

**IN THE HIGH COURT OF NEW ZEALAND
NEW PLYMOUTH REGISTRY**

CIV 2013-443-107

UNDER the Judicature Amendment Act 1972 and the
Declaratory Judgments Act 1908

IN THE MATTER of an application for judicial review and an
application for a declaration

BETWEEN **NEW HEALTH NEW ZEALAND INC**

Plaintiff

AND **SOUTH TARANAKI DISTRICT COUNCIL**

Defendant

**PLAINTIFF'S SUBMISSIONS FOR HEARING ON 25 NOVEMBER
2013 BEFORE RODNEY HANSEN J**

Dated 14 November 2013

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INTRODUCTION

Summary

1. Following a consultative process under the Local Government Act 2002 (LGA 2002) the defendant decided on 10 December 2012 to add fluoride to the Patea and Waverley water supplies. The vote was 10 – 3 in favour of adding fluoride. Of the 508 submissions received, 345 (or 68%) did not support the introduction of fluoride.
2. The plaintiff says that this decision is unlawful for any or all of the following reasons:
 - 2.1. The defendant does not have a power to add fluoride to its water supply for therapeutic purposes;
 - 2.2. Adding fluoride for therapeutic purposes constitutes a breach of the right to refuse to undergo medical treatment contained in s 11 of the New Zealand Bill of Rights Act 1990 (NZBORA) and that breach:
 - 2.2.1. Has not been prescribed by law;
 - 2.2.2. Is an unjustified and disproportionate limitation on the right contained in s 11 of the NZBORA.
 - 2.3. When deciding to add fluoride the defendant failed to take into account a number of mandatory relevant considerations.
3. The plaintiff seeks: declarations that the defendant's decision to add fluoride to the Patea and Waverley water supplies is ultra vires and in breach of the NZBORA; and an order quashing the decision.
4. The plaintiff says that fluoridation requires the express authority of Parliament and that such permission is lacking.

Background

5. Water fluoridation is a controversial issue.
6. It is promoted by the Ministry of Health and the District Health Boards (DHBs) as an important public health measure to prevent dental decay.
7. However, a number of people object to it. They question whether there is sufficient credible scientific evidence to support the claims of its safety and efficacy. They ask why it needs to be swallowed when its mechanism of action is topical (ie works on the tooth surface). They object on ethical grounds on the basis that it amounts to mass medication. They say effective alternative measures are available that do not infringe individuals' rights.
8. NZ is one of a minority of countries that fluoridate. A list of countries that fluoridate is contained in Appendix A.
9. Countries that do not fluoridate include Germany, Sweden, Norway, Denmark, Finland, Italy, France, the Netherlands, and Belgium. In Australia, fluoridation is mandatory in Tasmania, ACT, New South Wales, Victoria and Western Australia, but not in Queensland, South Australia and Northern Territory. Israel has very recently decided not to continue with mandatory fluoridation because of ethical concerns.
10. In New Zealand a number of local authorities add fluoride to their water supplies. Water fluoridation commenced in New Zealand in Hastings in 1954 and currently approximately 48% of the New Zealand population live in communities with water fluoridation programmes.¹ A list of fluoridating (and non-fluoridating) Councils is attached as Appendix B.
11. Fluoride (in the form of calcium fluoride) occurs naturally in the water supply in New Zealand but generally at low levels (below 0.3 ppm). Water fluoridation is the process of artificially increasing the level of

¹ NFIS website

fluoride in the water supply to between 0.7 ppm and 1.0 ppm by the addition of a fluoride-releasing compound, either sodium silicofluoride (SSF) or hydrofluorosilicic acid (HFA). Regular monitoring is undertaken to ensure the levels stay within these parameters.²

12. The claimed purpose of water fluoridation is to improve public health by reducing the incidence of tooth decay. According to the Ministry of Health, fluoridation at between 0.7 and 1 ppm provides protection against tooth decay but at the same time minimises the incidence of dental fluorosis, a side-effect of excessive fluoride in developing teeth.
13. Tooth decay, or dental caries is a multifactorial disease in which bacteria (especially *streptococcus mutans* and related species) metabolize dietary sugars and produce lactic acid. A local acidic environment promotes caries by dissolving tooth enamel. Individuals with significant numbers of oral *mutans* bacteria are at increased risk of caries, especially with repeated consumption of sugary food and beverages, and in the absence of good dental hygiene.³
14. The action of fluoride ions, in sufficient concentration is thought to promote the mineralisation of tooth enamel and thereby protect against dental caries.⁴ It operates topically on tooth surfaces. Its purpose and effect is therapeutic.
15. The fluoride used in water fluoridation is either SSF or HFA.⁵ Both compounds are by-products of the fertilizer industry. They contain contaminants including the heavy metals mercury, arsenic and lead.⁶

² Atkin affidavit

³ Menkes affidavit paragraph [12]

⁴ Menkes affidavit paragraph [11], Litras affidavit

⁵ Menkes affidavit paragraph [10]

⁶ Atkin affidavit

16. Water fluoridation has been practised for more than 65 years. Three premises underpinned its practice: that it worked systemically; that it was effective in reducing dental caries; and that it was safe. The first premise is now widely accepted to be wrong. Any benefit conferred by fluoride is now known to be topical and no protective benefit is achieved by swallowing fluoride. In respect of the second and third premises, the first systematic review of water fluoridation by the NHS Centre for Reviews and Dissemination at the University of York in 2000 found a surprising lack of high quality evidence to support fluoride's claim to reduce tooth decay. The York report, however, found that dental fluorosis was a prevalent effect and that it was more than cosmetic. While the York reviewers did not find a link between water fluoridation and other harms such as bone fractures and cancer to be established, that was because not enough was known due to the poor quality evidence. A 2006 report by the NRC found that fluoridation at 4 ppm (only 4 times higher than the current maximum fluoridation concentration) did not protect human health and posed real risks in terms of skeletal fluorosis and risk of bone fractures. Other possible risks such as neurotoxicity and endocrine effects were also identified.⁷

17. Where water fluoridation is used overseas, the plaintiff understands that it is explicitly authorised by statute, as in the following examples:
 - 17.1. UK – Water Act 2003 – section 87 provides that if requested to do so by a relevant authority a water undertaker shall enter into arrangement with the relevant authority to increase the fluoride content of water. However, a water undertaker is not required to enter into any such arrangement until it has been supplied with an indemnity. Previously the Water (Fluoridation Act) 1985 enabled fluoridation.

⁷ Thiessen affidavit

- 17.2. Ireland – the Health (Fluoridation of Water Supplies) Act 1960 mandates fluoridation. There is currently a bill before the Irish Parliament (introduced by Sinn Fein TD Brian Stanley) proposing to repeal this Act and make the adding of fluoride to the public water supply an offence.
- 17.3. Western Australia – the Fluoridation of Public Water Supplies Act 1966 mandates fluoridation in that state.
- 17.4. USA – individual states that fluoridate have their own specific legislation which expressly authorises fluoridation. A list of the legislation can be found on the fluoridation website: <http://fluidlaw.org/>.

