COMPLAINTS BOARD

ADVERTISING STANDARDS AUTHORITY

COMPLAINT NUMBER	15/425
COMPLAINANT	A. Chang
ADVERTISER	Fluoride Free Thames
ADVERTISEMENT	Fluoride Free Thames Billboards
DATE OF MEETING	27 October 2015
OUTCOME	Upheld

SUMMARY

Three advertising signs were displayed in Thames in the run-up to the Fluoride Referendum campaign.

Sign No. 1 stated: "Why drink toxic waste when you can brush your teeth? Fluoride OUT."

Sign No. 2 stated: "Your choice TOXIC WASTE or TOOTHPASTE. Stop fluoridation."

Sign No.3 stated: "For safe drinking water STOP fluoridation. Fluoride Free Thames. For more info:www.fluoridefree.org.nz."

The Complainant said the statements in the advertisements were false and were likely to mislead consumers, exploit their lack of knowledge, and without justifiable reason, played on fear. The Complainant also said the Advertiser was not identified in Signs 1 and 2. The Complainant said Sign No. 2 suggests "toothpaste alone is adequate when fluoridation is effective in preventing tooth decay regardless of tooth brushing habits." The Complainant said Sign No. 3 was also misleading; played on fear and presented an ideological position as a factual statement without qualifying information.

The Complaints Board said Sign 1 and 2 were in breach of the advocacy provisions, as neither identified the Advertiser.

The Complaints Board was the view the majority of consumers would interpret the Signs 1 and 2 as meaning fluoridated water was toxic, which was not true. The Complaints Board referred to its findings in Complaints Board Decision 13/501 where the Ministry of Health - a national authority and seen as an expert body with regard to its statutory role - cited the findings of Professor Sir Peter Gluckman, the Chief Science Advisor to the Prime Minister, as an authority on the matter who said at the doses used, there is no risk from fluoride in the water.

In light of these findings, and taking into account Complaints Board Decision 13/501, the Complaints Board said the wording "*Why drink toxic waste…"* was misleading and went beyond the provision of robust opinion allowed for under the rules of advocacy advertising.

The Complaints Board said Sign No. 3 presented an opinion as a statement of fact in manner that was likely to mislead consumers and exploit their lack of knowledge and, as such had unjustifiably played on fear.

The Complaints Board ruled the complaint was Upheld.

[Advertisements to be removed]

Please note this headnote does not form part of the Decision.

COMPLAINTS BOARD DECISION

The Chairman directed the Complaints Board to consider the advertisement with reference to Basic Principle 4 and Rules 2, 6 and 11 of the Code of Ethics. This required the Complaints Board to consider whether the advertisements created an overall impression which directly or by implication, omission, ambiguity or exaggerated claim is misleading or deceptive, or likely to deceive or mislead the consumer, or without justifiable reason, played on fear. The Complaints Board was also required to consider if the advertisement had been prepared with a due sense of social responsibility to consumers and to society.

The Complaints Board considered the provisions of Rule 11 of the Code of Ethics which allows for expression of opinion in advocacy advertising, provided that the expression of opinion is robust and clearly distinguishable from fact.

The Complaints Board noted also relevant were the Advocacy Principles, developed by the Complaints Board in previous Decisions for the application of Rule 11. These said:

1 That Section 14 of the Bill of Rights Act 1990, in granting the right of freedom of expression, allows advertisers to impart information and opinions but that in exercising that right what was factual information and what was opinion, should be clearly distinguishable.

2. That the right of freedom of expression as stated in Section 14 is not absolute as there could be an infringement of other people's rights. Care should be taken to ensure that this does not occur.

3. That the Codes fetter the right granted by Section 14 to ensure there is fair play between all parties on controversial issues. Therefore in advocacy advertising and particularly on political matters the spirit of the Code is more important than technical breaches. People have the right to express their views and this right should not be unduly or unreasonably restricted by Rules.

4. That robust debate in a democratic society is to be encouraged by the media and advertisers and that the Codes should be interpreted liberally to ensure fair play by the contestants.

5. That it is essential in all advocacy advertisements that the identity of the advertiser is clear.

The Complaints Board said the advertisements before it were clearly advocacy advertisements against water fluoridation in Thames.

It noted the Advertiser was identified in Sign No: 3 as www.fluoridefree.org.nz The Complaints Board confirmed the identity of the Advertiser on that advertisement was clearly displayed and therefore met the identification provision. However, the Complaints Board said Signs No. 1 and 2 were in breach of the advocacy provisions, as neither sign identified the Advertiser.

The Complaints Board then turned to consider the content of the three advocacy advertisements.

Sign No. 1: *Why drink toxic waste when you can brush your teeth? Fluoride OUT.*

The Complainant said the statement in sign No. 1 was untrue and was likely to mislead consumers, exploit their lack of knowledge, and without justifiable reason, played on fear.

The Complaints Board then turned to the response from Fluoride Free Thames and noted where it stated, in part: "The billboard poses a very simple and reasonable question for referendum voters to consider …"Why would you swallow water dosed with technical grade contaminated toxic hazardous industrial waste …when you could brush your teeth with a pharmaceutical grade product of widely accepted effectiveness?"

The Advertiser continued "it is incorrect to interpret the advertisement as necessarily saying fluoridated water is toxic waste in itself. It is sufficient for the advertisement to be true if the fluoridated water contains a toxic waste, which is then, necessarily consumed with the water. The overall message is the same, and gives rise to the same public health concerns, if the water is contaminated with toxic waste. To show the statement is true we only need show that the product added is toxic waste."

The Complaints Board disagreed. It said the overall takeout of the consumer was integral to its decision and it was of the view the majority of consumers would interpret the advertisement as meaning fluoridated water is toxic.

The Complaints Board then noted the views of Professor Sir Peter Gluckman and Professor Sir David Skegg about the safety of fluoridated water on the Ministry of Health's website www.fluoridefacts.govt.nz.

> "It is absolutely clear that at doses used in New Zealand to adjust the natural level to one that is consistent with beneficial effects (0.7-1.0mg/litre), there is no risk from fluoride in the water."
>
> *Professor Sir Peter Gluckman, Chief Science Advisor, Office of the Prime Minister's Science Advisory Committee.*

The Complaints Board noted the Advertiser was of the view this opinion was Sir Peter's "personal view and he cannot be considered an authority on the health risks of fluoridation."

The Complaints Board acknowledged the process of water fluoridation and its benefits was a contentious issue. However, it disagreed with the Advertiser's implication Sir Peter could not be considered an authority on the subject of water fluoridation.

It referred to the response from the Ministry of Health in Complaints Board Decision 13/501. In that decision, the Complaints Board noted the Ministry of Health stated: "These statements are the opinions of experts based on extensive research and endorsed by the Ministry of Health and given to DHBs to use in their advocacy role."

The Ministry regarded Professor Sir Peter Gluckman, the Chief Science Advisor to the Prime

Minister, as being an authority on the subject of the risks regarding water fluoridation who stated: "It is absolutely clear that at doses used in New Zealand … there is no risk from fluoride in the water."

In light of these findings, and taking into account Complaints Board Decision 13/501, the Complaints Board said the wording "*Why drink toxic waste…"* was misleading as it implied fluoridated water as toxic which went beyond the provision of robust opinion allowed for under the rules of advocacy advertising. The Complaints Board said the advertisement presented an opinion as a statement of fact in manner that was likely to exploit consumers' lack of knowledge and had unjustifiably played on fear. It also noted the sign had not met the identification provision for advocacy advertisements. Therefore the Complaints Board ruled Sign No. 1 was in breach of Basic Principle 4 and Rules 2, 6 and 11 of the Code of Ethics.

Sign No. 2*: "Your choice TOXIC WASTE or TOOTHPASTE. Stop fluoridation."*

The Complainant said the statement in Sign No. 2 suggested "toothpaste alone is adequate when fluoridation is effective in preventing tooth decay regardless of tooth brushing habits which was incorrect and was likely to mislead consumers, and exploit their lack of knowledge The Complainant also said the sign is clearly intended to imply fluoridated water is toxic waste. It uses language intended to mislead the uninformed and is patently false, as the product used to fluoridate NZ water supplies meets stringent quality standards for drinking water and is not derived from waste sources. It is in fact derived from a co-product manufactured under appropriate safety regulations. According to all credible research, water fluoridated at the levels used in community water fluoridation are safe."

When responding to the Complainant's concern the statement in Sign No. 2 suggested "toothpaste alone is adequate when fluoridation is effective in preventing tooth decay regardless of tooth brushing habits that fluoridated water, the Complaints Board noted where the Advertiser stated: "According to the Gold standard Cochrane Review (2015) on water fluoridation there is insufficient evidence to determine if water fluoridation has benefit over and above the use of fluoride toothpaste and other preventive measures common to current lifestyles (Iheozor-Ejiofor et al, 2015). They found insufficient evidence that water fluoridation reduces oral health differences across socio-economic groups or prevents tooth decay in adults. However they did find a significant association between dental fluorosis and fluoride level."

