COMPLAINTS BOARD

ADVERTISING STANDARDS AUTHORITY

COMPLAINT NUMBER	15/389
COMPLAINANT	K. Perrott
ADVERTISER	Fluoride Free NZ
ADVERTISEMENT	Fluoride Free NZ Newspaper
DATE OF MEETING	10 November 2015
OUTCOME	Not Upheld

SUMMARY

The newspaper advertisement for Fluoride Free New Zealand in the Hauraki Herald on August 28 2015 was headed, in part: "Council votes on referendum date." The advertisement stated, in part:

> Claim 1: "The World Health Organisation lists excess fluoride in its top ten 'chemicals of major health concern.' WHO (2010) cites fluorosis of tooth enamel and bone as negative effects following prolonged high exposure."
>
> Claim 2: "Since water fluoridation was introduced, dental fluorosis has become common in New Zealand. The 2009 New Zealand Oral Health Survey found 44.5% of 8 - 35 year-olds with evidence of dental fluorosis."
>
> Claim 3: "UNICEF has mapped New Zealand as one of 25 countries with endemic fluorosis."

The Complainant said "my main complaint is that the advertisement is factually misleading and aimed at raising fears in the reader rather than providing information."

The Complaints Board said the item before it was an advocacy advertisement and the identity of the Advertiser was clear. It said Claims 1, 2 and 3 were unlikely to mislead the reader and presented information that was supported by the in-text citations and it was clear to readers it was presented from an anti-fluoridation perspective. As the information contained in the advertisement was supported, the Complaints Board said the advertisement in context and tone did not unjustifiably play on fear and had been prepared with a due sense of social responsibility to consumers.

The Complaints Board ruled to Not Uphold the complaint.

[No further action required]

COMPLAINTS BOARD DECISION

The Chairman directed the Complaints Board to consider the advertisement with reference to Basic Principle 4 and Rules 2, 3, 6 and 11 of the Code of Ethics. This required the Complaints Board to consider whether the advertisement contained any statement or visual presentation or created an overall impression which directly or by implication, omission, ambiguity or exaggerated claim was misleading or deceptive, was likely to deceive or mislead the consumer, made false and misleading representation, abused the trust of the consumer or exploited his/her lack of experience or knowledge. (Obvious hyperbole, identifiable as such, is not considered to be misleading). The Complaints Board was also required to consider whether the advertisement used tests and surveys, research results or quotations from technical and scientific literature, in a manner which is misleading or deceptive.

The Complaints Board were also required to deliberate on whether the advertisement exploited the superstitious, nor without justifiable reason, played on fear and whether it had been prepared with a due standard of social responsibility to consumers and society.

The Complaints Board was of the view the advertisement before it fell into the category of advocacy advertising and noted the requirements of Rule 11 of the Code of Ethics. The Complaints Board noted Rule 11 allowed for expression of opinion in advocacy advertising, provided that the expression of opinion is robust and clearly distinguishable from fact. Also applicable 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.

As a preliminary matter, the Complaints Board noted where the Complainant said "the format of the advertisement is misleading because it is presented as an article, whereas it is clearly part of a full page advertisement by Fluoride Free New Zealand. However, my main complaint is that the advertisement is factually misleading and aimed at raising fears in the reader rather than providing information."

The Complaints Board confirmed the identity of the Advertiser, Fluoride Free New Zealand, in the advertisement was clear. Having established the advertisement meet the identification requirements of Rule 11, the Complaints Board turned to consider the primary concerns of the Complainant the advertisement was misleading and played on fear.

Claim 1: The World Health Organisation lists excess fluoride in its top ten 'chemicals of major health concern.' WHO (2010) cites fluorosis of tooth enamel and bone as negative effects following prolonged high exposure.

The Complaints Board noted the Complainant's issue with the above claim misrepresented the WHO article '*Inadequate or excess fluoride: A major public health concern'* in the advertisement.

The Complaints Board noted the Advertiser said the above claim established that "excess fluoride is a recognised issue of public health concern to the WHO as it follows the previous statement that 'even naturally occurring fluoride has been associated with a host of health issues.' And it goes on to confirm that 'fluorosis of tooth enamel and bone are negative effects following prolonged high exposure.'"

The Complaints Board noted the advice from the Advertiser the reference to the "WHO (2010)" article '*Preventing Disease through Healthy Environments: Action Is Needed on Chemicals of Major Public Health Concern'* contained the same information relied on by the Advertiser.

After reading the information provided, it said while inadequate fluoride was similarly identified as a health risk in the article, it was not misleading to refer only to the health concerns of excess natural fluoride. It said the advertisement was clearly presented from a particular perspective and included the source of the information from which the statement was drawn. It said the preceding statement gave adequate context to the claim by referring to naturally occurring calcium fluoride, which would be clear to readers. The Complaints Board said the likely consumer takeout of the claim was that excess natural fluoride was a major health concern of the World Health Organisation as it caused fluorosis. The Complaints Board was also of the view the claim did not reach the level required unjustifiably play on fear.

The Complaints Board confirmed as long as the identity of the Advertiser was clear to consumers, it was not misleading to omit an alternative view in advocacy advertisements so long as any absolute claims were able to be substantiated. Therefore, on consideration of the above, the Complaints Board ruled Claim 1 was not in breach of Rules 2, 3, 6 or 11 of the Code of Ethics and had been prepared with the requisite standard of social responsibility.

Claim 2: Since water fluoridation was introduced, dental fluorosis has become common in New Zealand. The 2009 New Zealand Oral Health Survey found 44.5% of 8 - 35 year-olds with evidence of dental fluorosis.

The Complaints Board noted the concerns of the Complainant the above claim was "formally correct (but misleading in this context) to describe the Oral Health survey as showing "*44.5% of 8 - 35 year-olds with evidence of dental fluorosis.*"

The Complainant said the claim was also misleading as it "implies that the prevalence of dental fluorosis is due to community water fluoridation whereas the data did not find any statistically significant difference between fluoridated and unfluoridated areas." The

Complainant also said "it uses data for the prevalence of all forms of dental fluorosis whereas only the moderate and severe forms are of any concern."

The Complaints Board turned to the response from the Advertiser which said, in part: "the prevalence of 44.5% quoted in the article is that for all areas and all levels of fluorosis. This figure is used because it is a reliable indication of the prevalence of dental fluorosis in New Zealand arising as a result of fluoride exposure over the previous 30 years… As the Oral Health Survey makes a point of noting, it cannot be considered as a fluoridation study because it is only a snap shot in time and the place of residence at the time of the survey may not reflect where the subjects lived previously. Therefore the difference between fluoridated and non-fluoridated areas is not reliable. However, the overall prevalence is reliable and this being the most recent New Zealand wide survey offers the best prevalence estimate of dental fluorosis in New Zealand."