Issues

18. The first issue is whether the defendant has the legal power or capacity to add fluoride to its water supplies for therapeutic purposes.
19. The second issue is whether adding fluoride constitutes a breach of the right to refuse to undergo medical treatment contained in s 11 of the NZBORA, and if s, whether it is:
 - 19.1. prescribed by law; and
 - 19.2. a proportionate limit on s 11 of the NZBORA.
20. The third issue is whether the defendant when making its decision failed to take into account a number of mandatory relevant considerations.
21. The structure of these submissions reflects these three issues.

PART 1: WATER FLUORIDATION IS ULTRA VIRES THE DEFENDANT'S POWERS

Introduction

22. It is common ground that there is no power in any enactment that explicitly authorises a local authority to add fluoride to the public water supply. This situation can be contrasted with the position internationally where it is understood that fluoride, even where its addition to the water supply is discretionary, is explicitly authorised by statute or ordinance.
23. It is the plaintiff's case that there is no general or implied power that authorises water fluoridation.
24. Further it is the plaintiff's case that if such a general or implied power to add a compound to the water for therapeutic purposes exists, such a power would not be limited to fluoride but would necessarily extend to other compounds such as lithium, contraceptives, etc.
25. Before analysing the relevant provisions of the LGA 2002 and Health Act 1956, it is necessary to set out the legal situation prior to the LGA 2002.
26. In *Attorney-General v Lower Hutt Corporation* [1965] 1 NZLR 116 two ratepayers sought an injunction restraining the defendant corporation from adding fluoride to the domestic water. The powers of the corporation in relation to the supply of water were contained in s 240 of the Municipal Corporations Act 1954. This section was contained in Part 17 of the Act entitled "Waterworks" and provided:
 - (1) The council may construct waterworks for the supply of pure water for the use of the inhabitants of the district, and may keep the same in good repair, and may from time to time do all things necessary thereto, and in particular may...."
27. In the High Court, McGregor J held that fluoridated water was still pure water but that it would be straining the language of the Act to hold that by implication the legislature had empowered the corporation to add

fluoride to its water supply. However, he found that fluoridation was within the powers of the local authority under s 288 of the Municipal Corporation Act as being something necessary from time to time for the preservation of the public health and convenience.⁸

28. The Court of Appeal affirmed the judgment of McGregor J but held by a majority that s 240 empowered the local authority to fluoridate the water. North P in the context of the word “pure” said:

I see no reason why a local body, so long as it acts in good faith, should not be entitled to take any reasonable steps it may think proper to improve the quality of its available water supply as water. I agree that it must not attempt to introduce a substance which is foreign to the nature of water for medicinal or other purposes, for this would render the water “impure”.

29. ⁹Later he said “In taking this step the respondent was doing no more than rectifying a deficiency in the water which was available to it and was acting reasonably on expert advice which had satisfied it that this step was desirable in the public interest.”¹⁰
30. In dismissing the appeal the Privy Council agreed with the majority of the Court of Appeal that fluoridation was empowered by section 240. Their reasoning was as follows:

Their Lordships are of opinion that an Act empowering local authorities to supply “pure water” should receive a “fair, large and liberal” construction as provided by section 5, paragraph (j) of the Acts Interpretation Act 1924. They are of opinion that as a matter of common sense there is but little difference for the relative purpose between the adjectives “pure” and “wholesome”. Their Lordships think it is an unnecessarily restrictive construction to hold (as did McGregor J) that because the supply of water was already pure that there is no power to add to its constituents merely to provide medicated pure water, ie water to which an addition is made solely for the

⁸ *Attorney-General ex relatione Lewis and anor v Lower Hutt City* [1964] NZLR 438

⁹ At 456

¹⁰ *Ibid*

health of the consumers. The water of Lower Hutt is no doubt pure in its natural state, but it is very deficient in one of the natural constituents normally to be found in water in most parts of the world. The addition of fluoride adds no impurity and the water remains not only water but pure water, and becomes a greatly improved and still natural water containing no foreign elements. Their Lordships can feel no doubt that power to do this is necessarily implicit in the terms of section 240 and that the respondent corporation is thereby empowered to make this addition and they agree with the observations of North P and McCarthy J already quoted. They think too, that it is material to note that while their Lordships do not rely on section 288, nevertheless that section makes it clear that the respondent corporation is the health authority for the area and section 240 must be construed in the light of that fact; that is an additional reason for giving a liberal construction to the section.

Their Lordships think it right to add that had the natural water of Lower Hutt been found to be impure it would, of course, have been the duty of the respondent corporation to add such substances as were necessary to remove or neutralise those impurities, but that water having been made pure they can see no reason why fluoride should not be added to the water so purified in order to improve the dental health of the inhabitants.¹¹

31. Section 379 of the LGA 1974 was very similar to s 240 and it can be reasonably assumed that fluoridation continued to be impliedly authorised under the LGA 1974 (at least until 1990 when the NZBORA was enacted). However, the provisions of the LGA 2002 relating to water supply are in materially different terms.
32. The plaintiff says the Privy Council decision in *Lewis* can be distinguished in three ways:
 - 32.1. It predated the NZBORA;
 - 32.2. The state of scientific evidence would no longer support their Lordship's factual conclusion that the addition of fluoride adds no impurity (arsenic, mercury, lead);

¹¹[1965] NZLR 116 at 124-125

32.3. The provisions of the LGA are materially different.

Local Government Act 2002 – material provisions

33. The status and powers of a local authority are stated in s 12. A local authority is a body corporate with perpetual succession. For the purposes of performing its role it has been granted a general power of competence. However, these powers are subject to the LGA 2002, any other enactment and the general law. Section 12 provides relevantly:

12 Status and powers

(1) A local authority is a body corporate with perpetual succession.

(2) For the purposes of performing its role, a local authority has—

(a) full capacity to carry on or undertake any activity or business, do any act, or enter into any transaction; and

(b) for the purposes of paragraph (a), full rights, powers, and privileges.

(3) Subsection (2) is subject to this Act, any other enactment, and the general law.

(4) A territorial authority must exercise its powers under this section wholly or principally for the benefit of its district.

34. The “full capacity” conferred on a local authority by s 12(2)(a) is to be exercised “for the purpose of performing its role”. The role of a local authority is described in s 11:

11 Role of local authority

The role of a local authority is to—

(a) give effect, in relation to its district or region, to the purpose of local government stated in section 10; and

(b) perform the duties, and exercise the rights, conferred on it by or under this Act and any other enactment.

35. The purpose of local government referred to in s 11(a) is stated in s 10:

10 Purpose of local government

(1) The purpose of local government is—

(a) to enable democratic local decision-making and action by, and on behalf of, communities; and

[(b) to meet the current and future needs of communities for good-quality local infrastructure, local public services, and performance of regulatory functions in a way that is most cost-effective for households and businesses.]