The Complaints Board noted the substantiation it sent to support the arguments effectiveness of fluoride toothpaste as opposed to mass water fluoridation issue. However, it said the main issue was as in Sign was of the view the majority of consumers would interpret the advertisement as meaning fluoridated water is toxic.

The Complaints Board reiterated its findings for Sign No. 1 in Complaints Board Decision 13/501, where it found the Ministry of Health - a national authority with "a duty to provide information to the public" was an expert body with regard to its statutory role. The Ministry regarded Professor Sir Peter Gluckman, the Chief Science Advisor to the Prime Minister, as being an authority on the subject of the risks regarding water fluoridation who stated: "It is absolutely clear that at doses used in New Zealand … there is no risk from fluoride in the water."

In light of these findings, and taking into account Complaints Board Decision 13/501, the Complaints Board said the wording "*Your choice TOXIC WASTE or TOOTHPASTE,"* went beyond the provision of robust opinion allowed for under the rules of advocacy advertising as it incorrectly implied fluoridated water was toxic. The Complaints Board said the advertisement presented an opinion as a statement of fact in manner that was likely to exploit consumers' lack of knowledge and had unjustifiably played on fear. It also noted the

sign had not met the identification provision for advocacy advertisements. Therefore the Complaints Board ruled Sign No. 2 was in breach of Basic Principle 4 and Rules 2, 6 and 11 of the Code of Ethics.

The Complaints Board then turned to consider sign No. 3.

Sign No. 3: *For safe drinking water STOP fluoridation. Fluoride Free Thames. For more info:www.fluoridefree.org.nz."*

The Complaints Board noted the concerns of the Complainant the advertisement implied fluoridated water was unsafe. The Complainant said this statement incorrect as: "... overwhelming evidence continues to build and reinforce the scientific consensus that at recommended levels, fluoridation is safe." The Complainant added the statement was presented as a factual statement not the Advertiser's opinion and as such, had unjustifiably played on fear.

The Complaints Board noted this was the only sign where the Advertiser was clearly identified (www.fluoridefree.org.nz.).

The Complaints Board then tuned to the response from the Advertiser about Sign 3. Na noted where it stated: "Water fluoridation is not a safe practice and drinking fluoridated water does put people at risk of side-effects. The statement "overwhelming evidence continues to build and reinforce the scientific consensus that at recommended levels fluoridation is safe" is incorrect. The weight of evidence is building that it is unsafe. … The statement is based on fact, the evidence for which has been outlined above."

The Complaints Board disagreed. It said the likely takeout for the average consumer would be fluoridated water was unsafe, which taking into account its findings in 13/501, was incorrect. Consequently, the Complaints Board said Sign No. 3 presented an opinion as a statement of fact in manner that was likely to mislead consumers and exploit their lack of knowledge and, as such had unjustifiably played on fear. Therefore the Complaints Board ruled Sign No. 3 was in breach of Basic Principle 4 and Rules 2, 6 and 11 of the Code of Ethics.

Accordingly, the Complaints Board ruled to Uphold the complaint.

DESCRIPTION OF ADVERTISEMENT

Sign No. 1 stated: "Why drink toxic waste when you can brush your teeth? Fluoride OUT"

Sign No. 2 stated: "Your choice TOXIC WASTE or TOOTHPASTE. Stop fluoridation."

Sign No.3 stated: "For safe drinking water STOP fluoridation. Fluoride Free Thames. For more info:www.fluoridefree.org.nz."

COMPLAINT FROM A. CHANG

I wish to complain about advertising signs and posters displayed in prominent locations during the current Thames Fluoridation Referendum campaign. I have enclosed 3 images I believe breach the standards under rules 2, 6, and 11.

For ease of processing, I will confine my primary complaint to image a; however I have included a complaint on image b & c though I understand these may not be able to be dealt with as one all-inclusive complaint.

Primary Complaint: Image A 'Why drink toxic waste when you can brush your teeth?'

I believe this image breaches rules 2, 6, and 11.

Rule 2 Truthful Presentation – Advertisements should not contain any statement or visual presentation or create an overall impression which directly or by implication, omission, ambiguity or exaggerated claim is misleading or deceptive, is likely to deceive or mislead the consumer, makes false and misleading representation, abuses the trust of the consumer or exploits his/her lack of experience or knowledge. (Obvious hyperbole, identifiable as such, is not considered to be misleading).

This sign is clearly intended to imply fluoridated water is toxic waste. I do not believe it meets the description of obvious hyperbole. It uses language intended to mislead the uninformed and is patently false, as the product used to fluoridate NZ water supplies meets stringent quality standards for drinking water and is not derived from waste sources. It is in fact derived from a co-product manufactured under appropriate safety regulations.

Reference:
Water NZ Good Practice Guide, Supply of Fluoride for Use in Water Treatment
"1.5 Manufacture of Fluoride Compounds
1.5.1 Hydrofluosilicic acid is produced as a co-product in the manufacture of phosphate fertilisers. Phosphate rock, which contains fluoride and silica, is treated with sulphuric acid. This produces two gases: silicon tetrafluoride and hydrogen fluoride. These gases are passed through scrubbers where they react with water to form hydrofluosilicic acid."

http://www.waternz.org.nz/Folder?Action=View%20File&Folder_id=315&File=140604_nzwwa_f_gpg_revision_final.pdf

'It is absolutely clear that at doses used in New Zealand to adjust the natural level to one that is consistent with beneficial effects (0.7–1.0mg/litre), there is no risk from fluoride in the water'

Professor Sir Peter Gluckman, Chief Science Advisor, Office of the Prime Minister's Science Advisory Committee.

http://www.waternz.org.nz/Folder?Action=View%20File&Folder_id=315&File=140604_nzwwa_f_gpg_revision_final.pdf

Rule 6 Fear – Advertisements should not exploit the superstitious, nor without justifiable reason, play on fear.

This sign intentionally uses the word toxic to maximise the fear factor associated with fluoridation and the emotive phrase 'toxic waste' to reinforce that fear. Fluoridation is not associated with any sort of toxic waste.
Reference:
'Artificial' vs 'natural' fluoride in water There have been assertions that 'artificial' fluorosilicates differ from 'natural' fluorides in their dissolution in water and their bioavailability following ingestion in humans. Jackson et al.[27] addressed these issues, and determined that HFA used to fluoridate water is effectively 100% dissociated to form fluoride ion under water treatment conditions, with bioavailability comparable to natural fluoride.

Testing a range of water pH values and HFA concentrations, Finney et al.[28] also reported that at around pH7.0 and typical drinking water fluoride concentration, HFA dissociation to produce free fluoride ions was essentially complete. In terms of chemistry and bioavailability there is no difference between added and "natural" fluoride. The laws of chemistry dictate that fluoride ions in solution in water are identical regardless of their source. The pharmacokinetics of exposure to natural vs artificial fluorides in water is discussed below in section 2.4.2.

http://www.royalsociety.org.nz/media/2014/08/Health-effects-of-water-fluoridation_Aug_2014_corrected_Jan_2015.pdf

Rule 11 Advocacy Advertising – Expression of opinion in advocacy advertising is an essential and desirable part of the functioning of a democratic society. Therefore such opinions may be robust. However, opinion should be clearly distinguishable from factual information. The identity of an advertiser in matters of public interest or political issue should be clear.

People are entitled to their own opinion but not their own science. I believe this sign's message is well beyond robust as it contains no factual or qualifying information, is not identified in any way as an opinion and has no identification of the source of the statement.

Thank you.

Complaint regarding image b 'Your choice toxic waste or toothpaste'

I believe this image also breaches rules 2, 6, and 11, on essentially the same grounds as the complaint for image a.

Rule 2 Truthful Presentation – Advertisements should not contain any statement or visual presentation or create an overall impression which directly or by implication, omission, ambiguity or exaggerated claim is misleading or deceptive, is likely to deceive or mislead the consumer, makes false and misleading representation, abuses the trust of the consumer or exploits his/her lack of experience or knowledge. (Obvious hyperbole, identifiable as such, is not considered to be misleading).

This sign is clearly intended to imply fluoridated water is toxic waste. I do not believe it meets the description of obvious hyperbole. It uses language intended to mislead the uninformed and is patently false, as the product used to fluoridate NZ water supplies meets stringent quality standards for drinking water and is not derived from waste sources. It is in fact derived from a co-product manufactured under appropriate safety regulations. According to all credible research, water fluoridated at the levels used in community water fluoridation are safe.

Further, it suggests toothpaste alone is adequate when fluoridation is effective in preventing tooth decay regardless of tooth brushing habits.

