bifida in babies. The government decided that the addition of folate would be voluntary. Instead of taking a “mass dosing of a vitamin” approach, it opted on educating pregnant mothers to take folate.

Linked to the theme of mass medication was the view that fluoridation is an infringement of personal choice. Submitters noted that it is very difficult and costly to avoid fluoride when it is added to the public water supply. Submitters quoted the cost of installing effective reverse-osmosis filters as several hundred dollars (per tap). On the flipside, it was argued that if people wish to drink fluoridated water then they are able to buy fluoridated bottled water, take fluoride tablets or use toothpaste. These were perceived as easier and cheaper options by submitters. Submitters suggested that a real/reasonable choice would allow the consumer the freedom to consume fluoride-free water wherever they are; at home, work, public places, restaurants etc.

A key sub-theme that emerged within this topic was the view that fluoride is a chemical or poison. A number of comments were made about the nature of the product being hazardous waste and/or a by-product of phosphate fertiliser industry. Submitters noted that the Hydrofluorosilicic Acid (HFA) used by Council is not a pharmaceutical grade product and that it is classified as hazardous substance. It was highlighted by a number of submitters that HFA is not the same as naturally

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occurring fluoride. Naturally occurring fluoride is usually accompanied with high levels of calcium and or magnesium, which help to detoxify the fluoride. Several submitters attached copies of the Material Safety Data Sheets to their submissions, which includes various warnings such as “Avoid contact with skin and eyes”, “Repeated or prolonged exposure may result in fluorosis” and “Avoid contaminating waterways”.

The Fluoride Action Network (FANNZ) highlight that New Plymouth District Council (who recently voted to cease the practise of fluoridation) acknowledged that the only way it could dispose of its remaining fluoride was to feed it into the water supply until expended. It could not legally dispose of it anywhere due to its high toxicity.

Several submitters suggested that if, after the consultation process, HCC decided to continue adding fluoride to the water supply, that it should at least change the product used to one that is pharmaceutical grade.

Verbatim Comments
<i>All I want is the CHOICE to make my own decision regarding this mass-medication; I believe it is a fundamental right of a free and democratic society to have each individual make their own choice on these issues.</i>
<i>If people want to take fluoride then let them take as their choice. But don't force the rest of us to ingest chemicals we neither want nor need.</i>
<i>If you feel you are lacking in fluoride, its the individuals choice to seek out medication and not councils choice.</i>
<i>If people wish to use fluoride, they should have access to fluoride toothpaste or bottled fluoridated water with medical-grade sodium fluoride, not the toxic waste product found in our water. This would both improve the quality of fluoride used, mean it could be targeted properly and at a controlled dose, and not involve medicating the population as a whole. It would make it a choice.</i>
<i>I cannot afford a specialist filtration system to get rid of it and feel my rights are being violated by having to consume fluoride and having no method of avoiding it. Each family should be able to choose for themselves whether they consume fluoride, and this is not currently possible.</i>
<i>I believe you are not allowing parents the choice whether their children have fluoride - or not. This is against my human rights.</i>
<i>People should have access to drinkable water free from fluoride. I have to buy water from the supermarket for my 2 year old, I would like to be able to use the tap water that I pay for.</i>
<i>Informed consent is standard practice for all medication, and one of the key reasons why most of Western Europe has ruled against fluoridation. With water fluoridation we are allowing governments to do to whole communities what individual doctors cannot do to individual patients</i>
<i>Regardless of whether or not flouride is good bad or otherwise, the Government has led the way in declining the move to add folate to bread to reduce the incidence of spina bifida. The reasoning was that is neither moral nor justified to mass medicate for the benefit of a few. In the case of fluoride there is the option of tablets and fluoridated toothpaste for those who believe it's a good option. There should be choice!</i>
<i>Fluoride is a known toxic substance and a by-product of fertilizer and is not allowed to be dumped</i>

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by the EPA, although it is dumped right in our drinking water.

TOPIC G: Fluoridation of the water is linked to a number of illnesses, risks and harm.