The Complaints Board noted Table 92 in *Our Oral Health Key finding of the 2009 New Zealand Oral Health Survey* showed the level of fluorosis in 55.5% of 8 – 30 year olds was zero. It noted, therefore, the level of fluorosis in 45.5% of 8 – 30 year olds ranged between level 1: questionable and level 5: severe. The Complaints Board considered the claim did not imply a comparison between fluoridated and non-fluoridated areas, but referred to New Zealand as a whole. The Complaints Board noted the source of the information was also clearly identified in the advertisement if consumers required further clarification and therefore agreed the claim was not misleading.

The Complaints Board then noted the Complainant's opinion the claim was also misleading as only moderate and severe forms of fluorosis where harmful.

It noted where the Advertiser said dental fluorosis results in weak spots in the tooth enamel "this applies to any level of dental fluorosis – that is, any level of dental fluorosis is a symptom of excessive bodily exposure to fluoride. Once this is understood it becomes obvious that the severity or appearance of the dental fluorosis is not the issue; the mere fact of it is the issue…While it may be argued (as the complainant does) that only moderate and severe forms are of concern (both aesthetically and by virtue of the fact the tooth structure is compromised and therefore more vulnerable to tooth decay and breakage) this approach ignores the important issue that the teeth are only one part of the body that may have been affected by the excess fluoride ingestion."

The Complaints Board noted the claim made no reference to the severity of fluorosis, but simply referred to it as 'common'. The Complaints Board was of the view that describing fluorosis as 'common' was an accurate representation of the 44.5% figure and was unlikely to mislead the reader and did not, unjustifiably, play on fear.

On consideration of the above, the Complaints Board ruled Claim 2 was not in breach of Rules 2, 3, 6 or 11 of the Code of Ethics and had been prepared with the requisite standard of social responsibility.

Claim 3: UNICEF has mapped New Zealand as one of 25 countries with endemic fluorosis.

The Complaints Board noted the concern of the Complainant that Claim 3 relied on the UNICEF bulletin of *Fluorosis Worldwide* which was misleading as "nowhere in this briefing note is the inclusion of New Zealand (or indeed Australia) supported by a specific claim or citation. I cannot help but conclude inclusion of these countries was an accident - or result of poor vetting… It is disingenuous of Fluoride Free NZ to use this mistake, while ignoring the much more extensive peer-reviewed literature which does not describe fluorosis in New Zealand as endemic."

The Complaints Board noted where the Advertiser said "when a disease is prevalent in an area over long periods of time (years) it is considered endemic in that area (Encyclopaedia Britannica).

Dental fluorosis has been consistently prevalent over the years and is thus endemic in New Zealand. The UNICEF bulletin identified at least 25 countries with endemic fluorosis and displayed them on a map. So the Map in the UNICEF bulletin includes New Zealand not by 'accident - or result of poor vetting', as the complainant concludes, but by virtue of the fact New Zealand has endemic dental fluorosis."

The Complaints Board was of the view the word "endemic" in the claim was slightly inflammatory, however, in the context of advocacy advertising, it did not reach the threshold to be considered to be misleading. The Complaints Board was also of the view the Advertiser's reliance on the UNICEF information which showed New Zealand as one of 25 countries with endemic fluorosis due to excess fluoride in drinking water was unlikely to mislead consumers and did no unjustifiably play on fear.

Therefore, the Complaints Board ruled Claim 3 was not in breach of Rules 2, 3, 6 or 11 of the Code of Ethics and had been prepared with the requisite standard of social responsibility.

Summary

The Complaints Board said the item before it was an advocacy advertisement which allows for robust debate and the identity of the Advertiser was clear and therefore it met the identification provision of Rule 11. It said Claims 1, 2 and 3 were unlikely to mislead the reader as it presented information which was supported by the citations in the advertisement and it was clear to reader the information had been presented from a particular perspective. As the information contained in the advertisement was supported, the Complaints Board said the advertisement in context and tone did not unjustifiably play on fear and had been prepared with a due sense of social responsibility to consumers.

The Complaints Board ruled the advertisement was not in breach of Rules 2, 3, 6 or 11 of the Code of Ethics and ruled the complaint was Not Upheld.

Accordingly, the Complaints Board ruled to Not Uphold the complaint.

DESCRIPTION OF ADVERTISEMENT

The newspaper advertisement for Fluoride Free New Zealand in the Hauraki Herald on August 28 2015 was headed "Council votes on referendum date." The advertisement stated, in part:

> "The World Health Organisation lists excess fluoride in its top ten 'chemicals of major health concern.' WHO (2010) cites fluorosis of tooth enamel and bone as negative effects following prolonged high exposure. Since water fluoridation was introduced, dental fluorosis has become common in New Zealand. The 2009 New Zealand Oral Health Survey found 44.5% of 8 - 35 year-olds with evidence of dental fluorosis. UNICEF has mapped New Zealand as one of 25 countries with endemic fluorosis."

COMPLAINT FROM K. PERROTT

I wish to complain about an advertisement (see image on right) on page 15 of the "Hauraki Herald" of 26th August, 2015. It is titled "Council Votes on Referendum Date" and was placed by Fluoride Free NZ (this is the same organisation as Fluoride Action Network of NZ which has a history of deceptive advertising and has been the subject of several previous complaints to the ASA).

This advert violates the basic principle (number 3) in the advertising code of ethics that *"No advertisement should be misleading or deceptive or likely to mislead or deceive the consumer."*

It also violates the rules on:
Truthful Presentation, in that it is misleading and deceptive and abuses the trust of the consumer or exploits his/her lack of experience or knowledge

Research Tests and Surveys, in that it uses a survey and quotations from technical and scientific literature, in a manner which is misleading or deceptive.

Fear in that it, without justifiable reason, plays on fear of readers who are participating in a public referendum.

The format of the advertisement is misleading because it is presented as an article, whereas it is clearly part of a full page advertisement by Fluoride Free New Zealand. However, my main complaint is that the advertisement is factually misleading and aimed at raising fears in the reader rather than providing information.

My objection relates to the passage:

> "Since water fluoridation was introduced, dental fluorosis has become common in New Zealand. The 2009 New Zealand Oral Health Survey found 44.5% of 8 - 35 year-olds with evidence of dental fluorosis. UNICEF has mapped New Zealand as one of 25 countries with endemic fluorosis."

This comes after the assertion:

> "The World Health Organisation lists excess fluoride in its top ten 'chemicals of major health concern.' WHO (2010) cites fluorosis of tooth enamel and bone as negative effects following prolonged high exposure."

On the one hand this text can raise fears with the reader about health effects of community water fluoridation. The authority of WHO and UNICEF and data showing an apparently high incidence of dental fluorosis in New Zealand are used to provide credibility to those fears.

On the other hand the individual statements are, themselves, worded to be formally correct - even though they are irrelevant to community water fluoridation in New Zealand. I believe this demonstrates a conscious intention to misinform so as to raise unwarranted fears in the reader

1: The NZ Oral Health Survey findings:
It is formally correct (but misleading in this context) to describe the Oral Health survey as showing *"44.5% of 8 - 35 year-olds with evidence of dental fluorosis."* Misleading, because the survey did not find any evidence this prevalence of fluorosis is due to community water fluoridation.