Reference:
Water NZ Good Practice Guide, Supply of Fluoride for Use in Water Treatment
"1.5 Manufacture of Fluoride Compounds
1.5.1 Hydrofluosilicic acid is produced as a co-product in the manufacture of phosphate fertilisers. Phosphate rock, which contains fluoride and silica, is treated with sulphuric acid. This produces two gases: silicon tetrafluoride and hydrogen fluoride. These gases are passed through scrubbers where they react with water to form hydrofluosilicic acid."

http://www.waternz.org.nz/Folder?Action=View%20File&Folder_id=315&File=140604_nzwwa_f_gpg_revision_final.pdf

'It is absolutely clear that at doses used in New Zealand to adjust the natural level to one that is consistent with beneficial effects (0.7–1.0mg/litre), there is no risk from fluoride in the water'

Professor Sir Peter Gluckman, Chief Science Advisor, Office of the Prime Minister's Science Advisory Committee.

http://www.waternz.org.nz/Folder?Action=View%20File&Folder_id=315&File=140604_nzwwa_f_gpg_revision_final.pdf

'An international study conducted by researchers at the University of Adelaide has resulted in the strongest evidence yet that fluoride in drinking water provides dental health benefits to adults.

In the first population-level study of its kind in the world, researchers have found that fluoridated drinking water is preventing tooth decay for all adults regardless of age - and significantly for people who have had exposure to fluoride for most of their lives.'

https://www.adelaide.edu.au/news/news59781.html

Rule 6 Fear – Advertisements should not exploit the superstitious, nor without justifiable reason, play on fear.

This sign intentionally uses the word toxic to maximise the fear factor associated with fluoridation and the emotive phrase 'toxic waste' to reinforce that fear. Fluoridation is not associated with any sort of toxic waste.

Reference:
'Artificial' vs 'natural' fluoride in water There have been assertions that 'artificial' fluorosilicates differ from 'natural' fluorides in their dissolution in water and their bioavailability following ingestion in humans. Jackson et al.[27] addressed these issues, and determined that HFA used to fluoridate water is effectively 100% dissociated to form fluoride ion under water treatment conditions, with bioavailability comparable to natural fluoride. Testing a range of water pH values and HFA concentrations, Finney et al.[28] also reported that at around pH7.0 and typical drinking water fluoride concentration, HFA dissociation to produce free fluoride ions was essentially complete. In terms of chemistry and bioavailability there is no difference between added and "natural" fluoride. The laws of chemistry dictate that fluoride ions in solution in water are identical regardless of their source. The pharmacokinetics of exposure to natural vs artificial fluorides in water is discussed below in section 2.4.2.

http://www.royalsociety.org.nz/media/2014/08/Health-effects-of-water-fluoridation_Aug_2014_corrected_Jan_2015.pdf

Rule 11 Advocacy Advertising – Expression of opinion in advocacy advertising is an essential and desirable part of the functioning of a democratic society. Therefore such opinions may be robust. However, opinion should be clearly distinguishable from factual

information. The identity of an advertiser in matters of public interest or political issue should be clear.

People are entitled to their own opinion but not their own science. I believe this sign's message is well beyond robust as it contains no factual or qualifying information, is not identified as an opinion and has no identification of the source of the statement.

And finally, my complaint regarding image c 'for safe drinking water stop fluoridation'

I believe this flyer breaches rule 2 Truthful Presentation because it is intended to imply water is not safe unless it is unfluoridated. This is absurd. Millions of people around the world have access to community water fluoridation and overwhelming evidence continues to build and reinforce the scientific consensus that at recommended levels, fluoridation is safe.
I believe this flyer breaches rule 6 Fear by implying the only way for water to be safe to drink is if it is unfluoridated. To the uninformed, it is persuasive because it is presented as a factual statement.

I believe this flyer breaches rule 11 because it presents an ideological position as a factual statement with no qualifying information.
…

CODE OF ETHICS

> **Basic Principle 4:** All advertisements should be prepared with a due sense of social responsibility to consumers and to society
>
> **Rule 2: Truthful Presentation** - Advertisements should not contain any statement or visual presentation or create an overall impression which directly or by implication, omission, ambiguity or exaggerated claim is misleading or deceptive, is likely to deceive or mislead the consumer, makes false and misleading representation, abuses the trust of the consumer or exploits his/her lack of experience or knowledge. (Obvious hyperbole, identifiable as such, is not considered to be misleading).
>
> **Rule 6: Fear** - Advertisements should not exploit the superstitious, nor without justifiable reason, play on fear.
>
> **Rule 11: Advocacy Advertising** - Expression of opinion in advocacy advertising is an essential and desirable part of the functioning of a democratic society. Therefore such opinions may be robust. However, opinion should be clearly distinguishable from factual information. The identity of an advertiser in matters of public interest or political issue should be clear.

RESPONSE FROM ADVERTISER, FLUORIDE FREE THAMES

Response to ASA complaint 15/425

Fluoride Free Thames
Response prepared by Dr Jane Beck BSc, MBBS
Contact details:
Martin Sim
fluoridefreethames@gmail.com

…

1. **COMPLAINT DETAILS**

Complainant alleges that two Fluoride Free Billboard Advertisements, on private properties around Thames, and a poster, placed by Fluoride Free Thames, for the purpose of the Thames fluoridation referendum, break a number of rules in the Advertising Codes of Practice:

Code of Ethics - Basic Principle 4. All advertisements should be prepared with a due sense of social responsibility to consumers and to society.

Code of Ethics – Rule 2. Truthful presentation – Advertisements should not contain any statement or visual presentation or create an overall impression which directly or by implication, omission, ambiguity or exaggerated claim is misleading or deceptive, is likely to deceive or mislead the consumer, makes false and misleading representation, abuses the trust of the consumer or exploits his/her lack of experience or knowledge. (Obvious hyperbole, identifiable as such, is not considered to be misleading).

Code of Ethics – Rule 6. Fear – Advertisements should not exploit the superstitious, nor without justifiable reason, play on fear.

Code of Ethics – Rule 11. Advocacy Advertising – Expression of opinion in advocacy advertising is an essential part of the functioning of a democratic society. Therefore such opinions may be robust. However, opinion should be clearly distinguishable from factual information. The identity of an advertiser in matters of public interest or political issue should be clear.

2. RESPONSE TO COMPLAINT

2.1 Billboard A

The billboard poses a very simple and reasonable question for referendum voters to consider. It is based on the following facts (It is emphasised, these are facts, not just our advocacy position):

1. Fluoridated water is fluoridated with chemicals classified as technical grade, hazardous toxic industrial waste, contaminated with heavy metals including lead, mercury, arsenic, and in some cases radio-nuclides.
2. Fluoride toothpaste is made with a pharmaceutical grade fluoride chemical.
3. The effectiveness of water fluoridation is not substantiated by reliable science (as found by the York Review 2000 and the Cochrane Review 2015, especially in today's society of other oral health interventions, including widespread use of fluoride toothpaste)
4. The effectiveness of fluoride toothpaste appears universally accepted.

So the question posed is "Why would you swallow water dosed with technical grade contaminated toxic hazardous industrial waste [for no proven benefit], posing a health risk to

your entire body, when you could brush your teeth with a pharmaceutical grade product of widely accepted effectiveness?"

We believe that this is a perfectly sensible and reasonable question for anyone voting on the fluoridation issue to ask themselves. We do not believe that this perfectly sensible and reasonable question should not be brought to voters' attention because the extremist complainant doesn't like it.

The complaint and the response need to be considered in this light.

Complainant claims this billboard breaches Code of Ethics Rules 2, 6 and 11:

Code of Ethics Rule 2 – Truthful presentation

This sign is clearly intended to imply fluoridated water is toxic waste. I do not believe it meets the description of obvious hyperbole. It uses language intended to mislead the uniformed and is patently false, as the product used to fluoridate NZ water supplies meets stringent quality standards for drinking water and is not derived from waste sources. It is in fact derived from a co-product manufactured under appropriate safety regulations.

Reference: Water NZ Good Practice Guide, Supply of Fluoride for Use in Water Treatment

"1.5 Manufacture of Fluoride Compounds
1.5.1 Hydrofluosilicic acid is produced as a co-product in the manufacture of phosphate fertilisers. Phosphate rock, which contains fluoride and silica, is treated with sulphuric acid. This produces two gases: silicon tetrafluoride and hydrogen fluoride. These gases are passed through scrubbers where they react with water to form hydrofluosilicic acid" from www.waternz.org.nz

"It is absolutely clear that doses used in New Zealand to adjust the natural level to one that is consistent with beneficial effects (0.7-1.0mg/litre), there is no risk from fluoride in the water" Professor Sir Peter Gluckman, Chief Science Advisor, Office of the Prime Minister's Science Advisory Committee" from www.waternz.org.nz

Response to Ethics 2 – Truthful presentation

First, it is incorrect to interpret the advertisement as necessarily saying fluoridated water is toxic waste in itself.
It is sufficient for the advertisement to be true if the fluoridated water contains a toxic waste, which is then, necessarily consumed with the water.
The overall message is the same, and gives rise to the same public health concerns, if the water is contaminated with toxic waste.
Under the complainant's position, if the water supply was contaminated with dioxin and we posted a similar advertisement, the complainant would argue that the water itself was not a toxic waste and the dioxin contamination did not make it so.