807 submissions comment on this topic

A large range of serious illnesses, disease and harm were cited as being linked to the ingestion of fluoride. Some of these included:

- Bone cancer
- Arthritis
- Thyroid dysfunction
- Kidney disease
- Dental fluorosis
- Negative effects on brain development (particularly in infants and young children)
- Negative affects on the pineal gland (resulting in the earlier onset of puberty)

A number of submitters (identifying as Hamilton ratepayers or residents) identified as personally suffering from fluorosis or suffering from kidney disease. These submitters did not specifically say that their illness was caused by fluoride but were clear that fluoridated water aggravated their condition.

A body of scientific literature that supports the view that fluoridated water is harmful were referenced. The key pieces of research commonly cited include:

- US National Research Council (2006)
http://www.nap.edu/openbook.php?record_id=11571&page=R1
- Declan Waugh (BSc. CEnv. MCIWEM. MIEMA. MCIWM), Public Health Investigation of Epidemiological data on Disease and Mortality in Ireland related to Water Fluoridation and Fluoride Exposure (Feb 2013) http://www.hamilton.co.nz/our-council/consultation-and-public-notices/haveyoursay/Lists/2013%20Fluoride%20Consultation%20%20Final/Attachments/59/Epidemiological%20data%20on%20Disease%20and%20Mortality%20in%20Ireland%20related%20to%20Water%20Fluoridation_Waugh%20D_Febuary%202013%20Master.pdf
- Awofeso N, Ethics of artificial water fluoridation in Australia. Public Health Ethics (2012)
<http://phe.oxfordjournals.org/content/early/2012/08/18/phe.phs016>
- Anna L. Choi, Guifan Sun, Ying Zhang, and Philippe Grandjean, Developmental Fluoride Neurotoxicity: A Systematic Review and Meta-Analysis (2012)
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3491930/>. This research is also summarised by the Havard School of Public Health
<http://www.hsph.harvard.edu/news/features/fluoride-childrens-health-grandjean-choi/>

It should be noted that Declan Waugh was a submitter to this process.

Submitters within this topic strongly highlighted their concerns that their own health is being put at risk.

The 'precautionary principle' was frequently cited in relation to effects on health. Submitters highlighted there had not been a cost-benefit analysis carried out in New Zealand and no specific monitoring of the effects of fluoride consumption in Hamilton /the Waikato. It was also noted that it can take time to get definitive, scientific proof that a chemical or practice has caused harm and during that time the health of some people has been damaged irrevocably. The case with lead, benzene, asbestos and smoking was used to illustrate this point.

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The precautionary principle contends that when there is reasonable doubt about safety, we should err on the side of caution and not insist on absolute evidence of harm before eliminating or rejecting a substance or practice. This is based on the fact that in many cases serious harm can not be reversed.

A key sub-theme within this topic was that individuals cannot control doses. Submitters were consistent in their views that the actual dose received by individuals is 'uncontrolled' because it depends on how much water they drink, their size (height/body weight) and other fluoride containing foods they consume.

Verbatim Comments
<i>I am not happy to have my health and that of my family put at risk</i>
<i>The potential for illness to be caused by fluoride outweighs the improvement in dental health. There is too much doubt about the safety of fluoride to use it with confidence.</i>
<i>Research and reviews in the past 20 years are contributing to a growing body of evidence that fluoride causes a wide range of serious health problems. We should be applying the precautionary principle by ceasing fluoridation until it can be proven 100% safe, not waiting until an unacceptable level of harm occurs.</i>
<i>The dose cannot be controlled. Once fluoride is put in the water it is impossible to control the dose each individual receives because people drink different amounts of water. Being able to control the dose a patient receives is critical.</i>
<i>Long term research on the effects of fluoride added to our drinking is non existent in New Zealand and recent research from other countries suggest harm.</i>
<i>It takes no account of an individual age, gender, exposure to other sources, susceptibility, health status (i.e. kidney disease) or the daily intake of water.</i>

TOPIC H: Fluoride is ineffective/does not prevent tooth decay

741 submissions comment on this topic

The majority of comments within this topic claimed fluoride is ineffective in preventing tooth decay, as the primary benefit of fluoride is topical application to the teeth, not swallowing.