The relevant data in *Our Oral Health Key findings of the 2009 New Zealand Oral Health Survey* are on page 172 which includes the table:

Table 92: Prevalence of dental fluorosis, among dentate adults and children aged 8–30 years, by level of fluorosis (unadjusted prevalence)

Level of fluorosis	Prevalence (95% CI) among 8–30-year-olds		
	All	Living in fluoridated areas	Living in non-fluoridated areas
None (level 0)	55.5 (49.0–62.0)	54.5 (45.9–63.0)	56.9 (48.3–65.6)
Questionable (level 1)	27.2 (22.2–32.2)	30.6 (23.3–37.9)	22.7 (16.3–29.0)
Very mild (level 2)	10.2 (6.6–15.0)	10.2 (5.5–16.9)	10.3 (5.7–16.8)
Mild (level 3)	5.1 (2.9–8.1)	3.0 (0.8–7.6)	7.8 (4.3–12.7)
Moderate (level 4)	2.0 (0.7–4.4)	1.7 (0.3–5.5)	2.3 (0.5–6.8)
Severe (level 5)	0.0 (0.0–0.8)	0.0 (0.0–1.5)	0.0 (0.0–1.8)

Source: 2009 New Zealand Oral Health Survey

The review concluded:

> "Table 92 presents the prevalence of fluorosis (by the six categories of Dean's Index of Fluorosis), among dentate children and adults aged 8–30 years, overall and by fluoridated and non-fluoridated areas. Overall, the prevalence of moderate and severe fluorosis was very low in the population, with 2.0% of people aged 8–30 years with moderate fluorosis and virtually no people with severe fluorosis (0.0%). These results suggest there was no significant difference in the prevalence of fluorosis between people living in fluoridated and non-fluoridated areas."

The statement of FFNZ in their advert is misleading in two ways:

1. It implies that the prevalence of dental fluorosis is due to community water fluoridation whereas the data did not find any statistically significant difference between fluoridated and unfluoridated areas.
2. It uses data for the prevalence of all forms of dental fluorosis whereas only the moderate and severe forms are of any concern. In fact, the milder forms are often assessed positively by teenagers and parents from a quality of life point of view (Perrott, 2015).

Anti-fluoride campaigners commonly misrepresent information on dental fluorosis in these ways. I can only conclude that the purpose of this misrepresentation is to encourage readers to be fearful of community water fluoridation, despite the scientific evidence for its safety.

2: WHO chemicals of major health concern.

The FFNZ 2010 citation for their advert may be the WHO document *"Inadequate or excess fluoride: A major public health concern."* The title of this document, itself, indicates that FFNZ is misrepresenting it in the context they use it. The first paragraph in the document clarifies this further:

> "Fluoride intake has both beneficial effects—in reducing the incidence of dental caries—and negative effects—in causing tooth enamel and skeletal fluorosis following prolonged exposure to high concentrations. The ranges of intakes producing these opposing effects are not far apart. Public health actions are needed to provide sufficient fluoride intake in areas where this is lacking, so as to minimize tooth decay. This can be done through drinking-water fluoridation or, when this is not possible, through salt or milk fluoridation. Excessive fluoride intake usually occurs through the consumption of groundwater naturally rich in fluoride or crops that take up fluoride from high-fluoride irrigation water. In these areas, means should be sought to manage intakes by providing drinking-water with a moderate (i.e. safe) fluoride level or using alternative sources of water for irrigation. Although removal of excessive fluoride from drinking-water may be difficult and expensive, low-cost solutions that can be applied at a local level do exist."

Many essential or beneficial microelements can be of a major health concern if they are either deficient or present in excessive amounts. Fluoride is no exception. The WHO document makes clear that in many areas the low dietary intake of fluoride presents health problems – specifically with oral health. Community water fluoridation can be an effective health measure in such areas. But the document also makes clear that in many areas of the world, excessive levels of fluoride in diet and drinking water creates a health problem – mostly through fluorosis.

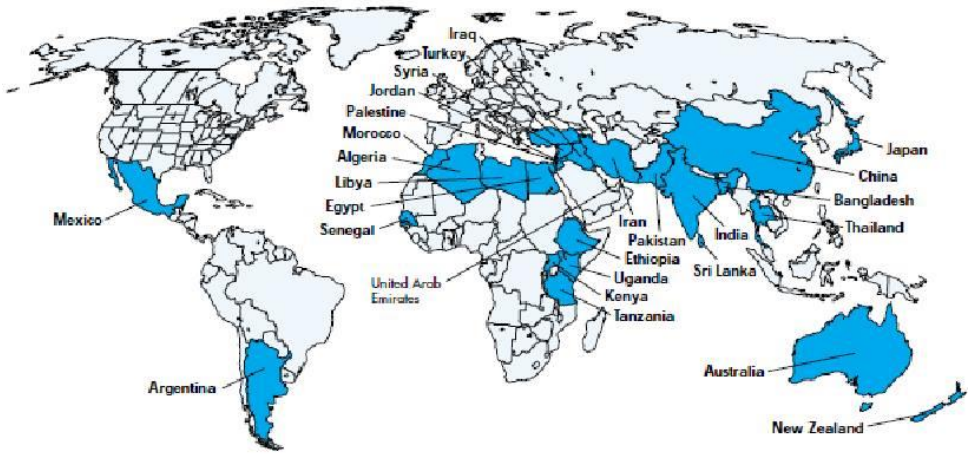
Fluoride Free NZ disingenuously uses the concerns related to excessive dietary intake to raise fears about community water fluoridation in a region where deficiency, not excess, is the real health concern.

3: The UNICEF map.

The advert used the term "mapped" because that is literally the only formally correct way of putting it. The claim relies on the UNICEF briefing note *"Fluoride in water: An overview,"* which includes the statement:

> **"Fluorosis worldwide**
> The latest information shows that fluorosis is endemic in at least 25 countries across the globe (see map)."

This is alongside a map - copied below.



Countries with endemic fluorosis due to excess fluoride in drinking water

Nowhere in this briefing note is the inclusion of New Zealand (or indeed Australia) supported by a specific claim or citation. I cannot help but conclude inclusion of these countries was an accident - or result of poor vetting. For example, literature reviews will pick up references to fluorosis in New Zealand sheep ingesting recently fertilised soil (e.g., Cronin et al., 2000) or general statements that occurrence of dental fluorosis in New Zealand is rarer than in countries with endemic fluorosis (e.g. Eason et al., 2014). But I cannot find anything in the peer-reviewed scientific literature justifying this statement.

The briefing note was prepared by people preoccupied with countries like China and India where fluorosis is genuinely endemic. And, in such countries, the concern is with skeletal fluorosis as well as severe dental fluorosis.