The simple fact is that if the water has a toxic waste added to it, either deliberately or by accident or seepage, if you drink the water you are drinking toxic waste. We believe that there are few New Zealanders, other than the complainant and those who share her views, who would choose to drink water that has had toxic waste added to it.

The Complainant refers to Water NZ's document. Water NZ is a lobby group representing, amongst others, the industries that produce toxic waste and need to dispose of it. It is not a scientific body.
The reference makes it clear that the HFA is an industrial waste product. The use of the term 'co-product' is a deliberate euphemism. It is like putting lipstick on a pig – the pig is still a pig.

To show the statement is true we only need show that the product added is toxic waste. At that point it is up to the public to decide if the level of toxic waste is of concern to them. It is their choice to make. They are entitled to the information, much as the complainant wants to censor any information she does not like.

Further evidence that Hydrofluorosilicic acid (HFA) is toxic waste:

(Hydrofluorosilicic acid is also known as HFA; hydrofluosilicic acid; hydrosilicofluoric acid)

Hydrofluorosilicic acid (HFA) is toxic.
Attached is the safety data sheet for hydrofluorosilicic acid (HFA), the chemical used to fluoridate the Thames drinking water supply. References to the toxicity of HFA are highlighted. Toxic means harmful or deadly from the Latin toxicum, poison (Collins concise dictionary 1989).

This fact is corroborated by a statement from Hugh Kinninmouth, Chief Executive of Hauraki Primary Health Organisation, a supporter of fluoridation, in a letter to the Hauraki Herald 16 October 2015:

"The anti-fluoride position appears to be based primarily on the undeniable fact that fluoride is a poison and we should restrict its use" (See Appendix for link and screen shot).

The reference the complainant gives, www.waternz.org.nz (attached Water New Zealand Good Practice Guide: Supply of fluoride for use in water treatment, 2014), includes this statement on page 5:

> 3.1.1 Fluoride compounds are toxic and should be handled with care.

And this on page 7 that highlights that HFA is a hazard to people and the environment and must comply with legislation to ensure it is handled safely:

> **4 SAFETY**
>
> **4.1 Health and Safety and Environmental Protection**
>
> 4.1.1 Suppliers of fluoride compounds must comply with the requirements of the following documents and their amendments:
> - Health and Safety in Employment Act 1992
> - Land Transport Act 1998
> - Resource Management Act 1991
> - Land Transport Rule: Dangerous Goods 2005
> - NZS 5433.1&2: 2012, *Transport of Dangerous Goods on Land*, Parts 1 & 2.
>
> They shall also take all practicable steps to protect the purchaser and others, and the environment, from hazards rising from the transportation, delivery, and supply of fluoride compounds.

HFA is a waste product of superphosphate fertiliser manufacture.
Waste is defined by the Environmental Protection Authority (Australia)(2009) as:

Waste definitions

Term	Definition
Waste	As defined under the Environment Protection Act 1993, **Waste** means — a any discarded, rejected, abandoned, unwanted or surplus matter, whether or not intended for sale or for recycling, reprocessing, recovery or purification by a separate operation from that which produced the matter; or b anything declared by regulation (after consultation under section 5A) or by an environment protection policy to be waste, whether of value or not.

And Hazardous Waste is defined by the Environmental Protection Authority (Australia)(2009) as:

Waste definitions

Term	Definition
Green Waste	The vegetative portion of the waste stream arising from various sources including waste from domestic and commercial premises and municipal operations.
Hazardous Waste	Listed waste having a characteristic described in schedule A list 2 of the *National Environment Protection (Movement of controlled waste between States and Territories) Measure*. *Note: Hazardous Waste includes any unwanted or discarded material (excluding radioactive material), which because of its physical, chemical or infectious characteristics can cause significant hazard to human health or the environment when improperly treated, stored, transported, disposed of or otherwise managed.*

And fluoride compounds are listed as waste according to the Environmental Protection Act (Australia) 1993:

From: EPA 842/09 (attached)

Superphosphate fertiliser is made from crushed phosphate rock to which is added sulphuric acid that releases the phosphate. At the same time two highly toxic and hazardous gases are also released, silicon tetrafluoride and hydrogen fluoride. These gases cannot be released into the atmosphere because of the risk of significant pollution of the surrounding environment and harm to humans and animal life. For this reason all fertiliser plants are fitted with gas scrubbers. In these scrubbers the gases are sprayed with water with which they react and hydrolyse to HFA. This liquid passes into a settling tank where the silica component is allowed to settle out and the liquid portion containing HFA passes to a holding tank from where it is pumped straight into the tanker for transport to the Council's water treatment plant. See the flow diagram below.

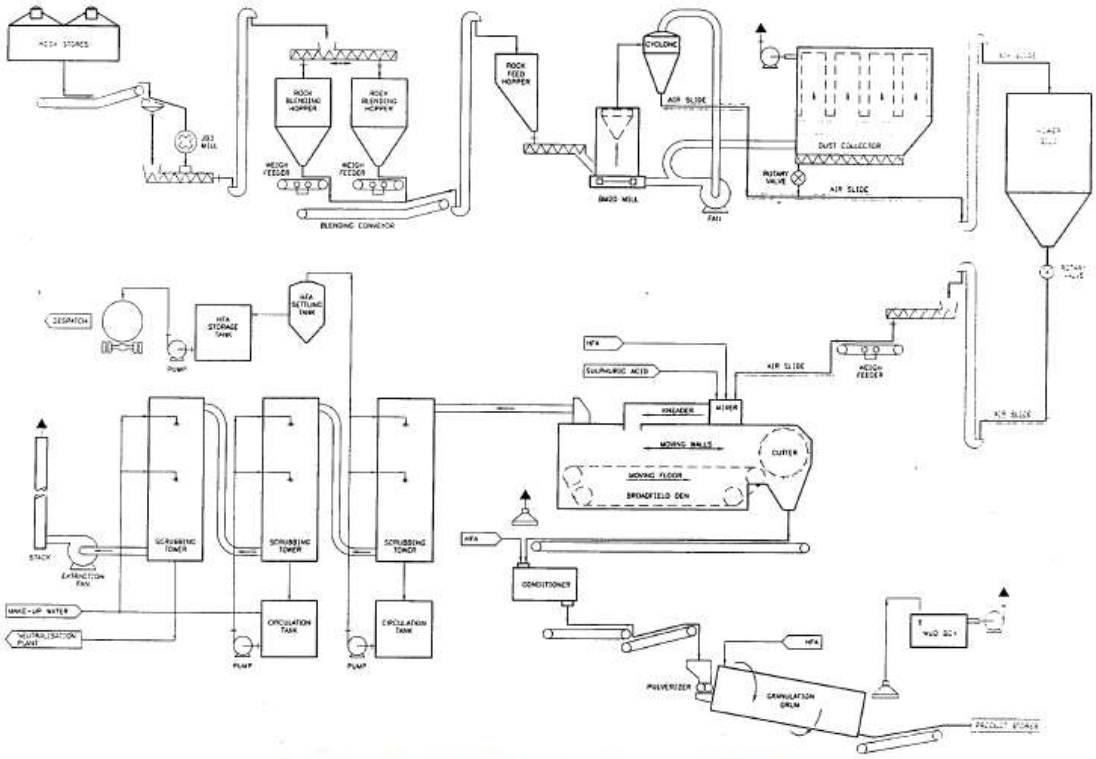

Figure 4 - Process flow diagram of the superphosphate plant

I-Chemicals-B-sulfuric acid-7

From NZIC Manufacture of superphosphate (attached)

As can be seen from this process HFA is a waste product of phosphate fertiliser manufacture and fulfils the definition of waste and is a hazardous waste product and is listed as such. This fact does not change even if the fertiliser manufacturer is able to sell some of it for water fluoridation and chooses to market it as a co-product. As an environmental pollutant in its own right, HFA cannot be discharged into natural water ways or onto the land. The fertiliser manufacturer would have to follow strict guidelines for its disposal if it was not sold to Councils for dilution in public drinking water.

HFA contains contaminants that are hazardous to health

The HFA in the tanker contains many contaminants including Arsenic, Mercury and Lead (see attached Water New Zealand Good Practice Guide: Supply of fluoride for use in water treatment, 2014: page 13). The water industry has set limits for these contaminants to levels that will be below the Maximum Acceptable Values (MAVs) when diluted in the public water supply. These contaminants will add to the levels that are already in the public water. Samples are taken from the liquid HFA in the tanker to be tested for these contaminants:

> B 1.4 **Hydrofluosilicic Acid**
>
> B1.4.1 For safety reasons, samples shall be taken from the tanker after it has been filled. A gross sample shall be taken, the total volume of which shall be no less than three times the volume required for Section B1.4.2.