[(2) In this Act, **good-quality**, in relation to local infrastructure, local public services, and performance of regulatory functions, means infrastructure, services, and performance that are—

(a) efficient; and

(b) effective; and

(c) appropriate to present and anticipated future circumstances.]

36. By section 13, sections 10 and 12(2) apply to a local authority performing a function under another enactment to the extent not inconsistent with the other enactment.

37. In summary:

37.1. Subject to the LGA 2002, any other enactment and the general law, a local authority has full capacity to carry on or undertake any activity or business, do any act, or enter into any transaction for the purposes of:

37.1.1. Meeting the current and future needs of communities for good-quality local infrastructure, local public services, and performance of regulatory functions in a way that is most cost-effective:

37.1.2. Performing the duties, and exercising the rights conferred on it by or under this Act or any other enactment.

Summary of the argument

38. The plaintiff submits that water fluoridation is ultra vires the defendant's powers because:
- 38.1. Adding a compound to the water supply for therapeutic purposes is akin to a regulatory function and properly requires express authorisation.
- 38.2. The power of "full capacity" is limited to what an individual or corporate can lawfully do and an individual or corporate cannot lawfully add a compound to the water supply for therapeutic purposes.

Scope of power of "full capacity" is limited to what an individual or corporation can do

39. The power of "full capacity" or general competence was implemented to ameliorate the harshness of the ultra vires doctrine. The general approach under the previous LGA 1974 was that local authorities could only do what the law said expressly or impliedly they can do. The power of general competence turns this assumption upside down and provides that local authorities are free to do acts consistent with their role and which do not break other laws.
40. In effect it gives local authorities legal capacity to do anything that an individual can do that is not specifically prohibited.
41. This is confirmed by the Select Committee Report for the Local Government Bill:¹²

The intended effect of the general power contained in [section 12] is ... that in undertaking these activities, local authorities should, as the starting point, have the same rights and obligations under general law *as individuals and corporations*.

¹² Local Government Bill 2002 (191-2) (select committee report) at 3 (emphasis added).

42. That local authorities' powers are measured against what individuals and corporations may do is an interpretation adopted also by Brookers Online:¹³

By this section, local authorities are authorised to do anything that *any person or body corporate may do*, subject to any other law and an obligation to act wholly or principally for the benefit of its district (in the case of territorial authorities) or all or a significant part of its region (in the case of a regional council).

43. Put another way it authorises local authorities to do anything that is lawful. However, its significance should not be overstated. The authors of the Local Government chapter in the *Laws of NZ* say this:

The significance of the power of general competence should, however, not be overstated. The power of general competence is subject to the provisions of the 2002 Act, any other enactment, and the general law. This has a number of consequences. First the power of general competence is limited to the corporate powers of local authorities. It does not extend the regulatory or coercive powers of local authorities, not possessed by ordinary citizens. The Rule of Law continues to require that state powers of such a nature be expressly conferred by legislation or the common law. Secondly, there remain some specific restrictions on the general (corporate) powers of local authorities in the 2002 Act. For example, local authorities are prohibited from borrowing in foreign currency or divesting of water services (except in certain limited circumstances): paragraph [33].

44. If it is accepted that the power of general competence gives councils the rights and obligations of individuals and corporation, the question arises: What can individuals or corporations do? Examples might include:

- 44.1. An individual does not have the power to regulate, tax or search other people's property and so a council cannot use the power of general competence to do these things;
- 44.2. An individual could run a shop, or invest money, so a council could use a power of general competence to do the same provided no other law is breached.

¹³ Brookers Online, Local Government Act Commentary, LG12.01 (emphasis added).

45. On this approach, the question is: can individuals or corporations lawfully supply water to members of the community which is intended to have therapeutic purposes?
46. The answer must be no.
47. The plaintiff's first argument is that water fluoridation is analogous to an exercise of regulatory power which cannot be exercised by an individual.
48. Fluoridation is a population-based measure and involves adding a chemical compound to the water supply for a therapeutic purpose, which is required to be ingested by all residents. The addition of the chemical is required to be regularly monitored and checked that it is maintained within specified limits.
49. It is an inherently monopolistic activity that is also characterised as coercive, since residents are practicably unable to opt out of the scheme and are effectively required to consume fluoridated water. Even with special measures such as the installation and ongoing maintenance of rainwater tanks, fluoridated water is nonetheless typically found in food and beverages purchased in the supermarket or in restaurants. Consequently completely avoiding fluoridated water is unrealistic.
50. A council's regulatory, enforcement and coercive powers are contained in Part 8 of the LGA. Part 8 is divided into the following subparts:
 - 50.1. Power to make bylaws;
 - 50.2. Enforcement powers;
 - 50.3. Powers in relation to private land;
 - 50.4. Powers in relation to water services and trade wastes;
 - 50.5. Development contributions;
 - 50.6. Removal orders.

51. From a perusal of these provisions it is apparent that none expressly or implicitly authorises water fluoridation.
52. Consequently if these powers prescribe the full extent of the defendant's regulatory and coercive powers, water fluoridation is excluded.
53. The second argument is that if a private person were able to supply water to the public, that would involve the provision of a food. Under s 94 of the Medicines Act 1981 a food which claims to be effective for a therapeutic purpose is defined as a "related product".
54. A "therapeutic purpose" is defined in s 4 as meaning, among other things "treating or preventing disease".
55. Drinking water containing fluoride is claimed (either implicitly or explicitly) to be effective in lowering rates of tooth decay and consequently meets the definition of "related product".
56. A "new related product" means a related product that is not identical with any related product that could have been sold lawfully immediately before the commencement of the Part of this Act for the same therapeutic purpose as that claimed in respect of the new product.
57. Under s 96 of the Medicines Act, a new related product requires to be consented to by the Minister as a "new medicine" under s 20.
58. "New medicine" is defined under s3(3) as one that is:
 - "(a) Any medicine that has not been generally available in New Zealand-
 - (i) Before the commencement of this Act..."
 - "(b) "Any medicine that, immediately before the commencement of Part 2 of this Act, was a therapeutic drug to which section 12 of the Food and Drug Act 1969 applied, and in respect of the sale or distribution of which

the Minister had not given his consent under that section.”...

59. While fluoridated water was available in some cities in New Zealand prior to the commencement of the Medicines Act 1981, fluoridated water through a reticulated supply, could not to the best of the plaintiff’s knowledge have been sold lawfully by a third party to a group of citizens.
60. While the voluntary addition of fluoride to packaged water has recently been approved through an amendment to FSANZ Standard 2.6.2¹⁴, this is not approval for the sale of fluoridated water through a reticulated system by a private provider.
61. The conclusion is that fluoridated water through water fluoridation could not be sold by a third party prior to the Medicines Act.