Most submitters felt there are better ways of delivering fluoride than adding it to water. The most common alternative was having it clinically and carefully prescribed by a doctor or buying toothpaste.

Many submitters noted that poor diet, drinking sugary soda drinks and poor dental care are the reasons for dental decay. They suggest that adding fluoride, at any level, is not the answer to improving dental decay and that targeting diet would have a far greater impact.

A significant body of scientific literature providing evidence of the topical versus systemic benefits were referenced. The findings of John Colquhoun (former Chief Dental Officer, Auckland) were frequently referred to. Key pieces of research cited include:

- Featherstone J.D.B. , Prevention and reversal of dental caries: role of low level fluoride (1999) <http://www.ncbi.nlm.nih.gov/pubmed/10086924>

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- Diesenhof, The mystery of declining tooth decay (1986)
<http://www.nature.com/nature/journal/v322/n6075/abs/322125a0.html>
- Colquhoun, Why I changed my mind about water fluoridation (1997)
<http://www.fluoridation.com/colquhoun.htm>

In their submission, Fluoride Action Network (FANNZ) list and summarise the latest New Zealand studies on dental health. FANNZ suggest that these studies show no significant difference in decay rates in fluoridated areas compared to non-fluoridated areas.

A number of submitters referred to research that showed any benefits from fluoride were only to children approx 2-9 years old and discussed how the current practise of adding fluoride to water supplies targeted far more than 2-9year olds.

Verbatim Comments
<i>Adding fluoroide to water is akin to drinking sunscreen to prevent sunburn.</i>
<i>The Centers for Disease Control and Prevention (CDC, 1999, 2001) has now acknowledged that the mechanism of fluoride's benefits are mainly topical, not systemic. There is no need whatsoever, therefore, to swallow fluoride to protect teeth.</i>
<i>Poor diet, drinking sugary soda drinks and poor dental care are the reasons for dental decay. Adding fluoride, at any level, is not the answer to improving dental decay else this would have surely had a clear impact and it hasn't.</i>
<i>The myth that ingesting fluoride is good for oral health is a hard one to shift. Any (minimal) benefits to the tooth surface have been shown to be through TOPICAL application, not ingestion.</i>
<i>"Those who believe in fluoride treatment for teeth can have it clinically and carefully prescribed by a doctor or buy fluoridated toothpaste."</i>
<i>Health professionals both home and abroad have found that social class and general standard of living (in western society) have accounted for the improvement in dental health, and there is little difference between communities that have fluoridated water and those that don't.</i>
<i>It has been shown that if fluoride is to have any effect it must be applied to the surface of the teeth (CDC, 1999). Systemic application is unnecessary and ineffective. Swallowing it does not help the teeth, and only exposes our bodies to potential harm from its known side effects.</i>
<i>It has been argued that those who do not want fluoride in their drinking water can avoid it by various means. It is very difficult to remove fluoride from the water once it is in there.</i>

TOPIC I: Fluoridation is no longer best practice
182 submissions comment on this topic

Submitters within this topic predominately referred to fluoridation being an out-dated practice and one that is no longer considered common or universally endorsed.

The most frequently made argument on this topic involved the number of other councils that have recently ceased adding fluoride to their water supplies and the fact that more councils do not fluoridate than those that do (only 23 of 67).

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Submitters also cited international trends suggesting fluoridation becoming increasingly unpopular. These submitters noted that many countries have ceased fluoridation or are lowering the optimal levels added to water supplies.

Several submitters note that New Zealand is one of only eight countries in the world that fluoridate more than 50% of the municipal water supply. The other seven are Australia, Colombia, Ireland, Israel, Malaysia, United States and Singapore. Canada has about 40% but this is declining as communities reject the practice.