From: Water New Zealand Good Practice Guide: Supply of fluoride for use in water treatment (2014)

This is the only safety measure that is applied to the production of HFA.

Water NZ cannot justify the contaminant levels allowed. It only states that once diluted the contaminants are below the MAVs, and (incorrectly) that the MAVs are set at a safe level. In fact, the WHO document relied on and provided by the Ministry of Health states that the arsenic MAV of 10 Micrograms per litre is not safe, it is set at this level only because:

1. It is not possible to reduce naturally occurring levels of arsenic below this; and
2. It is not possible to measure levels of contaminants below this,

The MAV for arsenic is a pragmatic level set by the limitations of technology.
The reality is that the contaminant levels set by Water NZ are only designed to ensure one thing – that industry can dispose of its toxic industrial waste product through the water supply without having to refine it, which would make it economically unviable. This was indirectly acknowledged by a former **Deputy Assistant Administrator For Water** US Environmental Protection Agency**, Rebecca Hamner (1983):**

"In regard to the use of fluosilicic acid as the source of fluoride for fluoridation, this agency regards such use as an ideal solution to a long standing problem. By recovering by-product fluosilicic acid from fertilizer manufacturing, water and air pollution are minimized, and water authorities have a low-cost source of fluoride available to them."

It is statements like that of the complainant that are misleading: "*the product used to fluoridate NZ water supplies meets stringent quality standards for drinking water and is not derived from waste sources. It is in fact derived from a co-product manufactured under appropriate safety regulations."*

And more misleading are the bolder statements by the supplier and others that declare HFA is specifically manufactured for the purpose of fluoridation. These sorts of statement have led people
to believe that the fluorides added to the water are pharmaceutical grade and made specifically for that purpose in pristine pharmaceutical laboratories. People are often very surprised when they learn of its true source. In our experience Maori, including members of Fluoride Free Thames, are particular concerned about this because of their cultural beliefs about the sacredness of water and their role as guardians.

The quote from Sir Peter Gluckman was not found via the link provided by the complainant to put it into context.

However, the quote from Sir Peter Gluckman:

"It is absolutely clear that doses used in New Zealand to adjust the natural level to one that is consistent with beneficial effects (0.7-1.0mg/litre), there is no risk from fluoride in the water"

is his personal view and he cannot be considered an authority on the health risks of fluoridation:

The New Zealand report on fluoridation

It is appropriate here to mention the New Zealand report on fluoridation that was commissioned by Sir Peter Gluckman and Sir David Skegg of the Royal Society of New Zealand in response to requests from several Councils, which the complainant references later.

The New Zealand report's claims of effectiveness are contradicted by both the York Review 2000 and the Cochrane Review 2015 (the internationally recognised 'Gold Standard' of health reviews). Both these reviews said that the early studies were of dubious quality and could not be relied on. The Cochrane review stated that there was no evidence that water fluoridation provided any benefit in today's society, whereas the benefits of fluoridated toothpaste were well established.

Both these reviews are of the highest international standing. The New Zealand report has no international standing outside of being quoted by those who promote fluoridation.

The New Zealand report's claim that fluoridation is safe is contradicted by the York Review 2000 (to some extent) and the US National Research Council Review 2006. This is the 'gold standard' of reviews into fluoride's adverse health effects.

Moreover the New Zealand report writer and panel NEVER reviewed scientific research on fluoride's toxicity.

This is acknowledged in emails obtained under the Official Information Act:

On 5 April 2014 Prof Skegg wrote to Prof Gluckman:

> "As you will see below, however, [withheld] is questioning the feasibility of our approach. As you know, I have always had concerns that - whereas the benefits of fluoridation can be summarised succinctly - the literature on potential risks is vast and quite complex. I can understand why any reputable scientist would be reluctant to put their name to a report if they have not had time to take a first-hand look at the evidence… Do you envisage that we could present our report as a synthesis of reviews by reputable evidence-based groups in other countries…" (Note that this refers to politically biased pro-fluoridation organisations such the National Health and Medical Research Council of Australia, as confirmed in another email, rather than the NRC Review, which represents the "state of the science" on fluoride toxicity as at 2006.)
>
> On 10 April Prof Gluckman wrote to Prof Skegg:
>
> "The reality is that the bulk of these issues have been dealt with by major agencies/academies in recent years and of course a report produced in short order will rely heavily on those."

So the New Zealand report is, on the toxicity question, nothing more than a plagiarism of pro-fluoridation international reviews, and is therefore NOT any scientific authority in its own right.

Finally, we make the point that the New Zealand report is just that; a report. It is not a scientific review. That is why it is <u>not called a review; it is called a report</u>.

Official documents show that the report was produced by the pro-fluoridation panel members writing opinion pieces. Providing these to the report author, Anne Bardsley, to collate, and then receiving them back to peer-review their own work. They then sent this to fellow fluoridationists in Australia and Ireland so they could claim their report was 'internationally peer reviewed'.

Peer review by international experts, including two NRC Review panel members, have heavily criticised this report as being nothing but a piece of political propaganda bereft of any scientific credibility.

The international critique of the New Zealand report is attached.

The personal view of Sir Peter Gluckman, that there is no risk from fluoridation, is not shared by many health professionals across the world. One example is Professor John Doull the Chair of the National Research Council (US) comprhensive review on the health effects of fluoride in drinking water: **Fluoride in Drinking Water: A Scientific Review of EPA's Standards, 2006 (NRC, 2006)**

JOHN DOULL (Chair) is professor emeritus of pharmacology and toxicology at the University of Kansas Medical School. His distinguished career in toxicology includes service in a variety of leadership positions and on numerous scientific advisory committees. Most notably, he is past president of the Society of Toxicology and the American Board of Toxicology. Dr. Doull is the recipient of many awards, including the International Achievement Award from the International Society for Regulatory Toxicology and Pharmacology, the Commanders Award for Public Service from the Department of the Army, and the Stockinger Award from the American Conference of Governmental Industrial Hygienists. He was the first recipient of the John Doull Award, which was established by the Central States Chapter of the Society of Toxicology to recognize his contributions to the discipline of toxicology. He is former chair of the NRC Committee on Toxicology and former vice chair of the Board on Environmental Studies and Toxicology. He is a national associate of the National Academies. Dr. Doull received his M.D. and Ph.D. in pharmacology from the University of Chicago.

Professor Doull said about their findings in an interview he gave for a piece in the Scientific American in January of 2008:
***"What the committee found is that we've gone with the status quo regarding fluoride for many years—for too long really—and now we need to take a fresh look . . . In the scientific community people tend to think this is settled. I mean, when the U.S. surgeon general comes out and says this is one of the top 10 greatest achievements of the 20th century, that's a hard hurdle to get over. But when we looked at the studies that have been done, we found that many of these questions are unsettled and we have much less information than we should, considering how long this [fluoridation] has been going on*."**

The York Review in 2000 found insufficient quality research to conclude that water fluoridation is safe:

> **3** The review did not show water fluoridation to be safe. The quality of the research was too poor to establish with confidence whether or not there are potentially important adverse effects in addition to the high levels of fluorosis. The report recommended that more research was needed.

From an open letter from Professor Trevor A. Sheldon, chair of the Advisory Group for the York systematic review on the effects of water fluoridation (3.1.2001) (attached).

The European Review, 2011, by the Scientific Committee on Health and Environmental Risks (SCHER) notes the risk of both dental and bone fluorosis increases in a dose response manner without a detectable threshold and limited evidence pointing towards other adverse health including carcinogenicity, developmental neurotoxicity and reproductive toxicity. This is not evidence of safety:

> Systemic exposure to fluoride through drinking water is associated with an increased risk of dental and bone fluorosis in a dose-response manner without a detectable threshold. Limited evidence from epidemiological studies points towards other adverse health effects following systemic fluoride exposure, e.g. carcinogenicity, developmental neurotoxicity and reproductive toxicity; however the application of the general rules of the weight-of-evidence approach indicates that these observations cannot be unequivocally substantiated.

From SCHER (2011); page 4.

Further, more research has been published since these reviews. There is a wealth of scientific evidence supporting the view that water fluoridation is not safe at current concentrations of fluoride in the drinking water (0.7-1.0mg/L). Concentration in the water must not be confused with the 'dose' that an individual receives. The 'dose' is the amount consumed and will vary according to the volume of water drunk, as plain water or as incorporated into beverages or food. The 'dose' cannot be controlled, which makes fluoride unique as a treatment. The level of risk will vary according to the volume drunk and the sensitivity of the individual based on age, weight, gender and health status.

Examples of the scientific evidence showing water fluoridation is not safe

When a treatment is delivered via the water supply, it is not possible to control the dose that any individual has, because everyone will drink as much or as little as they like. Small children will be more at risk of having too much, especially if they are exclusively formula fed using fluoridated water to reconstitute the milk, because of their small size and because children still undergoing development are particularly vulnerable to toxins.