None of the defendant’s other powers authorise water fluoridation

62. One of the roles of a local authority is to provide good quality local infrastructure. This includes provision of roads and other transport, water, wastewater, and stormwater collection and management.¹⁵
63. Water services are provided for in Part 7 of the LGA 2002. This part sets out the obligations and restrictions on local authorities and other persons in relation to the delivery of water services: s 123(b).
64. Water services are defined in s 124 as water supply and wastewater services.
65. Relevantly, water supply “means the provision of drinking water to communities by network reticulation to the point of supply of each

¹⁴ This standard permits the addition of fluoride to non-carbonated packaged water to between 0.6 and 1.0 mg/L and requires mandatory labelling for food identification purposes to indicate that fluoride has been added.

¹⁵ Refer definition of “network infrastructure” in s 197(2) of the LGA 2002

dwellinghouse and commercial premise to which drinking water is supplied”.

66. Section 130 obliges a local government organisation (which includes a local authority) to maintain water services under subpart 2 of Part 7. It provides in full:

130 Obligation to maintain water services

(1) This subpart applies to a local government organisation that provides water services to communities within its district or region—

- (a) at the commencement of this section;
- (b) at any time after the commencement of this section.

(2) A local government organisation to which this section applies must continue to provide water services and maintain its capacity to meet its obligations under this subpart.

(3) In order to fulfil the obligations under this subpart, a local government organisation must—

- (a) not use assets of its water services as security for any purpose;
- (b) not divest its ownership or other interest in a water service except to another local government organisation;
- (c) not lose control of, sell, or otherwise dispose of, the significant infrastructure necessary for providing water services in its region or district, unless, in doing so, it retains its capacity to meet its obligations;
- (d) not, in relation to a property to which it supplies water,—
 - (i) restrict the water supply unless section 193 applies; or
 - (ii) stop the water supply unless [section 69S of the Health Act 1956] applies.

(4) This section—

- (a) does not prevent a local government organisation from transferring a water service to another local government organisation; and
- (b) does not override sections 131 to 137.

67. The scope and extent of this provision is that it requires councils who are providing water services, eg drinking water, at the commencement of the Act, to continue to do and those who start providing these services after the commencement of the Act to do so in accordance with the Act.
68. The remaining sections in subpart 2 have no direct relevance and relate to the closure or transfer of small water services, contracting out of water services and joint local government arrangements and joint arrangements with other entities.
69. There is nothing in these sections to suggest that the provision of drinking water includes a power to add to it a compound for a therapeutic purpose.

Part 2A of the Health Act

70. Further statutory provisions relating to drinking water are contained in Part 2A of the Health Act. This Part was introduced by the enactment of the Health (Drinking Water) Amendment Act 2007.
71. In general terms Part 2A is concerned with ensuring that water is safe to drink. It was enacted in 2007 and replaced a previously voluntary regime with a mandatory one. It imposes legal duties and requires water suppliers to comply with standards which had previously been voluntary. There was much talk in Hansard about the Bill promoting the right to safe, healthy and clean drinking water.
72. The provisions are designed to require a supplier to ensure it provides drinking water which complies with specified standards. However none of its provisions could be said to expressly or impliedly authorise the addition of a chemical compound to the water supply for a therapeutic purpose, even if the addition of such a compound would not breach the water standards.
73. Part 2A does the following:

- 73.1. Requires drinking-water suppliers to take all practicable steps to ensure they provide an adequate supply of drinking water that complies with the New Zealand Drinking-Water Standards;
 - 73.2. Requires drinking-water suppliers to introduce and implement public health risk management plans;
 - 73.3. Ensures drinking-water suppliers take reasonable steps to contribute to the protection from contamination of sources from which they obtain drinking water;
 - 73.4. Requires officers appointed by the Director-General of Health to act as assessors to determine compliance with the Act and to have their competence internationally accredited;
 - 73.5. Requires record keeping and publication of information about compliance;
 - 73.6. Provides for the appropriate management of drinking-water emergencies;
 - 73.7. Improves enforcement by providing an escalating series of penalties for non-compliance.
74. Section 69A sets out the purpose of Part 2A. This is set out in full.

[69A Purpose

(1) The purpose of this Part is to protect the health and safety of people and communities by promoting adequate supplies of safe and wholesome drinking water from all drinking-water supplies.

(2) Accordingly, this Part—

(a) provides for the Ministry to maintain a register of all drinking-water suppliers; and

(b) provides for the Minister to issue or adopt drinking-water standards; and

(c) imposes a range of duties on drinking-water suppliers, including duties to—

(i) monitor drinking water; and

(ii) take all practicable steps to comply with the drinking-water standards; and

- (iii) implement risk management plans; and
- (d) imposes a range of duties on water carriers; and
- (e) provides for the appointment of drinking-water assessors to assess compliance with this Part, and sets out their functions and powers; and
- (f) provides for the Director-General to recognise laboratories for the purposes of analysing drinking water; and
- (g) sets out certain emergency powers that are available during public health emergencies relating to drinking water; and
- (h) creates various offences; and
- (i) provides for the dissemination of information about drinking water.]

75. For the purposes of this case the provisions relating to subsection 2(a) to (c) are relevant.
76. Section 69G defines certain key words and phrases. Relevant definitions include:

contamination means,—

(a) in relation to raw water that does not normally require treatment to be suitable for use as drinking water, the introduction of a substance or organism into that water or a source of that water, which—

(i) makes that water unpalatable or unsuitable for human consumption; or

(ii) requires that water to be treated to make it palatable or suitable for human consumption; and

(b) in relation to raw water that normally requires treatment to become suitable for use as drinking water, the introduction of a substance or organism into that water or a source of that water, which makes that water unpalatable or unsuitable for human consumption, without intensified, or enhanced, or alternative, drinking-water treatment to make it palatable or suitable for human consumption

determinand means—

(a) a substance or organism in water in circumstances where the extent to which any water contains that substance or organism may be determined or estimated reasonably accurately; or

(b) a characteristic or possible characteristic of water in circumstances where the extent to which any water exhibits that characteristic may be determined or estimated reasonably accurately

drinking water—

(a) means—

(i) water that is potable; or

(ii) in the case of water available for supply, water that is—

(A) held out by its supplier as being suitable for drinking and other forms of domestic and food preparation use, whether in New Zealand or overseas; or

(B) supplied to people known by its supplier to have no reasonably available and affordable source of water suitable for drinking and other forms of domestic and food preparation use other than the supplier and to be likely to use some of it for drinking and other forms of domestic and food preparation use; but

(b) while standards applying to bottled water are in force under the Food Act 1981, does not include—

(i) any bottled water that is covered by those standards; or

(ii) any bottled water that is exported; and

(c) to avoid doubt, does not include any water used by animals or for irrigation purposes that does not enter a dwellinghouse or other building in which water is drunk by people or in which other domestic and food preparation use occurs

drinking-water standards means—

(a) standards issued or adopted under section 69O; or

(b) if section 14(5) of the Health (Drinking Water) Amendment Act 2007 applies, the *Drinking-Water Standards for New Zealand 2000*

drinking-water supplier means a person who supplies drinking water to people in New Zealand or overseas from a drinking-water supply, and—