Unfortunately, the map and general reference to 25 countries has been picked up by a few other reports - although not many. It is disingenuous of Fluoride Free NZ to use this mistake, while ignoring the much more extensive peer-reviewed literature which does not describe fluorosis in New Zealand as endemic.

General comments on dental fluorosis in New Zealand

It is worth referring to the New Zealand fluoridation Review produced by the Office of the Prime Minister's Chief Scientific Advisor and the Royal Society of New Zealand - *Health*

effects of water fluoridation : A review of the scientific evidence. This is a very recent review and was prepared specifically at the request of local bodies in New Zealand. I think these quotes from this highly relevant document help provide the context showing how misleading the tone of the Fluoride Free NZ advert is:

> "Naturally occurring concentrations of fluoride in water in some parts of the world (e.g. parts of China, Africa, and India) are much higher than those found in fluoridated water, and in some of these regions high fluoride intakes are known to cause problems in teeth and bones (dental and skeletal fluorosis). It is important to distinguish between effects of apparent fluoride toxicity at very high intakes, and effects that may occur at the much lower intakes from CWF. Some studies have failed to do so, giving rise to potentially misleading statements and confusion."

And:

> **"Known effects of fluoride exposure – dental fluorosis**
> Dental fluorosis is a tooth enamel defect characterised by opaque white areas in the enamel, caused by excess exposure to fluoride while the teeth are forming in the jaw and before they erupt into the mouth. Tooth development occurs during the first 8 years of life; beyond this age children are no longer susceptible to fluorosis. In the common, mild forms it is of minor or no cosmetic significance, but severe forms result in pitted and discoloured teeth that are prone to fracture and wear. Dental fluorosis reflects overall fluoride absorption from all sources at a young age, and is a known effect of drinking water containing naturally very high concentrations of fluoride. The amount of fluoride added to water in CWF programmes is set to minimise the risk of this condition while still providing maximum protective benefit against tooth decay. No severe form of fluorosis has ever been reported in New Zealand.
>
> 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 is a substantial evidence base to indicate that inappropriate use of such dental products (e.g. young children swallowing large amounts of toothpaste; inappropriate prescribing of supplements) is the main factor in increasing fluorosis risk, as the prevalence of fluorosis has increased more in non-fluoridated areas than in fluoridated ones. Most of the dental fluorosis that occurs in this country is very mild, having effects that are only identified by professional dental examination. The levels of fluoride used for CWF in New Zealand are relatively low in the range that is known to cause minimal risk for cosmetically problematic fluorosis, as reflected in data from the 2009 New Zealand Oral Health Survey, which showed the overall prevalence of moderate fluorosis to be very low. The survey indicated that fluorosis prevalence is not increasing, and that levels of fluorosis are similar between fluoridated and non-fluoridated areas.
>
> The risk for mild fluorosis that is associated with fluoride exposure is highest for formula-fed infants, and young children who are likely to swallow toothpaste. In some cases the fluoride intake by these groups can approach or exceed the currently recommended conservative upper intake level, but the rarity of cosmetically concerning dental fluorosis in New Zealand indicates that such excess intake is not generally a safety concern."

Conclusion

Fluoride Free NZ appears to have carefully worded their advertisement, or at least this particular part of it, so that their claims are at least formally correct. Nevertheless, in the

context of a referendum on community water fluoridation, these claims are misleading as they are not relevant to this social health measure.

The careful attention to ensuring the formal correctness of their claims, while at the same time implying that genuine concerns about excessively high levels of fluoride in areas of the world where fluorosis is endemic are relevant to community water fluoridation, indicates a conscious intention to misinform.

The intent of this advert and its misinformation is clearly to raise fears among voters and encourage them to vote against a social health measure considered by health experts to be safe and effective.

References

Eason, C., & Elwood, JM. Seymour, Thomson, WM. Wilson, N. Prendergast, K. (2014). *Health effects of water fluoridation : A review of the scientific evidence*.

Cronin, S. J., Manoharan, V., Hedley, M. J., & Loganathan, P. (2000). *Fluoride: A review of its fate, bioavailability, and risks of fluorosis in grazed-pasture systems in New Zealand*. *New Zealand Journal of Agricultural Research*, *43*(3), 295–321.

MoH. (2010). *Our Oral Health Key findings of the 2009 New Zealand Oral Health Survey*.
Perrott, K. W. (2015). *Severe dental fluorosis and cognitive deficits*. Neurotoxicology and Teratology, 48, 78–79.

UNICEF (1999) briefing note "*Fluoride in water: An overview*," Briefing Note compiled by Jingjing Qian with contributions from Dr. A.K. Susheela, Arun Mudgal and Greg Keast

WHO (2010) *"Inadequate or excess fluoride: A major public health concern."* Short Information Document on Preventing Disease through Healthy Environments.

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 3: Research, Tests and Surveys** - Advertisements should not use tests and surveys, research results or quotations from technical and scientific literature, in a manner which is misleading or deceptive.
>
> **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 NEW ZEALAND

1. Background

The complaint is about a Fluoride Free New Zealand newspaper advertisement published in the August 28, 2015 edition of the Hauraki Herald on page 15. This was a once only advertisement.

The sections of the Advertising Code of Practice that appear to be relevant to the complaint are:

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 3. Research, Tests and Surveys - Advertisements should not use tests and surveys, research results or quotations from technical and scientific literature, in a manner which is misleading or deceptive.

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 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.

2. Response

Mr Perrott accepts that the advertisement is technically correct. His complaint is that he believes the facts to not be relevant to water fluoridation.

The passage that the complainant has issue with is:

“The World Health Organization lists excess fluoride in its top ten ‘chemicals of major public health concern’. WHO [2010] cites fluorosis of tooth enamel and bone as negative effects following prolonged high exposure. Since water fluoridation was introduced, dental fluorosis has become common in New Zealand. The 2009 New Zealand Oral Health Survey found 44.5% of 8-35 year olds with evidence of dental fluorosis. UNICEF has mapped New Zealand as one of 25 countries worldwide with endemic fluorosis.”

2.1 Response to Basic Principle 4 and Rules 2, 3 and 6

Due sense of social responsibility; Truthful presentation; Research, Tests and Surveys; and Fear

The complainant believes "the advertisement was factually misleading and aimed at raising fears in the reader rather than providing information"

The complainant goes on to say the advertisement "is misleading in two ways:

1. It implies that the prevalence of dental fluorosis is due to community water fluoridation whereas the data did not find any statistically significant difference between fluoridated and unfluoridated areas.

2. It uses data for the prevalence of all forms of dental fluorosis whereas only the moderate and severe forms are of any concern. In fact, the milder forms are often assessed positively by teenagers and parents from a quality of life point of view (Perrott, 2015)"

The wording of the disputed part of the article starts with "**The World Health Organisation lists excess fluoride in its top ten 'chemicals of major public health concern'**." (WHO, 2010 -document attached, not that cited by the complainant). This is to establish to the reader that excess fluoride is a recognised issue of public health concern to the WHO as it follows the previous statement that "even naturally occurring fluoride has been associated with a host of health issues." And it goes on to confirm that "fluorosis of tooth enamel and bone are negative effects following prolonged high exposure."