Fluoride has been classified as a developmental neurotoxin, and has been associated with reduced IQ and Attention Deficit and Hyperactivity disorder (Grandjean and Landrigan, 2012; Choi et al, 2012; Malin and Till, 2015). It has been estimated that formula fed infants will ingest fluoride levels that exceed the Upper Limit for safety up to 93% of the time if fluoridated water is used to reconstitute the milk (ESR, 2009).

Dental fluorosis is a visible sign of excess fluoride consumption (MOH, 2010. See Appendix for extract). The 2009 New Zealand Oral Health Survey found 44.5% with some level of dental fluorosis and 2% with moderate and a few with severe dental fluorosis(MOH, 2010. See Appendix for extract). Dental fluorosis is a defect in the teeth that arises from exposure to excess fluoride between the ages of 0 and 8 years. Fluoride interferes with the natural development of the teeth resulting in white flecks or brown mottling that last a life time. Dental fluorosis appeared in New Zealand after the introduction of water fluoridation and nowadays swallowing of fluoride tooth paste by young children contributes to the amount ingested (New Zealand report on health effects of water fluoridation, 2014. See Appendix for extract).

There is no threshold, below which there is no risk of dental and bone fluorosis (SCHER, 2011).

In adults up to 60% of fluoride ingested is retained in the body, mainly in the bone, and in children this can be as much as 90% (WHO, 2002. See Appendix for extracts pages 76-77). The accumulation over time is reflected in a higher blood fluoride levels in older people who have been exposed for much of their life (WHO, 2002. See Appendix for extract page 75). There are many factors affecting the metabolism of fluoride in the body including diet, age and health status, for example those with poor kidney function will retain more and therefore be more susceptible to fluorosis (New Zealand Report, 2014. See Appendix for extract of page 30).

It is thought that much arthritis is possibly early stages of bone fluorosis as it is not possible to distinguish the two on symptoms alone (WHO, 1970). More hip fractures have been associated with exposure to fluoride through water fluoridation (Jacobsen et al 1992; Kurttio et al 1999, Li et al, 2001). A rare bone cancer in boys, osteosarcoma, has been found to be five times more likely in those exposed to fluoride through drinking water during their growth spurt, 6-8 years of age(Bassin et al, 2006).

The National Research Council (US) declared fluoride was an endocrine disruptor, causing hormonal imbalance most notably in the thyroid at levels of exposure expected from drinking fluoridated water and with the risk at lower exposure levels in the presence of iodine deficiency (NRC, 2006). Iodine deficiency is a well-known problem in New Zealand. New research this year from Kent University found increased likelihood of high levels of hypothyroidism (under active thyroid) in areas with water fluoridation (Peckham et al 2015).

Summary
In summary HFA is a toxic waste product. This is important for people to know when deciding how they will vote in the referendum. We disagree with the complainant that water fluoridation carries no risk to the health of all people. There is a mountain of evidence to show there is harm. This is well documented on FFNZ's website and FAN's international websites fluoridealert.org and slweb.org.

Finally, we need only look at how the human body treats any fluoride. It excretes as much as it can instantly. What it cannot excrete it stores in the bones to keep the body as a whole safe from fluoride's toxicity – it does not do it to benefit the bone, which has no need for fluoride, and in fact is compromised by it.

To reiterate, it is not just the fluoride that is toxic, it is the heavy metal contaminants as well. The toxicity of these is undeniable, and the complainant fails to address this.

Code of Ethics Rule 6 – Fear

This sign intentionally uses the word toxic to maximise the fear factor associated with fluoridation and the emotive phrase 'toxic waste' to reinforce that fear. Fluoridation is not associated with any sort of toxic waste.

Reference:
'Artificial' vs 'natural' fluoride in water
There have been assertions that 'artificial' fluorosilicates differ from 'natural' fluorides in their dissolution in water and their bioavailability following ingestion in humans. Jackson et al. [27] addressed these issues, and determined that HFA used to fluoridate water is effectively 100% dissociated to form fluoride ion under water treatment conditions, with bioavailability comparable to natural fluoride. Testing a range of water pH values and HFA concentrations, Finney et al. [28] also reported that at around pH7.0 and typical drinking water concentration, HFA dissociation to produce free fluoride ions was essentially complete. In terms of chemistry and bioavailability there is no difference between added and 'natural' fluoride. The laws of chemistry dictate that fluoride ions in solution in water are identical regardless of their source. The pharmacokinetics of exposure to natural vs artificial fluorides in water is discussed below in section 2.4.2. From www.royalsociety.org.nz

Response to Ethics 6-Fear

As described above the fluoride used for fluoridation of the Thames water supply, HFA, is a toxic waste product. This is important for three reasons:

(1) It contains contaminants including arsenic and lead both of which have been associated with ill health effects at low levels. Lead is a developmental neurotoxin associated with reduced IQ in children. Over the years the acceptable level of exposure has reduced with the realisation that even very low levels can affect the developing brain. Arsenic is a carcinogen. Information provided by the Ministry of Health (WHO documents on which they rely) show that the arsenic contamination currently kills between 3 and 4 New Zealanders per year through a range of cancers. Any level of these is unacceptable especially when it is being deliberately added to the water.

(2) No safety studies have ever been conducted on HFA anywhere in the world. Research on naturally occurring fluoride has generally been used to extrapolate the effects of water fluoridation. Research mostly conducted on naturally occurring fluoride in water shows evidence of harm, including at levels of fluoride in fluoridated water. Fluoride accumulates in the body from a number of sources of which water fluoridation is a significant contributor (ESR, 2009).

Research has also shown that silicofluorides have a different biological effect than calcium fluoride or sodium fluoride (Westendorf, 1975; Masters and Coplan, 1999). The claim that all fluoride ions are the same is misleading. In the acid conditions of the stomach the silicofluoride dissociation equilibrium shifts back toward the molecular form – that is, molecular silicofluoride is re-formed. Further, ions in solution do not act alone; they act synergistically. This is well-established science.

It is known that the LD50 in mammals for HFA is 40 times lower than for calcium fluoride (naturally occurring fluoride) (Sauerheber, 2013. attached). The LD50 is the lethal dose that kills 50% of the animals. A low LD50 indicates a more lethal substance. It is unlikely that levels in our drinking water would ever reached such levels (though sadly in North America there have been some fatal mistakes in dosing the water) but it does indicate that HFA is not the same as calcium fluoride and that much is still not known about it.

(3) Perhaps most importantly, some people for cultural or other reasons find the idea of a toxic waste product being used to fluoridate the water unacceptable. For transparency and for respect of each individual it is important that people are informed about this.

It is for these reasons that it is important that information like this is in the public domain so that people are informed about what matters for them so they can make a choice about how to vote.

Code of Ethics Rule 11 – Advocacy Advertising

People are entitled to their own opinion but not their own science. I believe this sign's message is well beyond robust as it contains no factual or qualifying information, is not identified in anyway as an opinion and has no identification of the source of the statement.

Response to Ethics 11-Advocacy Advertising

Members of Fluoride Free Thames designed and painted this billboard. New to the world of referendum campaigns and advertising, identification was placed on the back of the boards and contact details were given to the property owner. Belatedly realising that some identity needed to be on the front of the billboard the Fluoride Free Thames email address fluoridefreethames@gmail.com has been added as a sticker on the front (See Appendix for photo).

The message on the billboard has been justified above. A billboard can only have a limited number of words in order to not unduly distract drivers. The message is clear and is clearly

an advocacy advertisement with voting advice that is part of the Thames fluoridation referendum campaign. The billboard's aim was to raise awareness about the referendum, raise awareness about one of the issues of fluoridation to encourage people to be interested enough to find out more information for themselves, and finally to encourage them to vote. More information was made available via newspaper adverts, leaflets and people at market stalls and in books in the library plus via the internet.

This billboard was prepared with a due sense of social responsibility to consumers and society by providing important information and encouraging engagement in the referendum process.

2.2 Billboard B

Complainant claims this billboard breaches Code of Ethics Rules 2, 6 and 11:

Code of Ethics Rule 2 – Truthful presentation

This sign is clearly intended to imply fluoridated water is toxic waste. I do not believe it meets the description of obvious hyperbole. It uses language intended to mislead the uniformed and is patently false, as the product used to fluoridate NZ water supplies meets stringent quality standards for drinking water and is not derived from waste sources. It is in fact derived from a co-product manufactured under appropriate safety regulations. According to all credible research, water fluoridated at levels used in community water fluoridation are safe.

Further, it suggests toothpaste alone is adequate when fluoridation is effective in preventing tooth decay regardless of tooth brushing habits.