(a) includes that person's employees, agents, lessees, and subcontractors while carrying out duties in respect of that drinking-water supply; and

(b) includes (without limitation)—

- (i) a networked supplier; and
 - (ii) a water carrier; and
 - (iii) every person who operates a designated port or airport; and
 - (iv) a bulk supplier; and
 - (v) any person or class of person declared by regulations made under section 69ZZY to be a drinking-water supplier for the purposes of this Part (a **prescribed supplier**); but
- (c) does not include—
- (i) a temporary drinking-water supplier; or
 - (ii) a self-supplier; or
 - (iii) any person or class of person declared by regulations made under section 69ZZY not to be a drinking-water supplier for the purposes of this Part

drinking-water supply—

- (a) means a publicly or privately owned system for supplying drinking water to a person or group of persons, on a temporary or permanent basis, up to but not including the point of supply; and
- (b) includes, without limitation, a networked reticulation system, a well, a reservoir, or a tanker

maximum acceptable value, in relation to a determinand, means a value stated in the drinking-water standards as the maximum extent to which drinking water may contain or exhibit that determinand without being likely to present a significant risk to an average person consuming that water over a lifetime

pollution means the introduction of a substance or organism into drinking water or a drinking-water supply system that causes or may cause that water, or as the case requires, water in that system, to exceed the maximum acceptable values for determinands specified in the drinking-water standards

potable, in relation to drinking water, means water that does not contain or exhibit any determinands to any extent that exceeds the maximum acceptable values (other than aesthetic guideline values) specified in the drinking-water standards

wholesome, in relation to drinking water, means—

- (a) being potable; and

- (b) not containing or exhibiting any determinand in an amount that exceeds the value stated in the guideline values for aesthetic determinands in the drinking-water standards as being the maximum extent to which drinking water may contain or exhibit the determinand without being likely to have an adverse aesthetic effect on the drinking water
77. Sections 69J to 69N relate to the registration of drinking-water suppliers and include an obligation on the Director General to maintain a register of suppliers.
78. Section 69O provides for the Minister to issue drinking-water standards. Subsection 2 specifies what the standards may provide for.
- (2) Standards issued or adopted under this section may, without limitation, specify or provide for all or any of the following:
- (a) requirements for drinking water safety (including requirements relating to the transportation of raw water or drinking water):
- (b) requirements for drinking water composition, including—
- (i) maximum amounts of substances or organisms or contaminants or residues that may be present in drinking water; and
- (ii) maximum amounts of substances that may be present in drinking water; and
- (iii) maximum acceptable values for chemical, radiological, microbiological, and other characteristics of drinking water:
- (c) criteria and procedures for demonstrating compliance with the standards, including the methods or tests by which the levels of determinands present in raw water or drinking water must be calculated or ascertained:
- (d) monitoring analytical and calibration requirements, including minimum sampling and testing frequencies, and procedural requirements relating to sampling and analysis:
- (e) performance standards that drinking-water suppliers, drinking-water assessors, and recognised laboratories are required to meet when sampling and testing raw water or drinking water:
- (f) remedial actions to be taken if non-compliance with different aspects of the standards is detected:

(g) records that must be kept by drinking-water suppliers:

(h) any other matters relating to raw water or drinking water that may affect public health.

79. Under subsection 3(c) it is expressly stated that standards adopted
- must not include any requirement that fluoride be added to drinking water.
80. This provision indicates that Parliament is expressly not authorising water fluoridation through the vehicle of the drinking water standards.
81. It is also submitted that if Parliament had intended to authorise fluoridation under this Part generally it would have expressly said so.
82. The Minister must consult before issuing or amending standards and must notify the standards in the Gazette: ss 69P and 69Q. Section 69R provides for the commencement of drinking water standards.
83. The current water standards are the Drinking-Water Standards 2005 (revised 2008) and will be discussed shortly.
84. The duties of drinking water suppliers are set out in ss 69S to 69ZJ. These duties include:
- 84.1. Taking all practicable steps to ensure that an adequate supply of drinking water is provided to each point of supply: s 69S;
- 84.2. Taking reasonable steps to contribute to the protection from contamination of the source of drinking water: s 69U;
- 84.3. Taking all practicable steps to comply with drinking-water standards: s 69V;
- 84.4. Taking reasonable steps to supply wholesome drinking water: s 69W;
- 84.5. Testing new sources of drinking water before supplying drinking water from those sources: s 69X;

- 84.6. Monitoring drinking water for compliance with the drinking water standards and to detect and assess public health risks generally: s 69Y;
 - 84.7. Preparing and implementing public health risk management plans in relation to the water supply: s 69Z;
 - 84.8. Investigating complaints about the quality and wholesomeness of the drinking water and to take reasonably practicable remedial action to improve that wholesomeness: s 69ZE;
 - 84.9. take remedial action if a breach of the drinking water standards is detected: s 69ZF;
85. The Drinking-Water Standards for New Zealand 2005 (Revised 2008) came into force on 31 December 2008. They apply to drinking water only and do not apply to water used for industrial or agricultural purposes. The Foreword from the then Director-General Stephen McKernan says:
- The availability of safe drinking-water for all New Zealanders, irrespective of where they live, is a fundamental requirement for public health. The revised Drinking-water Standards are a significant achievement in New Zealand's endeavours to maintain and improve the quality of drinking-water.
86. The three main themes of the standards are:
- 86.1. specifying the water quality standards namely the maximum amounts of substances or organisms or contaminants or residues that may be present in drinking water;
 - 86.2. specifying criteria for demonstrating compliance with the Standards and reporting requirements;
 - 86.3. specifying remedial action to be taken in the event of non-compliance.

87. For present purposes the key aspect is the first theme, namely the water quality standards which specify the maximum concentrations of microbial, chemical and radiological determinands in drinking water that are acceptable for public health. These are the maximum acceptable values (MAVs) of the determinands.
88. The MAVs are contained in Tables 2.1 to 2.4.

Discussion

89. The defendant is a drinking water supplier for the purposes of Part 2A. It is submitted that Part 2A is intended exclusively to ensure that wholesome water is supplied. Wholesome is defined as potable and not exceeding any MAV.
90. The question is whether a drinking water supplier is, as part of complying with the drinking water standards, empowered to add a determinand or any other substance to the water (for which no MAV has been set) for a purpose other than to provide potable water.
91. It is submitted that it is not.
92. The standards themselves state that the objective is the public health safety of the water is paramount and the objective is to deal with contamination. They say:

The public health safety of the water is best protected if multiple barriers to contamination are in place. These barriers include:

- minimising the extent of contaminants in the source water that must be dealt with by the treatment process
- removing undesirable soluble and particulate matter
- disinfecting to inactivate any pathogenic organisms present
- protecting the treated water from subsequent contamination.