In a country like New Zealand where natural levels of fluoride in the water are not considered high it would be expected that the prevalence of dental fluorosis would be zero or very low. Fluoridation was implemented on the basis of H Trendley Dean's research, suggesting that dental fluorosis would affect no more than 10% of the population, at mild or very mild severity. However because of public health measures like water fluoridation and fluoride tablets (in non-fluoridated areas in the past) the prevalence of fluorosis has risen and remains consistently high thus making dental fluorosis endemic in New Zealand.

There is a lot of scientific evidence to support the fact that water fluoridation is associated with the risk of dental fluorosis.

The latest review by the gold standard Cochrane Collaboration estimated water fluoridation at concentration of 0.7ppm was associated with 40% dental fluorosis of all levels (Iheozor-Ejiofor et al, 2015). The York Review found water fluoridation at 1ppm was associated with 48% dental fluorosis at all levels (Mc Donagh et al, 2000).

Dental fluorosis and New Zealand studies

It is important to understand how dental fluorosis occurs. The generally accepted mechanism is as follows. Excess fluoride that cannot be excreted is stored by the body in the bones, to protect the rest of the body from fluoride's toxicity. This includes the jaw bone. The ameloblast cells that make tooth enamel reside in the jaw bone. Fluoride leaches from the jaw bone intoxicating (i.e. poisoning) the ameloblast cells, which, as a result, do not properly incorporate new enamel cells into the tooth lattice. The result is weak (under mineralised) spots in the tooth enamel. This deformity is what we know as dental fluorosis.

<u>This applies to any level of dental fluorosis – that is, any level of dental fluorosis is a symptom of excessive bodily exposure to fluoride</u>. Once this is understood it becomes obvious that the severity or appearance of the dental fluorosis is not the issue; the mere fact of it is the issue.

Water fluoridation was largely introduced in the late 1960s to early 1970s, with many towns introducing schemes in 1972 and 1973. Fluoride toothpaste was introduced shortly thereafter.

The two recent scientific NZ studies on dental fluorosis refer to earlier such research conducted around 1985. Three areas were studied in 1985 – Southland, Auckland, and Hastings. Only Southland (McKay and Thomson 2005) and Auckland (Schluter et al 2008; Kanagaratnam et al 2009) have been re-studied.

The 1980s research showed that within 15 years of fluoridation's introduction dental fluorosis had already reached the excessive (endemic) levels we see today, compared with the predicted 10% mild or very mild forms). In Southland and Auckland it was around 30% in the fluoridated areas; in Hastings it was 45% (the same as found in the 2009 Oral Health Survey). Moderate to severe dental fluorosis was at 3%. Today it is at 5%.[1]

The recent studies show that the incidence of dental fluorosis in the unfluoridated communities was only half that of the fluoridated communities – around 15% vs 30%. As these were published scientific studies they override the findings of the 2009 Oral Health Survey where they conflict with it. Indeed, to quote the Oral Health Survey and not refer to the bona fide research as the Ministry of Health and the complainant's organisation do is itself a breach of Rules 2 and 3.

These bona fide studies demonstrate that since the introduction of water fluoridation in New Zealand dental fluorosis has become prevalent and that prevalence has been consistent over the years.

So the statement **"Since water fluoridation was introduced dental fluorosis has become common in New Zealand"** reflects this.

In medical texts the frequency of side-effects of a treatment is generally described as follows:

Very common – greater than 1 in 10
Common – 1 in 100 to 1 in 10
Less common – 1 in 1000 to 1 in 100
Rare - 1 in 10,000 to 1 in 100
Very rare – less than 1 in 10,000
(BNF, 2008)

The sentence **"The 2009 Oral Health Survey found 44.5% of 8-35 year olds with evidence of dental fluorosis"** (MOH, 2010) follows the previous sentence to qualify the use of the word 'common' and to precede and qualify the next sentence which identifies dental fluorosis as endemic. By medical standards a side-effect in 44.5% of the population is 'very common' being greater than 1 in 10. It was thought sufficient to describe it as 'common'.

Any level of dental fluorosis is a visible sign of excess fluoride ingestion (MOH, 2010; Ellwood and Cury, 2009; UNICEF, 1999; Schluter et al 2008). It is present for a lifetime.
2009 Oral Health Survey page 171 (MOH, 2010)

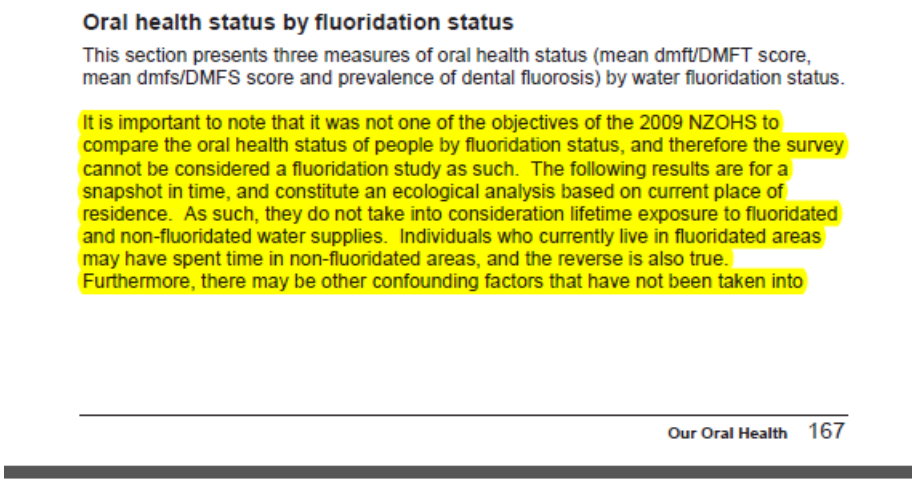
> Dental fluorosis is a condition of altered enamel formation caused by excessive intake of fluoride during tooth formation (Burt and Eklund 2005), with a wide range of severity. Fluorosis is only one of a wide range of developmental defects that can occur in tooth enamel. Clinically, dental fluorosis 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.

While it may be argued (as the complainant does) that only moderate and severe forms are of concern (both aesthetically and by virtue of the fact the tooth structure is compromised and therefore more vulnerable to tooth decay and breakage) this approach ignores the important issue that the teeth are only one part of the body that may have been affected by the excess fluoride ingestion. For example, bone fluorosis is recognised to have no threshold of fluoride exposure below which there is no risk (SCHER, 2011). See point 7 in the list of other points below for relevant information on bone fluorosis. The New Zealand Oral Health Survey found a prevalence of moderate dental fluorosis of 2%, making this a 'common' side effect.