Reference:
Reference: Water NZ Good Practice Guide, Supply of Fluoride for Use in Water Treatment

"1.5 Manufacture of Fluoride Compounds
1.5.1 Hydrofluosilicic acid is produced as a co-product in the manufacture of phosphate fertilisers. Phosphate rock, which contains fluoride and silica, is treated with sulphuric acid. This produces two gases: silicon tetrafluoride and hydrogen fluoride. These gases are passed through scrubbers where they react with water to form hydrofluosilicic acid" from www.waternz.org.nz

"It is absolutely clear that doses used in New Zealand to adjust the natural level to one that is consistent with beneficial effects (0.7-1.0mg/litre), there is no risk from fluoride in the water" Professor Sir Peter Gluckman, Chief Science Advisor, Office of the Prime Minister's Science Advisory Committee" from www.waternz.org.nz

'An international study conducted by researchers at the University of Adelaide has resulted in the strongest evidence yet that fluoride in drinking water provides dental health benefits to adults.
In the first population-level study of its kind in the world, researchers have found that fluoridated drinking water is preventing tooth decay for all adults regardless of age – and significantly for people who have had exposure to fluoride for most of their lives.' from *www.adelaide.edu.au/news/news59781.html*

Response to Ethics 2-Truthful presentation

The response above to the first billboard justifying the use of the term toxic waste applies here.

Response to the complainant's statement:

"*According to all credible research, water fluoridated at levels used in community water fluoridation are safe."* Which she justifies by referencing:

"It is absolutely clear that doses used in New Zealand to adjust the natural level to one that is consistent with beneficial effects (0.7-1.0mg/litre), there is no risk from fluoride in the water" Professor Sir Peter Gluckman.

The complainant's opinion is misguided as no safety studies have ever been conducted on HFA as used in water fluoridation. The quoted passage might well be the personal opinion of Sir Peter Gluckman but is not based on scientific fact. Response to this quote about billboard A applies here.

Response to the statement:

"*Further, it suggests toothpaste alone is adequate when fluoridation is effective in preventing tooth decay regardless of tooth brushing habits."* For which she references a news article:

'An international study conducted by researchers at the University of Adelaide has resulted in the strongest evidence yet that fluoride in drinking water provides dental health benefits to adults.
In the first population-level study of its kind in the world, researchers have found that fluoridated drinking water is preventing tooth decay for all adults regardless of age – and significantly for people who have had exposure to fluoride for most of their lives.' from *www.adelaide.edu.au/news/news59781.html*

According to the Gold standard Cochrane Review (2015) on water fluoridation there is insufficient evidence to determine if water fluoridation has benefit over and above the use of fluoride toothpaste and other preventive measures common to current lifestyles (Iheozor-Ejiofor et al, 2015). They found insufficient evidence that water fluoridation reduces oral health differences across socio-economic groups or prevents tooth decay in adults. However they did find a significant association between dental fluorosis and fluoride level.

The quality of evidence was generally poor and pre 1975, when fluoride toothpaste was introduced.

Key results

Data suggest that the introduction of water fluoridation resulted in a 35% reduction in decayed, missing or filled baby teeth and a 26% reduction in decayed, missing or filled permanent teeth. It also increased the percentage of children with no decay by 15%. These results indicate that water fluoridation is effective at reducing levels of tooth decay in both children's baby and permanent teeth. However, since 1975 the use of toothpastes with fluoride and other preventive measures such as fluoride varnish have become widespread in many communities around the world. The applicability of the results to current lifestyles is unclear.

There was insufficient information available to find out whether the introduction of a water fluoridation programme changed existing differences in tooth decay across socioeconomic groups.

There was insufficient information available to understand the effect of stopping water fluoridation programmes on tooth decay.

No studies met the review's inclusion criteria that investigated the effectiveness of water fluoridation for preventing tooth decay in adults, rather than children.

The researchers calculated that, in areas with a fluoride level of 0.7 ppm in the water, approximately 12% of the people evaluated had fluorosis that could cause concern about their appearance.

Cochrane Review- Iheozor -Ejiofor et al, 2015.

By comparison the Cochrane Review (2009) on the effectiveness of topical fluoride found substantial evidence of the effectiveness of fluoride toothpaste:

ies but the size of the difference is unclear. **CONCLUSIONS:** The benefits of topical fluorides are firmly established based on a sizeable body of evidence from randomized controlled trials. The size of the reductions in caries increment in both

From Marinho, 2009. Cochrane Reviews of randomised trials of fluoride therapies for preventing dental caries. European archives of paediatric dentistry; 10 (3): 183-193.

They found that supervised toothbrushing and brushing twice rather than once a day conferred extra benefit but background fluoride such as water fluoridation made no difference.

The scientific evidence is strong for the effectiveness of fluoride toothpaste and weak for the effectiveness of water fluoridation. Young children tend to swallow toothpaste. The risk of having both fluoridated water and fluoride toothpaste is the excessive fluoride consumption and the consequent increased health risks that have been discussed above, including dental fluorosis. To reduce the risk of dental fluorosis it would be best to have either one or the other but not both. Fluoride toothpaste not only has more scientific evidence of its effectiveness it allows everyone, especially parents, the choice and the opportunity to take responsibility for their own oral health and that of their children. Parents can more easily control the use of fluoride toothpaste or choose not to use it until they are confident their child can spit rather than swallow.

As Dr Hardy Limeback BSc PhD DDS, Professor Emeritus and former head, Preventative Dentistry, University of Toronto and Past member of the US National Academies of Science' sub-Committee on Fluoride in Drinking Water says "one source of fluoride is all you need, if any".

So this is what the billboard is saying that if a person wants to use fluoride to help prevent tooth decay then they can use fluoride tooth paste as an alternative to water fluoridation. There is no compelling evidence that water fluoridation plus fluoride toothpaste has a greater benefit that toothpaste alone but evidence indicates that the risks associated with fluoride ingestion increase.

Code of Ethics Rule 6 – Fear

This sign intentionally uses the word toxic to maximise the fear factor associated with fluoridation and the emotive phrase 'toxic waste' to reinforce that fear. Fluoridation is not associated with any sort of toxic waste.

Reference:
'Artificial' vs 'natural' fluoride in water
There have been assertions that "artificial fluorosilicates differ from 'natural' fluorides in their dissolution in water and their bioavailability following ingestion in humans. Jackson et al. [27] addressed these issues, and determined that HFA used to fluoridate water is effectively 100% dissociated to form fluoride ion under water treatment conditions, with bioavailability comparable to natural fluoride. Testing a range of water pH values and HFA concentrations, Finney et al. [28] also reported that at around pH7.0 and typical drinking water concentration, HFA dissociation to produce free fluoride ions was essentially complete.

In terms of chemistry and bioavailability there is no difference between added and "natural" fluoride. The laws of chemistry dictate that fluoride ions in solution in water are identical regardless of their source. The pharmacokinetics of exposure to natural vs artificial fluorides in water is discussed below in section 2.4.2. from www.royalsociety.org.nz

Response to Ethics 6-Fear

The response is the same as for the same complaint about Billboard A above.

Code of Ethics Rule 11 – Advocacy Advertising

People are entitled to their own opinion but not their own science. I believe this sign's message is well beyond robust as it contains no factual or qualifying information, is not identified in anyway as an opinion and has no identification of the source of the statement.

Response to Ethics 11-Advocacy Advertising

The response is the same as for the same complaint about Billboard A above. For photo of Billboard B with new identifier attached see appendix.

2.3 Poster C

Code of Ethics Rule 2 – Truthful presentation

I believe this flier breaches Rule 2 because it is intended to imply water is not safe unless it is unfluoridated. This is absurd. Millions of people around the world have access to community water fluoridation and overwhelming evidence continues to build and reinforce the scientific consensus that at recommended levels fluoridation is safe.

Response to Ethics 2-Truthful presentation

Water fluoridation is not a safe practice and drinking fluoridated water does put people at risk of side-effects. The statement "overwhelming evidence continues to build and reinforce the scientific consensus that at recommended levels fluoridation is safe" is incorrect. The weight of evidence is building that it is unsafe. Moreover, there is no 'scientific consensus' as described by the complainant outside the minority circle of scientists who misguidedly believe in fluoridation. For example, out of the 193 member states of the WHO, only 25 practice any form of water fluoridation, and only 15 fluoridate more than 20% of their population.

No safety studies have been conducted on HFA fluoridated water. Research mostly conducted on naturally occurring fluoride in water shows evidence of harm including at levels of fluoride in fluoridated water. Fluoride accumulates in the body from a number of sources of which water fluoridation is a significant contributor (ESR, 2009).

Research has also shown that silicofluorides have a different biological effect than calcium fluoride or sodium fluoride (Westendorf, 1975; Masters and Coplan, 1999). The claim that all fluoride ions is the same is misleading as detailed above.

The HFA used to fluoridate the water is contaminated with heavy metals that carry their own health risks as noted above.

The evidence of harm and the lack of safety studies outlined above for billboards A and B apply here.

Fluoridated water is not safe for the reasons given and therefore it is reasonable to say 'For safe drinking water vote to stop fluoridation'.

Code of Ethics Rule 6 – Fear

I believe this flyer breaches rule 6 Fear by implying the only way for water to be safe to drink is if it is unfluoridated. To the uniformed, it is persuasive because it is presented as a factual statement with no qualifying information.