93. The standards define the maximum concentrations of chemicals of health significance (MAVs). Fluoride is listed in Table 2.2 as an inorganic

determinand of health significance along with arsenic, chlorine, cyanide and mercury. The MAV for fluoride is 1.5 mg/L.

94. It is submitted that Table 2.2 determinands are only to be of concern if they exceed the MAV.
95. However, to the extent these determinands are naturally occurring in the water and within the MAV no attention is required.
96. Consequently where any particular determinand is not naturally exceeded the MAVs do not confer on a water supplier a general discretion to artificially increase the substance to the maximum other than for the purpose of preventing contamination.
97. This is consistent with Part 2A. Three key duties are to take all practicable steps to:
 - 97.1. protect the water from contamination;
 - 97.2. comply with drinking water standards;
 - 97.3. supply wholesome drinking water.
98. These duties are aimed at ensuring MAVs are not exceeded. However it is submitted that there is no power to deliberately increase the level of a determinand to within its MAV other than for the purposes of preventing contamination. There is nothing in the text or purpose of Part 2A to justify substances being added for a therapeutic purpose provided the MAVs are not exceeded.
99. Further if a supplier could otherwise add substances such as fluoride for a therapeutic purpose provided it maintained the level of fluoride within the MAV then it could add any other substance to the water for such a purpose. This would include lithium for which no MAV is set.

100. If Part 2A was intended to have this effect, it is submitted very clear authorisation would be required.
101. In short, any power to add a compound for a therapeutic purpose is not consistent with the overall theme and purpose of the standards and Part 2A. Further having explicitly precluded mandatory fluoridation being introduced through the standards, if Parliament had intended to authorise drinking water suppliers to add fluoride then having mentioned fluoride expressly once, they would have done so again.

Section 23 of the Health Act

102. It is understood that the defendant's view is that adding fluoride is consistent with its duties under section 23 of the Health Act.
103. Section 23 provides relevantly:

23 General powers and duties of local authorities in respect of public health

Subject to the provisions of this Act, it shall be the duty of every local authority to improve, promote, and protect public health within its district, and for that purpose every local authority is hereby empowered and directed—

(b) to cause inspection of its district to be regularly made for the purpose of ascertaining of any *nuisances*, or any *conditions likely to be injurious to health* or offensive, exist in the district;

(c) if satisfied that any *nuisance*, or any *condition likely to be injurious to health* or offensive, exists in the district, to cause all proper steps to be taken to secure the abatement of the nuisance or the removal of the condition;

...

(e) to make bylaws under and for the purposes of this Act or any other Act authorizing the making of bylaws for the protections of public health;

(f) to furnish from time to time to the Medical Officer of Health such reports as to diseases, drinking water and

sanitary conditions within its districts as the Director-General or the Medical Officer of Health may require.

104. Contrary to Professor McMillan's evidence the defendant does not have a general duty to improve, protect and promote public health. Rather the duty to improve, promote and protect public health is constrained by the specific subparagraphs. None of these provisions can be interpreted to authorise fluoridation.
105. In *Lewis McGregor J* found s 23 not to be directly relevant. In the Court of Appeal North J doubted that s 23 and 288 of the Municipal Corporation Act would entitle a local body to medicate its water supply by the introduction of foreign substances, McCarthy J found it unnecessary to consider s 23 of the Health Act, and Turner J actively dismissed s 23. Turner J held that he found it "impossible to read into s 23 of the Health Act 1956 any sufficient authority to empower a municipality to add fluoride to its water supply".¹⁶
106. Section 23 therefore does not provide the necessary power to add fluoride to the water supply for therapeutic purposes.

¹⁶ [1964] NZLR 438 at 445, 461 and 468

PART 2: WATER FLUORIDATION BREACHES SECTION 11 OF NZBORA

Defendant is subject to NZBORA

107. There are two potential routes by which the defendant is subject to the NZBORA.
108. The first is by virtue of s 3 – if not through the defendant being part of the executive branch of government under s 3(a), then through s 3(b). This latter provision states that the Bill of Rights applies to acts done by any person or body in the performance of a public function, power, or duty conferred or imposed on that person or body by or pursuant to law.
109. As a publicly-funded monopoly-supplier of water services the defendant is performing a public function.¹⁷
110. Secondly, if the Court accepts (contrary to the plaintiff's argument), that a statutory power exists that on its ordinary meaning, would authorise the defendant to fluoridate, then that statutory power must be read in light of s 6. Section 6 requires that whenever an enactment can be given a meaning consistent with the rights and freedoms in the NZBORA, that interpretation is to be preferred. There is well established authority that a generally expressed power must not be read in a way to unjustifiably limit rights: *Cropp v A Judicial Committee* [2008] NZSC 46, *Drew v Attorney-General* [2002] NZLR 58 (CA).

The purpose of s 11 of the NZBORA

111. Section 11 provides:

Everyone has the right to refuse to undergo medical treatment.

112. It has no equivalent in the International Covenant on Civil and Political Rights, nor in any other international human rights instrument.

¹⁷ *Ransfield v The Radio Network Ltd* [2005] 1 NZLR 233 (HC)

113. The Court of Appeal in *MOT v Noort* [1992] 3 NZLR 260 endorsed a “generous” and “purposive” approach to interpreting rights.¹⁸
114. The classic statement of the purposive approach appears in the Canadian Charter case of *R v Big M Drug Mart Ltd* in which Dickson CJ said:¹⁹
- The meaning of a right or freedom [must] be understood in the light of the interests it was meant to protect. The interpretation should be a generous rather than a legalistic one... At the same time, it is important not to overshoot the actual purpose of the right or freedom in question [and] to recall that the Charter was no enacted in a vacuum, and must therefore ...be placed in its proper linguistic, philosophic and historic contexts.
115. With this approach at the forefront the first step is to identify the purpose of s 11.
116. Section 11 is one of four provisions in Part 2 of the NZBORA under the heading “Life and security of the person”.
117. The other rights are:

8 Right not to be deprived of life

No one shall be deprived of life except on such grounds as are established by law and are consistent with the principles of fundamental justice.

9 Right not to be subjected to torture or cruel treatment

Everyone has the right not to be subjected to torture or to cruel, degrading, or disproportionately severe treatment or punishment.

10 Right not to be subjected to medical or scientific experimentation

Every person has the right not to be subjected to medical or scientific experimentation without that person’s consent.