The prevalence of 44.5% quoted in the article is that for all areas and all levels of fluorosis. This figure is used because it is a reliable indication of the prevalence of dental fluorosis in New Zealand arising as a result of fluoride exposure over the previous 30 years. The next sentence describes the endemicity of the whole of New Zealand not just fluoridated areas therefore it would have been inappropriate to quote a prevalence relating only to fluoridated areas.

As the Oral Health Survey makes a point of noting, it cannot be considered as a fluoridation study because it is only a snap shot in time and the place of residence at the time of the survey may not reflect where the subjects lived previously. Therefore the difference between fluoridated and non-fluoridated areas is not reliable. However, the overall prevalence is reliable and this being the most recent New Zealand wide survey offers the best prevalence estimate of dental fluorosis in New Zealand.

2009 Oral Health Survey, pages 167-168 (MOH, 2010)



Oral health status by fluoridation status

This section presents three measures of oral health status (mean dmft/DMFT score, mean dmfs/DMFS score and prevalence of dental fluorosis) by water fluoridation status.

It is important to note that it was not one of the objectives of the 2009 NZOHS to compare the oral health status of people by fluoridation status, and therefore the survey cannot be considered a fluoridation study as such. The following results are for a snapshot in time, and constitute an ecological analysis based on current place of residence. As such, they do not take into consideration lifetime exposure to fluoridated and non-fluoridated water supplies. Individuals who currently live in fluoridated areas may have spent time in non-fluoridated areas, and the reverse is also true. Furthermore, there may be other confounding factors that have not been taken into

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account in this analysis, such as the usual reason for visiting a dental professional, and other sources of fluoride such as fluoride toothpaste.

How was fluoridation status measured?

Information on fluoridated and non-fluoridated areas was based on 2008 data obtained from Environmental Science and Research (ESR). Survey respondents were categorised into living in fluoridated or non-fluoridated areas, based on where they were living at the time of the survey.

When a disease is prevalent in an area over long periods of time (years) it is considered endemic in that area (Encyclopaedia Britannica).

Dental fluorosis has been consistently prevalent over the years and is thus endemic in New Zealand. The UNICEF bulletin identified at least 25 countries with endemic fluorosis and displayed them on a map. So the Map in the UNICEF bulletin includes New Zealand not by "accident - or result of poor vetting", as the complainant concludes, but by virtue of the fact New Zealand has endemic dental fluorosis. The final sentence, **"UNICEF has mapped New Zealand as one of 25 countries worldwide with endemic fluorosis**" is thus correct and relevant.

The advertisement was prepared with a due sense of social responsibility to consumers and to society.

Water fluoridation is a public health measure that affects about 50% of the New Zealand population. Most countries in the world do not fluoridate the public water supply including 97% of Europe. Whilst many health experts in New Zealand believe it is safe and effective there are some that believe it is not safe, not very effective and therefore not the best choice of public health measure for reducing tooth decay. Worldwide there are many health experts that share the latter view. (see also point 10 below in 2.3 Other points)

Fluoride is unique in being the only treatment added to the drinking water. For all other treatments individuals have the right to be informed about the benefits and side effects of the treatment before consenting. This is not possible with water fluoridation. A referendum is the closest opportunity an individual has to consenting or not to water fluoridation. It is therefore imperative that each individual is informed about the level of benefits and side effects so that they can make an informed decision about how to vote.

A doctor would normally advise a patient of common and very common side-effects of a treatment so the patient could make an informed decision about taking it or not. This advertisement was informing readers that dental fluorosis is a common side-effect of water fluoridation and fulfilling a social responsibility that is currently lacking. It was presented in a way that was hoped to engage the reader.

2.2 Rule 11
Advocacy advertising

The complainant believes "the advertisement is misleading because it is presented as an article, whereas it is clearly part of a full page advertisement by Fluoride Free New Zealand."

As the complainant states it is clear the article is part of a full page advertisement by Fluoride Free New Zealand. The whole page is framed by thick lines. The word 'ADVERTISEMENT' is at the top of the page and the word, size and placement is as suggested by the Hauraki Herald staff. The FFNZ website features twice on the page, once highlighted by being white on black in contrast to the other print.

The fonts in the articles have been used differently to distinguish them from the Hauraki Herald usual style (a smaller font with more space between lines and a different non serif font for the box article that is the subject of the complaint).

The presentation of material as an article is not unique to this advertisement which in fact was inspired by an advertisement, using the article style, by the Waikato District Health Board in the Hamilton News leading up to the Hamilton fluoridation referendum in 2013 (attached).
Mr Perrott accepts that the advertisement is technically correct, so there can be no question of fact vs opinion. Accordingly, Rule 11 has not been breached.

2.3 Other points in response to the complainants comments

1. The complainant's letter states "I confirm I do not, nor am I associated with someone who does, operate a competitor business in the same industry as the advertiser and therefore I am not making this complaint as a competitor"

   The complainant, Ken Perrott, is known to be vocal on the promotion of water fluoridation and active in a group known as 'Making Sense of Fluoride' a group with the aim of promoting water fluoridation by actively attempting to undermine the opinions of and discredit those opposed to water fluoridation. This would seem to fulfil the description of a competitor of Fluoride Free New Zealand, an advocacy organisation with the aim of opposing water fluoridation.

2. The complainants quote "The FFNZ 2010 citation for their advert may be the WHO document "Inadequate or excess fluoride: A major public health concern" indicates an incorrect assumption on the part of the complainant.

   The 2010 WHO document cited is "Action is needed on chemicals of major public health concern" the quote in the article 'chemicals of major public health concern' giving the clue.

3. The complainant states "The WHO document makes it clear that in many areas the low dietary intake of fluoride presents health problems – specifically oral health." Whilst fluoride can help reduce tooth decay by action at the surface of the tooth it is not lack of fluoride that causes tooth decay but excess sugars. Poul Erik Petersen a

member of the WHO Oral Health Programme and author of many WHO documents is clear that lack of fluoride does not cause dental caries:

Petersen and Lennon 2004

> Although these findings are important, it must be acknowledged that a lack of fluoride does not cause dental caries. The WHO report (1) is quite clear that the post-eruptive effect of sugar consumption is one of the main aetiological factors for dental caries and notes in particular the damaging effects of:
> - Refined or processed foods in general.
> - The consumption of sugary soft drinks.
> - Children going to bed with a bottle of a sweetened drink or drinking at will from a bottle during the day.

4. The document cited by the complainant has some wording in common with the document referred to in the article including "Excess fluoride intake usually occurs through the consumption of groundwater naturally rich in fluoride…" The use of the word 'usually' implies this is not invariable.

   The complainant notes from the document that "excess levels of fluoride in diet and drinking water creates a health problem – mostly through fluorosis". It is correct that all sources of fluoride contribute to the total intake of fluoride. In New Zealand this includes fluoridated water, foods and drinks made with fluoridated water (formula milk, reconstituted fruit juices, soups, etc), fluoride tablets (in the past), swallowed tooth paste and mouth rinses, tea and some other foods and drinks.