<i>Verbatim Comments</i>
<i>Fluoridation has been made illegal in most countries throughout the world because of the dangers of it, countless reputable studies have been completed on fluoride proving its dangers.</i>
<i>The rest of the world s waking up to the truth about fluoride. In Europe, only Ireland (73%), Poland (1%), Serbia (3%), Spain (11%), and the U.K. (11%) fluoridate any of their water. Most developed countries, including Japan and 97% of the western European population, do not consume fluoridated water.</i>
<i>In our Waikato District, the local authorities of Hauraki, Matamata-Piako, Otorohanga, Waitomo and Waipa do not fluoridate their public water supply.</i>
<i>I have lived overseas (Europe) from most of my life and there are strict regulations on the use of fluoride, even in toothpaste.</i>
<i>Cities and towns in Canada and the USA are increasingly ceasing fluoridation of water supplies - 9 cities involving 375,000 citizens during the past 3 months</i>
<i>Fluoridation is losing ground now all around the World where it has been implemented. Last place to get rid of it Windsor Ontario Canada population 200,000</i>
<i>Most European countries don't fluoridate and neither does Japan. Germany, the Netherlands, France, Denmark, Belgium, Sweden, Norway, Austria, Italy, Greece, Portugal do not fluoridate their water supplies.</i>

TOPIC J: Fluoride has a greater impact on minority populations
171 submissions comment on this topic.

The majority of comments within this topic focused on highlighting the concerns of bottle-fed infants being exposed to high levels of fluoride.

Submitters state that fluoridated waters contains 200 times more fluoride than breast milk highlighting that babies get the highest dosage of fluoride among all ages of population due to their body size. Submitters also comment that hydrofluoric acid is a toxic substance and is not a food grade and that there is no scientific basis to suggest that 0.7mg/day is safe for infants.

Submitters provide references to NZ scientific research with the most commonly cited research was that of Peter Cressey of Environmental and Scientific Research (see <http://www.esr.cri.nz/SiteCollectionDocuments/ESR/PDF/MoHReports/FW0651-Fluoride-intake-assessment-July2009.pdf>).

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Submitters further note that there is no scientific basis for claiming that 0.7 mg/day is safe for infants as no studies on infants have been done – it is just a pro-rata figure from adult levels on a body weight basis, which they suggest is not appropriate, as infants are biologically different from adults.

Several submitters refer to the caution from American Dental Association (2006) about using fluoridated water for making formula for infants and legislation passed in the New Hampshire, USA. It is noted that the alternative, bottled water or infant formulas made using bottled water is not an economically viable option for many low to medium income families.

Some submitters highlight that in targeting low socio-economic groups for oral health improvements (by fluoridating the water) ignored the issues, other vulnerable groups such as people living with kidney and liver failure who cannot process fluoride. The submitters point out that, in carrying out this practice, council is putting the needs of one group over another group.

Submitters request that at the very least, NZ councils should do the same as has occurred in New Hampshire, USA where the issue information/warnings with rates notices.

Verbatim Comments

Targeting poor groups of society for oral health improvement ignores the issue of other vulnerable groups of society like people with kidney and liver failure which cannot process fluoride. We cannot try to protect one group at the expense of the other. You as public servants have a duty of care towards all citizens.

By adding hydrofluorosilicic acid to water you are exposing infants to a toxic substance that is not even food grade.

The dosage that infants and children receive in Hamilton are above levels that the NZ government deem safe (since infants drink a lot compared to their body weight).

Water Fluoridation is dangerous for bottle fed babies and it is recommended that baby's don't consume fluoridate water in the first 6 months. This information is not actively provided to parents and no warnings are issued.

Babies fed formula made from fluoridated water are receiving thousands more toxins than their tiny bodies can cope with and are at greatest risk of developing fluorosis of the bones, bone cancer, damage to their liver and their thyroid glands.

TOPIC K: The practise of adding fluoride to the water supply is wasteful

132 submissions comment on this topic

Submitters within this topic talked to the issue of fluoridation of water being a wasteful practise as majority of the fluoridated water goes straight down the drain and only a small proportion is actually drunk. It was suggested that most public water usage is used for bathing/showers, household washing and gardening.

Submitters further suggested that due to this lack of use for drinking fluoridation is not a good use of ratepayer money. This is covered in more detail under topic L - Cost Savings.