¹⁸ at 268-69, 277, 286

¹⁹ [1985] 1 SCR 295 at 344, cited in *Minister of Health v Atkinson* [2012] NZCA 184 at [85]

118. These four provisions recognise the right to dignity and security of the person. In particular ss 10 and 11 emphasise the importance of consent by an individual over medical matters affecting their body.
119. Butler and Butler²⁰ summarise the purpose of ss 10 and 11 as follows:
- 11.6.2 In the authors' view, ss 10 and 11 of the BORA protect not only the physical aspects of bodily integrity but also human dignity and autonomy in the making of personal decisions about medical treatment and investigation. Only in this way can the broader context of the dignity and security of the person be acknowledged. This wide interpretation accords with the Canadian jurisprudence.
- 11.6.3 These BORA rights are also based on the principle of autonomy or self-determination expressed through the incorporation of the concepts of consent and refusal in ss 10 and 11. A decision that is the result of an individual person's free choice is a valuable decision, regardless of its actual content.
- 11.6.4 To summarise, the core purpose of ss 10 and 11 is to prevent any scientist or health care provider from making another human being the (non-consenting) object of their actions.
120. It is apparent that the right to refuse medical treatment is at the core of individual autonomy and enables an individual to retain the physical integrity of his or her body.
121. Section 11 encapsulates the idea that every individual has the right to determine for themselves what they do or not do to their own body. A person has the right to refuse to undergo medical treatment even though such treatment is considered beneficial, effective and necessary and such a decision may be objectively considered to be medically unwise or contrary to the individual's own best interests.
122. A person has the right to be fully informed in order to give informed consent to any medical treatment. The process of informed consent is

²⁰The New Zealand Bill of Rights Act: A Commentary; (LexisNexis, Wellington 2005)

embodied in three essential elements under the Code of Health and Disability Services Consumers' Rights (the Code):

- 122.1. Effective communication between the parties (Right 5)
 - 122.2. Provision of all necessary information to the consumer (including information about options, risks and benefits) (Right 6);
 - 122.3. The consumer's freely given and competent consent (Right 7).
123. The circumstances in which informed consent can be limited are few. Right 7(1) provides that:
- Services may be provided to a consumer only if that consumer makes an informed choice and gives informed consent, except where any enactment, or the common law, or any other provision of this Code provides otherwise.
- 124. Enactments that provide informed consent to treatment is not required in certain situations include the Mental Health (Compulsory Assessment and Treatment Act) 1992 and the Tuberculosis Act 1948.
 - 125. The common law doctrine of necessity is an example of a common law requirement which overrides the requirement for informed consent in Right 7(1). Necessity allows treatment to proceed in emergency situations without the need for informed consent. However, apart from the exceptional situations provided for in Right 7(1) the consumer's consent is always required before services can be provided.
 - 126. The Code also makes it clear that every consumer has the right to refuse services and to withdraw consent to services: Rights 7(7) and 7(10). In this respect the Code reflects s 11 of the NZBORA.

Interpreting s 11 – defining “medical treatment”

- 127. The White Paper commentary to the draft Bill of Rights stated that the term medical should be used in a “comprehensive sense” including

surgical, psychiatric, dental and psychological and similar forms of treatment: paragraph 10.167 p 109.

128. Examining various dictionary definitions of “medical treatment”, it is clear that at its core it is a medical procedure for the purpose of treating or preventing disease or injury. It is apparent that it has two key components: a medical purpose and a medical method.
129. The *Oxford English Dictionary* defines “medical treatment” as the administration or application of remedies to a patient for a disease or injury, medical or surgical management; or therapy and the substance or remedy so applied.²¹
130. Mosby’s *Dictionary of Medicine, Nursing and Health Professions*, 2nd Australian and New Zealand Edition (2009) defines medical treatment as

A method of combating, ameliorating or **preventing a disease**, disorder or injury. Active or curative treatment is designed to cure; palliative treatment is directed to relieve pain and distress; **prophylactic treatment is for the prevention of a disease or disorder**; causal treatment focuses on the cause of a disorder; conservative treatment avoids radical measures and procedures; **empirical treatment uses methods shown to be beneficial by experience; rational treatment is based on a knowledge of a disease process and the action of the measures used.** Treatment may be **pharmacological**, using drugs; surgical, involving operative procedures; or supportive, building the patient’s strength. It may be specific to the disorder; or symptomatic, to relieve symptoms without effecting a cure.

(emphasis added in **bold**)

131. In *Taylor v Attorney-General* (High Court, Auckland, CIV 2010-485-2226, 19 July 2011) Allan J identified s 11 as including treatment in the nature of bodily manipulation, surgical incursion, ingestion or the like: paragraph [32].

²¹ J Pearsall (ed) *Concise Oxford English Dictionary* 10th ed rev, Oxford, OUP 2002: “medical” and “treatment”

132. If something has a medical purpose but utilises a non-medical method then it would be unlikely to be medical treatment. For example hand washing is a simple non-medical method of preventing disease but could not reasonably be defined as a medical treatment.

Is water fluoridation medical treatment?

133. Water fluoridation easily fits within the definition of “medical treatment”. It meets the purpose and method tests in that it has a therapeutic medical purpose and a known pharmacological action.
134. The intention of adding fluoride to the water supplies is to treat and prevent disease, namely dental caries. It is the addition of a chemical substance for ingestion for a therapeutic purpose. Fluoride concentration in tap water is deliberately elevated to produce a physiological effect for a therapeutic purpose, in this case the prophylactic treatment of the disease dental caries.²²
135. That water fluoridation is medical treatment has academic support. Butler and Butler states²³:

Since fluoridation of the water supply is intended to cure dental problems in the community, it falls under medical treatment for the purposes of s 11 of the BORA.

136. The use of fluoride in the water supply can be regarded as a medicine because it is for the purpose of preventing disease.²⁴
137. Professor Menkes says that in his opinion the compounds used for water fluoridation (HFA and SSF) would readily fall within the relevant definition of medicine in the Medicines Act because they release a chemical (fluoride) with a pharmacological effect (mineralisation of tooth

²² Menkes affidavit, paragraph [20]

²³ The New Zealand Bill of Rights Act: A Commentary; (LexisNexis, Wellington 2005) Paragraph 11.8.10 at p 266

²⁴ Ferguson affidavit

- enamel) and are used in humans primarily for a therapeutic purpose (prevention of caries).²⁵
138. Professors Ferguson and Menkes consider that adding fluoride to the water supply cannot be regarded as a dietary supplement. A dietary supplement is taken to remedy a deficiency in a person's diet. However, fluoride is not required for any aspect of human physiology, reproduction or development and there is no recognised disorder that is due to a deficiency of fluoride²⁶.
139. It cannot be compared to adding iodine to salt. As Professor Menkes says in his second affidavit iodine is an essential nutrient, necessary for the function of thyroid. It can properly be classified as a dietary supplement.²⁷
140. The addition of fluoride to the water supply can be compared and contrasted with the addition of substances such as chlorine.
141. The purpose of the former is to treat people, the purpose of the latter is to treat the water.
142. As Professor Ferguson states chlorine is added to make the water acceptable for human consumption. Unlike chlorine, fluoride is not added for the purpose of making the water safe to drink, but is added as a medicine.²⁸ The Crown's submission that there is no practical distinction between chlorination of water to remove bacteria, and fluoridation is wrong.
143. Dr Jessamine suggests that water has never been considered to be a medicine because the concentration of fluoride in drinking water falls

²⁵ Menkes affidavit paragraph [19]

²⁶ Ferguson affidavit, paragraph [16] and [17]; Menkes affidavit paragraph [22].