   Fluoride tablets were previously recommended as a public health measure in non-fluoridated areas of New Zealand but are no longer recommended and particularly not for children under three years of age and not for pregnant women because of the risk of dental fluorosis (MOH, 2009).

   Dental fluorosis is an abnormality of the tooth enamel caused by fluoride ingested during tooth development between the ages of 0 and 8 years of age.

5. Mr Perrott references the report by the Office of the Chief Science Advisor to the Prime Minister. Note that this was a report for a non-scientific audience, not a scientific review. It has been strongly criticised by international experts, including two who sat on the US National Research Council Review Panel, in particular for cherry-picking only research that supported its predetermined conclusion.

The complainant quotes from the New Zealand report on water fluoridation (2014), and some comments are appropriate here:

- "No severe form of fluorosis has ever been reported in New Zealand"

The use of the word 'ever' is inappropriate here as the 2009 New Zealand Oral Health Survey notes "there are **virtually** no people with severe fluorosis". Research as quoted above shows at least 3-5% moderate dental fluorosis.

- "the prevalence of fluorosis has increased more in non-fluoridated areas than in fluoridated ones… The survey (2009 Oral Health Survey) indicated that fluorosis prevalence is not increasing, and that levels of fluorosis are similar between fluoridated and non-fluoridated areas."

As indicated above the 2009 Oral Health Survey was not designed as a fluoridation study and therefore cannot reliably be quoted to claim that levels of fluorosis are similar in fluoridated and non-fluoridated areas, especially when studies designed to look at fluoridation do not concur (Schluter, 2008). The various New Zealand studies noted by Schluter et al, looked at dental fluorosis in nine year olds, were as the Oral Health Survey looked at 8-30 year olds. Dental fluorosis arises from excess fluoride ingestion between the ages of 0-8 years of age. There is a much greater chance that a nine year old will have continuously or mostly lived in in either a fluoridated area or a non-fluoridated area for the whole of their nine years of life than that 19 to 30 year olds continue to live in the same area as they did between ages of 0 to 8 years of age. Thus for the 19 to 30 year olds the use of current address is a less reliable way to allocate a fluoridation status. The 2009 Oral Health Survey presents unadjusted results as the numbers were too low to adjust for other variables. Age, sex, toothpaste use, socio-economic status and ethnicity may all be confounding factors.

- "the 2009 New Zealand Oral Health Survey, which showed the overall prevalence of moderate fluorosis to be very low"

A side-effect as frequent as 2 in 100 would be described as a 'common' side-effect in medical terms. It is misleading to imply that a prevalence of 2% moderate fluorosis is 'very low', especially when it is considered a significant side-effect making teeth prone to fracture and wear.

- "The risk for mild fluorosis that is associated with fluoride exposure is highest for formula-fed infants, and young children who are likely to swallow toothpaste. In some cases the fluoride intake by these groups can approach or exceed the currently recommended conservative upper intake level, but the rarity of cosmetically concerning dental fluorosis in New Zealand indicates that such excess intake is not generally a safety concern."

Mr Perrott accepts that bottle-fed infants can exceed the current specified upper limit of daily intake. This limit is not conservative, it is liberal. But the point is that it is not for Mr Perrot to complain about the advertisement on the basis that he doesn't want to accept that limit.

6. Fluoride levels in water as low as 0.5ppm (mg/L) have been associated with Stage I skeletal fluorosis. This presents as arthritis and is invariably misdiagnosed as arthritis. Accordingly, it cannot legitimately be dismissed as not being an adverse health effect, as fluoridation promoters do. This extract from an article shows this. Note that the studies all pre-date the introduction of other sources of ingested fluoride like toothpaste that add to today's total fluoride intake, so today the situation in fluoridated communities will present a higher risk.

(a) Bone accumulation of fluoride and skeletal fluorosis

The following selection of studies shows the accumulation of fluoride in bone (measured as bone ash) at a range of water-fluoride levels. Note that one study found fluoride levels equivalent to Stage I skeletal fluorosis with less than 0.5ppm fluoride in the drinking water:

Zipkin L, et al. (1958). Fluoride deposition in human bones after prolonged ingestion of fluoride in drinking water. US Public Health Rep. 73:732-740.

Place: Grand Rapids, Michigan, USA
Water F Content: 1 ppm (11 years)
No. of Samples: 5
F-Bone Concentrations (Mean): 2,250 ppm (iliac crest); 2,410 ppm (rib); 3,230 ppm (vertebra).
F-Bone Concentrations (Maximum): 4,022 ppm (vertebra)

Jackson D, Weidman SM. (1958). Fluorine in human bone related to age and the water supply of different regions. J. Path. Bact. 76: 451-459.

Place: Leeds, England
Water F Content: <0.5 ppm
No. of Samples: 42
F-Bone Concentration (Mean): 3,211 ppm (trabecular bone, rib)
F-Bone Concentration (Maximum): 6,660 ppm (trabecular bone, rib)

Place: The South Shields, England
Water F Content: 0.8 - 1.2 ppm
No. of Samples: 27
F-Bone Concentration (Mean): 4,141 ppm (trabecular bone, rib)
F-Bone Concentration (Maximum): 4,563 ppm (trabecular bone, rib)

Table 1

OSTEOSCLEROTIC PHASE	**ASH CONCENTRATION (mgF/kg)**
Normal Bone	500 -1,000
Preclinical Phase (asymptomatic; slight radiographically-detectable increases in bone mass)	3,500 -5,500
Clinical Phase I (sporadic pain; stiffness of joints; osteosclerosis of pelvis and vertebral column)	6,000 - 7,000
Clinical Phase II (chronic joint pain; arthritic symptoms; slight calcification of ligaments' increased osteosclerosis/cancellous bones; with/without osteoporosis of long bones)	7,500 - 9,000
Phase III: Crippling Fluorosis (limitation of joint movement; calcification of ligaments/neck, vert. column; crippling deformities/spine & major joints; muscle wasting; neruological defects/compression of spinal cord)	8,400

SOURCE: U.S.P.H.S. "Review of Fluoride, Benefits and Risks", 1991 - adapted from: Smith & Hodge, 1979; Franke et al., 1975; Schlegal, 1974

7. The complainant's second reason for claiming the advert was misleading reads: "It uses data for the prevalence of all forms of dental fluorosis whereas only the moderate and severe forms are of any concern. In fact, the milder forms are often assessed positively by teenagers and parents from a quality of life point of view (Perrott, 2015)"

   As pointed out above it is important to understand that any level of dental fluorosis is a symptom of chronic fluoride poisoning. This is more important than the effect in itself. However the complainant talks of the aesthetic aspect and quotes his own research.

   Mr Perrott falsely states that only moderate and severe dental fluorosis is of concern and that milder forms are viewed positively. Fluoridation promoters like the complainant commonly misrepresent dental fluorosis in this way. This 'spin' was developed in the early days of fluoridation promotion, and was promoted as such by Dr Frank Bull at the 1951 US State Dental Directors Conference, thus (at page 15 of the records):

I think the first one that is brought up is: "Isn't fluoride the thing that causes mottled enamel or fluorosis? Are you trying to sell us on the idea of putting that sort of thing in the water?"