Verbatim Comments

HCC produce 45 million litres of chlorinated, fluoridated water per day for less than 150,000 men,

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women, children and babies in Hamilton. That means at least 44million 800,000 litres of fluoridated water is NOT being drunk - it is leaking into the soil, washing cars, flushing toilets, washing clothes, watering lawns "

98% of the fluoride put into the water supply goes down the drain - not a cost-effective strategy

Water fluoridation is hugely wasteful as most fluoridated water goes straight down drains. Only a tiny bit is swallowed so from a value for ratepayers viewpoint council is silly to be promoting it

Water fluoridation is hugely wasteful as most fluoridated water goes straight down drains. Only a tiny bit is swallowed so from a value for ratepayers viewpoint councils are silly to be promoting it.

The Hamilton City Council spends \$40,000 annually on fluoridation of the potable water supply (Hamilton City Council, 2012). However, the majority of this treated water is never ingested at all. Water that is not ingested obviously does not have a chance at affecting oral health. This means that most of the \$40,000 is completely squandered.

A typical household ingests less than 5% of the daily potable water supply (Waitakere City Council, 2009). This shows that Hamilton is washing over \$38,000 down the drain every year. I am sure that this money could be put to much better use in supporting the democratically approved priorities of the Council.

TOPIC L: Ceasing the practise of adding fluoride to the water supply will result in cost savings
96 submissions comment on this topic

Submitters within this topic had a simple but clear message that ceasing the practise of adding fluoride to the water supply will result in cost savings to council and therefore ratepayers.

A number of submitters went further to suggest that the money currently being spent would be more effectively used on oral health education.

Verbatim Comments

I really object to having to pay for this (fluoridation) in my rates. Council would be better spending its money on providing tablets to those who would benefit from it if they cannot afford to buy the tablets for themselves.

Fluoridation costs the council around \$40,000 each year, yet there has been no cost-benefit analysis to determine whether this money is achieving its goal of reducing tooth decay.

Given the percentage of water that is actually consumed and the fact that there is so much conflicting research available on fluoridation, it is a waste of rate payer money to continue with fluoridation.

There is a growing body of evidence suggesting water fluoridation is a very poor method for reducing tooth decay, therefore the council would be better off investing this \$40,000 into the health of their community in other ways.

This money could be better put to discharging debt and not paying for fluoride

Stop spending money we don't have

TOPIC M: Other reasons
34 submissions comment on this topic

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There were a number of submitter comments that could not be grouped easily into any of the above topics. These range from discussion on the use or exposure of other chemicals other than fluoride to comments on decision-making and policy development. A selection of comments is provided to illustrate the scope of discussion.

Verbatim Comments

I would also like the council to stop adding aluminium, as this is thought to be an Alzheimer's risk. If the council is to add anything back, it should be small amounts of natural magnesium, which is found in natural potable water sources, and is hard for modern people to reach the RDA for.

If our teeth were seen as so important then dental work would be cheaper, not to mention restrictions on the sugary foods and drinks on the market to help combat tooth decay.

After watching the documentary 'Let us spray' I learned that the NZ Health Ministry was the last Ministry in the world to ban Dioxin 2-4-5-T (a substance that the rest of the world had long ago recognised as being incredibly harmful at any level). Even when the evidence became overwhelming, all they did was lower the thresholds, as they have recently done with fluoride. And yes – much of the world, particularly the developed world banned fluoridation many years ago.

I have uncovered evidence of how policy-making organizations like the Ministry of Health and District Health Boards have a tendency to take up fixed positions of policy, and then have a vested interest in defending the existing status-quo policy positions, even when the supporting evidence changes over time. The current policy of these healthcare authorities is a classic case of this "defend the status-quo" syndrome.

PROCESS: A CLOSER LOOK AT THE REASONS

TOPIC N: Council does not have the mandate to make this decision

22 submissions comment on this topic

The primary issue raised within this topic was that Council does not have the mandate to make decisions about public health measures. A number of submitters suggested that medical treatment and dental care are not a local authority issue, nor a responsibility of Council to administer anything, which constitutes a medical practise, and that this should, more appropriately, be the responsibility of a medical body such as the Waikato District Health Board or the Ministry of Health.