Response to Ethics 6-Fear

Given that there is a risk of harm from drinking fluoridated water, as demonstrated above, it is reasonable to say 'For safe drinking water vote to stop fluoridation'. It is clearly an advocacy advert by Fluoride Free Thames and a link to the Fluoride Free New Zealand website allows people to seek further information. As an A4 poster in shop windows and on noticeboards it is possible for people to note the website address to seek more information if they wish. The billboards did not have a website address as they were designed for people passing in vehicles rather than on foot.

This poster was prepared with a due sense of social responsibility to consumers and society by providing important information, a source of further information and raising awareness about the Thames fluoridation referendum.

Code of Ethics Rule 11-Advocacy Advertising

I believe this flyer breaches rule 11 because it presents an ideological position as a factual statement with no qualifying information.

Response to Ethics 11-Advocacy Advertising

The statement is based on fact, the evidence for which has been outlined above. It is also an advocacy statement by Fluoride Free Thames which is clear. The Fluoride Free New Zealand website address offers the opportunity to seek further information to support the statement. The poster was prepared with a due sense of social responsibility to consumers and society and provides important information for voters in the fluoridation referendum to consider before voting.

3. CONCLUSION

A public health measure that involves a treatment delivered via the public water supply does not allow individuals the possibility of informed consent, as they would have, with any other treatment, through the Health Consumers Rights regulations. Therefore it needs to be completely safe, as well as effective, and the only way that the desired result can be achieved. The 1957 Commission of Inquiry into Fluoridation of the Public Water supplies was clear about this:

"…the issue concerning rights of individuals has practical importance only after a decision is made:

1. *That fluoridation is a desirable process*
2. *That **the benefits of fluoride cannot effectively be made available by alternative means***
3. *That it is **completely safe***

*This process (fluoridation) would be **unacceptable if it were ineffective or hazardous**"*

Since 1957 much has changed including: the introduction of fluoride toothpaste in the 1970s; the realisation that the main action of fluoride is on the surface of the tooth and that there is no need to swallow fluoride to benefit; the now wide availability of fluoride toothpaste, that is an effective alternative way to benefit from fluoride, that works directly on the tooth surface; and year on year mounting evidence of the side-effects of fluoride ingestion casting serious doubt that it can in any way be considered completely safe. These changes make water fluoridation even more of an unethical public health practice than ever before.

A referendum is the closest opportunity an individual has to consenting or not to water fluoridation. It is therefore imperative that each individual, and parents of children, are informed about the source of HFA, potential side effects and alternative ways to address oral health so that they can make an informed decision about how to vote. It is also important that they are made aware that there is a choice even though the practice of water fluoridation robs them of their health consumers' rights. These billboards and poster are raising awareness and fulfilling a social responsibility that is currently lacking. They were prepared with a due sense of social responsibility to consumers and to society and provide important information for voters in the fluoridation referendum to consider before voting.

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APPENDIX

http://e-edition.haurakiherald.co.nz/?email-analytics=Hauraki%20Herald#folio=6

Conversations

we say

"Don't forget to vote, and bring on November 5"

VALID POINTS ON BOTH SIDES

I speak from 15 years' involvement with Te Korowai Hauora O Hauraki and the Hauraki Primary Health Organisation.

I see people in pain from dental decay who cannot afford to have their pain addressed on a regular basis.

Looking at both the 'for' and 'against' fluoride arguments, I believe that there are valid points to both.

The anti-fluoride position appears to be based primarily on the undeniable fact that fluoride is a poison and we should restrict its use. However, the use of chlorine in drinking water is a good example of another poison being added to water supplies to provide public good. In everyday life salt is an example of a substance used for good, but it must be used in moderation.

A second point is that people should have freedom of choice. While I support the concept of personal responsibility, there are many examples where community good must be of paramount importance.

The scientific evidence is clearly in unanimous agreement as to the effectiveness of fluoride in water supplies improving oral hygiene.

After six decades of adding minute amounts of fluoride to the water supply, no evidence is available of a detrimental reaction that would question the public health good that fluoridation brings.

While fluoridation is not a magic panacea to prevent tooth decay, it does bring considerable community benefit.

Plunket's support of fluoride is a guide for us on behalf of our children who will thank you for the courage to vote for retention of fluoride in Thames' water supply.

There are no evidence-based issues which would sway me to vote any other way but to maintain the public good that fluoride brings to the community we are part of.

If community good is the key driver of any decision then fluoride must be retained.

Hugh Kininmonth
Chief Executive of Hauraki Primary Health Organisation

LISTEN TO DOCTORS

In the lead-up to the Tham
Fluoridation Referendum,
fluoridationists appear to
following the Fighting for
Fluoride public relations
from the USA, which outli
techniques for water fluor
spokespeople.Discrediting
opponents is a major part
game. According to some
local fluoridationists, UK
registered medical doctors
their opinions "don't coun
On this basis we must sur
discount the qualification
visiting academics. Even
might have been told to sh
and keep his theories and
opinions to himself if he'd
decided to venture near T
Although it seems that UK
medical doctors "do count
are less qualified, less
experienced, young, not re
and therefore willing to ap
registration here in order
practise in NZ. The fact th
retired doctors from the U
used their research skills
more plentiful retiree time
thoroughly research fluor
– finding its status unethic

Extracts from Our Oral Health: Findings of the 2009 Oral Health Survey. (MOH, 2010)

Page 171:

Prevalence of dental fluorosis, by fluoridation status

Dental fluorosis is a condition of altered enamel formation caused by excessive intake of fluoride during tooth formation (Burt and Eklund 2005), with a wide range of severity. Fluorosis is only one of a wide range of developmental defects that can occur in tooth enamel. Clinically, dental fluorosis is characterised by opaque white areas in the enamel in its milder forms, while more severe fluorosis can be characterised by brown stains or pitting.

Page 157:

- 44.5% of 8–30-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%)

Extracts from the New Zealand report on the health effects of water fluoridation, 2014.
Bardsley A, Eason C, Elwood JM, Seymour G, Thomson WM, Wilson N, 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:

Page 6:

The prevalence of mild dental fluorosis has increased somewhat since the initiation of CWF in communities around the world, but further increases have coincided with the widespread use of fluoridated dental products, particularly toothpaste and fluoride supplements. There

Page 30:

2.4.2 Fluoride pharmacokinetics

Absorption, distribution and clearance

Most fluoride in food or water enters the bloodstream rapidly via the digestive tract, and about half leaves the body quickly in urine, usually within 24h unless large amounts (>20mg) are ingested. The majority of the fluoride that remains in the body is deposited in teeth and bones.[37, 46] There is substantial inter-individual variation in the metabolism of fluoride, which can be affected by dietary factors, age, and health status. The ingestion of fluoride with food delays its absorption and reduces its bioavailability.[59] In particular, intake of milk or other calcium-rich foods significantly lowers the peak plasma concentration of fluoride after ingestion. The plasma fluoride concentration is also modulated by the rate of urinary excretion. There are no apparent age-related differences in renal clearance rates between children and adults,[60] but renal insufficiency delays fluoride clearance.[61] Individuals with reduced glomerular filtration are likely to have increased plasma fluoride levels, and consequently, increased levels of fluoride in tissues, making them more susceptible to fluorosis (see section 4.6.5).

WHO, 2002. Environmental Health Criteria 227: Fluorides extracts:

Pages 76 and 77:

During the growth phase of the skeleton, a relatively high portion of an ingested fluoride dose will be deposited in the skeleton. In infants and children with skeletal growth or individuals not consuming fluoridated drinking-water, up to 75% of the daily amount of fluoride that is absorbed may be incorporated into skeletal tissue (US DHHS, 1991). When a fluoride dose (e.g., a fluoride tablet or an infant formula

diluted with fluoridated drinking-water) is given to infants, the retention will be strongly correlated with the absorbed fluoride dose per kilogram body weight: the higher the fluoride dose, the higher the fluoride retention. Retention of fluoride following intake of a fluoride supplement of 0.25 mg given to infants was shown to be as high as 80–90%. In a study with adults (aged 23–27 years) in which fluoride was given as a single intravenous injection, about 60% of the injected dose (3 mg fluoride as sodium fluoride) was retained (Ekstrand et al., 1978).

Page 75:

fluoride (Waterhouse et al., 1980). In the long term, there is a positive relationship between the concentration of fluoride in plasma and bone. Also, a positive relationship between plasma fluoride and age has been reported (Parkins et al., 1974).

Photo of Billboard A with additional label with Fluoride Free Thames email address as an identifier, fluoridefreethames@gmail.com .

Photo of Billboard B with additional label with Fluoride Free Thames email address as an identifier, fluoridefreethames@gmail.com .


CHOICE
WASTE
or
fluoridefreethames@gmail.com


YOUR CHOICE
TOXIC WASTE
or
TOOTHPASTE
STOP fluoridation