What is your answer? You have got to have an answer, and it had better be good. You know, in all public health work it seems to be quite easy to take the negative. They have you on the defensive all the time, and you have to be ready with answers.

Now, we tell them this, that at one part per million dental fluorosis brings about the most beautiful looking teeth that anyone ever had. And we show them some pictures of such teeth. `'tie don't try to say that there is no such thing as fluorosis, even at 1.2 parts per million, which we are recommending. But you have got to have an answer. Maybe you have a better one.

   Contrary to Mr Perrott's questionable research, Australian research by Armfield and Spencer[2] (Australia's leading fluoridation promoters) has found that the psychological impact of even mild dental fluorosis was equal to that caused by the dental deformities of crooked teeth and overbite.

   As a real life example, Mark Atkin and Mary Byrne of FFNZ encountered, some years ago, an attractive teenage girl who spoke with her top lip constantly curled over her top teeth. It transpired that she had dental fluorosis on her incisors, and found it so embarrassing she kept it covered. She grew up in fluoridated Upper Hutt.

8. Regarding the use of WHO and UNICEF, Mr Perrot states:

On the one hand this text can raise fears with the reader about health effects of community water fluoridation. The authority of WHO and UNICEF and data showing an apparently high incidence of dental fluorosis in New Zealand are used to provide credibility to those fears.

On the other hand the individual statements are, themselves, worded to be formally correct - even though they are irrelevant to community water fluoridation in New Zealand. I believe this demonstrates a conscious intention to misinform so as to raise unwarranted fears in the reader

The statements are not irrelevant to water fluoridation. Endemic fluorosis relates to total daily intake of fluoride, not the concentration in the water. In places with elevated levels of naturally occurring fluoride in the water endemic fluorosis, both dental and skeletal, is seen at 2.5 ppm fluoride in the water. At 1 litre of water a day this is 2.5 mg fluoride per day without other fluoride sources. As at 2005 Dr Terry Cutress, special advisor on fluoridation to the Ministry of Health, publicly stated that fluoride intake in fluoridated NZ communities was at least 3 mg per day. In the USA it is estimated to be 3-6 mg per day. Some subsets of the community have particularly high water intake, exposing them to even higher daily doses of fluoride (diabetics, athletes, and outdoor labourers, for example) (NRC 2006).

So we see that the daily intake of fluoride in fluoridated NZ communities overlaps with those communities referred to by WHO and UNICEF.

9. The final sentence of the complainant's conclusion is: "The intent of this advert and its misinformation is clearly to raise fears among voters and encourage them to vote against a social health measure considered by health experts to be safe and effective."

It has already been stated that around the world many health experts do not consider water fluoridation to be safe and effective. In all likelihood the vast majority do not, given that the practice is limited to a handful of politically-linked countries. Certainly we have seen no evidence to support Mr Perrott's claim that the majority do support it. In New Zealand the recommended level of fluoride in drinking water for the prevention of tooth decay is 0.7-1.0 ppm. The Maximum Acceptable Value (MAV) is the upper safety level of 1.5ppm. This level was set based on a WHO guideline, but this was inappropriately extrapolated downward to infants and babies from studies on adults, based only on body weight ratios. Babies are not just small adults; their metabolism is quite different and much more susceptible to neurotoxins such as fluoride.

Naturally-occurring fluoride in water is such a problem that commencing in 1995 international workshops on fluorosis prevention and defluoridation of water have been organized in collaboration with WHO.

The International Society for Dental Fluorosis, working in conjunction with the WHO, concluded that at most the limit of fluoride in drinking water should be 0.5 ppm, and possibly lower:

Letter re: 3rd International Workshop on Fluorosis Prevention and Defluoridation of Drinking Water

In a letter written as an outcome of the November 2000 *"3rd International Workshop on Fluorosis Prevention and Defluoridation of Water*", the participants agreed that their shared

consensus should be presented to WHO as a basis to seriously reconsider certain parts of the *"WHO draft publication WSH/DRAFT/99.9 Fluoride in Drinking Water"* before its mass publication.

On Chapter 5 "Guidelines and Standards". The figure "1.5" mg/L being associated with the WHO guideline, of which its advocacy is "a level at which dental fluorosis should be minimal", has been puzzling us for over the past ten years. Why is it "1.5"? What scientific data is the figure based on? Theoretically as well as empirically, the figure seems to be far above the proven safety level. There is already ample evidence that the so-called recommendation level of 1.5 mg/L could cause dental fluorosis for an entire community in a number of developing countries. Additionally, if this chapter is read in conjunction with Chapter 3 "Human Health Risks", its meanings are immediately nullified.

There was "a high degree of consensus" among attendees at the 3rd International *Workshop on Fluorosis Prevention and Defluoridation of Water* that:

i) WHO's Guidelines and Standards of 1.5 parts per million fluoride for water supplies "is far above the proven safety level."

iv) All other factors being equal, the recommended figure of "1.5" should be reduced as far down as "0.5" which is the is the figure that many of us ethically found to be the maximum tolerable range.

10. Mr Perrott claims that fluoridation is the most researched health issue in history. This is incorrect, as shown by the following:

How much money is spent on cancer research

The state of California, for instance, has reportedly invested $10-12 million in direct cancer research annually, while the National Cancer Institute (NCI) within the United States has reportedly spend $4.8 to $5.2 billion per annum on cancer research and treatment development.

Using the NCI as an example for cancer research and how money is allocated, according to their fact sheet breast cancer is the primary investment target for most funds and received $572.6 million in 2008 alone. The runner up following this was prostate cancer, receiving $285.4 million, with colorectal cancer coming in third at $273.7 million. The cancer receiving the least allocated funds is actually uterine cancer, being granted only $17.1 million in 2008. While current figures may vary slightly this general allocation of funds has remained the same for some years and is expected to continue as such in the future.

What the York Review found in 2000, confirmed by the recent Cochrane Review (2015), is that fluoridation is the most unreliably researched health issue in history in terms of its claimed benefits, and that that unreliability hasn't changed in the last 15 years.

The York Review also noted that those who promote fluoridation never conduct research on possible adverse health effects, other than dental fluorosis, which they deny is an adverse health effect.

http://www.nanomedicinecenter.com/article/how-much-money-is-spent-on-cancer-research/

3. Conclusion

The passage under complaint is clearly part of an advocacy advertisement by Fluoride Free New Zealand that forms part of a campaign to inform readers about water fluoridation before a referendum. It has been prepared with a due sense of social responsibility and contains accurate information used in an appropriate way that is presented in a reader friendly style.

Fluoride Free New Zealand believes the complaint is unfounded and hopes the information provided here helps the Complaints Board in its deliberations.

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