One submitter refers to the revised Purpose of Local Government in Section 10 of the Local Government Act, suggesting that council's obligations to provide good quality infrastructure, local public services and performance of regulatory functions does not give Council to right to provide anything other than 'drinking water'.

Several submitters commented on the legality of fluoridation noting in particular that a legal challenge to fluoridation has been lodged with the New Plymouth High Court, by way of judicial review against the South Taranaki District Council's decision in December 2012 to fluoridate Patea and Waverley. The claim is that the Council has no express or implied power under the Local Government Act 2002, or any other Act, to fluoridate the public water supply. Submitters note that the last time fluoridation was challenged in court was 1963, which led to the Privy Council decision in 1964 on which councils have relied ever since. The wording on which the Privy Council ruled was changed in the 2002 Act, creating the opening for a new legislative challenge.

Verbatim Comments

No council has a mandate, right or duty to medicate its citizens; leave that to the doctors. What's next: vitamins? Antibiotics? Antidepressants?

Perhaps instead of asking "should we stop?", you should be asking "why should we continue?"

Why is the Hamilton City Council funding and coordinating a supposed public health measure anyway? There is no mention of public health initiatives on the Council's website under Vision, Outcomes and Goals (Hamilton City Council, 2012). The Council is, however, promising to "operate efficiently and provide exceptional service" (Hamilton City Council, 2012). Wasting almost \$40,000 per year on a discredited and unethical practice, which is not even within the mandate of the Council, hardly fits as either efficient or exceptional.

Council has no mandate, it should remain the responsibility of the parent, doctors, teachers and Min of Health. Councils are accountable to their communities, if council asks the community and the majority say no then it should stop as a practise - that's democracy in action

This is a medicinal issue and the council is not qualified or authorised to make medicinal decisions on behalf of one person let alone an entire population.

TOPIC O: Disagree with the use of the special consultative procedure

16 submissions comment on this topic

The majority of comments within this topic expressed concerns that the fluoride debate continues, and that discussions on this matter are still being revisited despite a referendum in 2006. A number

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of submitters expressed discontent with the ratepayer funding the consultative process, which in their view was considered to be a waste of resources.

Submitters made general comments about the need for a final determination to be made. One submitter objected to submissions from those outside of Hamilton (non-rate-payers and non-Hamilton water users) being eligible to participate in this process.

Verbatim Comments
<i>Just because, every two or so years this issue is raised does not make the fluorination of our water wrong.</i>
<i>We decided in a large proportion to continue with fluoride only a few years ago and I am very disappointed that all the work that was put into it has been lost due to the wishes of a few activists and councillors who support them.</i>
<i>It is disappointing that the Council should waste resources going through this process.</i>
<i>I am sure that the council has far more important things to worry about, like how to stop wasting rate payer's money, and pay off the massive debt they have incurred.</i>
<i>There was a clear message at the 2006 referendum - where is the new evidence to challenge change to that?</i>
<i>It is annoying to me as a ratepayer that council funds are wasted every few years having this same debate just because there is a small vocal opposition to fluoridation. Please bear this in mind before wasting more ratepayer's money on such needless investigations again.</i>

TOPIC P: Concerns over a conflict of interest

4 submissions comment on this topic

A small number of submitters expressed concerns about potential conflicts of interest for elected Councillors also serving as members of the District Health Board.

Verbatim Comments
<i>Councillors on the WDHB need to keep an open and neutral mind and not be corrupted by their connections or affiliations.</i>
<i>However, in the interests of transparency and accountability it is important to highlight that three HCC councillors are also elected members of the District Health Board. The DHB actively promotes fluoridation of the water supply to help prevent dental decay in young children. Given the significant conflict of interest this poses and the potential risk of predetermination by Cr Mahood, Gallagher and Wilson, they should be excused from this decision making process.</i>
<i>I ask that the members of the Tribunal careful examine their backgrounds for any perceived conflicts of interest regarding this debate.</i>

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