²⁷ Menkes second affidavit, paragraph [10]

²⁸ Ferguson affidavit paragraphs [22] and [23]

below the minimum default threshold of 10 ppm. However, that does not address the point that the water contains a deliberately added pharmacologically active substance which is being administered wholly and principally for a therapeutic purpose. The water is simply the vehicle for the delivery of a substance which for all intents and purposes fulfils the definition of a medicine. It is directly comparable to intravenous saline solutions containing specific medicines dissolved in them.²⁹

144. In *McCull v Strathclyde Regional Council* 1983 SC 225 Lord Jauncey considered that the fluoride added to the water came within the definition of “medicinal product”. The definition of medicinal product is on all fours with the definition of medicine in the Medicines Act 1981.³⁰
145. Dr Jessamine suggests that it is not sufficient to say that a product has medicinal qualities. He gives the example of lithium which can be used as a medicine but reasons that its presence in a lithium battery does not make that product a medicine. That is undoubtedly true as many elements occur in many different forms. However, if the lithium were being added to the water supply for a therapeutic purpose, it would be unquestionably being used as a medicine.
146. Professor McMillan suggests that water fluoridation cannot be a medical treatment because it is not being performed by a physician on a patient. That viewpoint is both narrow and misleading. A number of medical treatments such as prescription medicines can be prescribed or administered by a health professional or taken voluntarily. Medical treatment applies where treatment with a medicine was prescribed or could reasonably have been prescribed by a doctor. Other therapeutic activities do require a doctor to order, supervise or perform directly, for example surgery, radiotherapy and electroconvulsive therapy.³¹

²⁹ Menkes second affidavit, paragraph [18]

³⁰ At pp 243 to 245

³¹ Menkes second affidavit paragraph [7]

147. However, whether or not a physician performs the task is surely not material when considering whether the right under s 11 has been breached. Using the example of a patient who is given a medicine without consent by a nurse or other non-physician, it is not plausible to say her right under s 11 is not breached but would have been if the treatment were performed directly by a doctor.
148. Medical treatment is also not restricted to individual patients and is sometimes administered to groups of people. Examples include immunisation or antibiotics to control infectious disease.
149. In the case of water fluoridation, the desirability of it as a treatment has been approved by the medical officials at the Ministry of Health and is actively promoted by them. It can be seen to have the imprimatur of health professionals even if not administered directly by an individual doctor.
150. A number of cases have recognised that fluoride has a medicinal purpose.
 - 150.1. The addition of fluoride did not involve a water purpose, but rather a medicinal purpose: *Municipality of Metropolitan Toronto v Village of Forest Hill*.
 - 150.2. “The fluoridation plant is for the purpose of a supply of what might be termed medicated pure water” McGregor J in *Lewis* in the High Court. The Privy Council also used the phrase “medicated pure water” (refer paragraph [30] above).
 - 150.3. In *Strathclyde* as noted above, fluoride was determined to be a medicinal product.
151. In conclusion, being supplied with fluoridated drinking water as part of the public drinking water supply constitutes undergoing medical treatment.

Response to Attorney-General's submission

152. The Crown says (without citing any authority) that to constitute medical treatment there must be a direct non consensual interference with the body or mental state. However, indirect interferences, ie something that is not put directly into the body, by way of syringe or tablet, is not medical treatment. It says that if inoculation against contagious disease could be achieved by addition to the water supply that would not engage s 11.
153. That approach is plainly wrong and completely negates the values underpinning the right. A person's autonomy and bodily integrity is affected not simply by the act of the injection of an unconsented-to substance, but by the substance entering the body. If the unconsented-to substance ends up in the body by indirect means, that is just as much an affront to autonomy and bodily integrity as if the act to put the substance in the body had been done directly.
154. The direct/indirect dichotomy is not a credible or tenable distinction. On the Crown's approach a prisoner given lithium through a tablet without his consent would have his rights under s 11 breached but a prisoner administered lithium through the water supply would not.
155. If a purposive approach is taken to the right, the protection cannot depend on whether the treatment is delivered via injection or tablet, or via the water. The point is if the "treatment", ie therapeutic agent administered for a therapeutic purpose, is designed to end up in the body and does so then it is treatment regardless of how it gets there.
156. The Crown's approach is inconsistent. They say that compulsory sterilisation would involve a direct intrusion in to "the intimate sphere of human identity". However, on their argument, if compulsory sterilisation could be achieved through the water supply it would not involve a direct intrusion.

Water fluoridation breaches the right to refuse to undergo medical treatment

157. Section 11 requires that every person has the right to refuse to undergo medical treatment.
158. For the purposes of the argument, the right to refuse is treated as being equivalent to giving informed consent. Informed consent is fundamental to ethical practice.
159. The right to refuse accrues to every single person who is being offered medical treatment. They have the right to be informed of the benefits and harms of the treatment and the right to say no to it.
160. The dignity of a person requires them to be able to refuse minor or major treatment. For example they can refuse any treatment from a pain killer, to a vaccination, a blood transfusion or cancer chemotherapy.
161. There is no such thing as a trivial or *de minimis* breach of the right simply because the treatment could be considered relatively minor. Accordingly, competent patients can, and often do, lawfully refuse prescribed or recommended treatment that could be considered trivial (such as paracetamol for pain relief) or serious (intravenous antibiotics for a life-threatening infection). The same principle applies whether the treatment is given to remedy or prevent illness.
162. The plaintiff says that to give effect to the right, every single person must have the right to say no to receiving water with fluoride in it. If there is to be an exception to this principle, it must be authorised by law and justified under s 5 of the NZBORA.
163. Saying no cannot mean that the person is then at risk of not being supplied water at all, or that they are required to go to the expense of either using filters or bottled water or using rainwater supply.

164. In today's society it is virtually impossible to avoid fluoridated water. While it is theoretically possible to use filters at home, or install and rely on rainwater supply, or use bottled water, these measures would give rise to not inconsiderable expense and unjustifiable inconvenience. They will not be available to those without such resources. The NZBORA guarantees rights to all; not just to those of means. Further it would be almost impossible to avoid fluoridated water outside the home unless a person was prepared to accept severe restrictions on their lifestyle - for example, not buying food or beverage made with fluoridated water at the supermarket, if indeed this was listed on the package (which it virtually never is), and not consuming food and beverages made with fluoridated water at cafes and restaurants or at friends' homes.³²
165. As Cooke P said in *Noort*, NZBORA needs to be applied with common sense and it needs to be given practical effect. Subjecting a person's right to refuse to these sorts of restrictions does not give effect to the right of refusal.³³
166. The right to refuse means that there is a right to say no to receiving fluoridated water. Saying no must mean that the person is not supplied with fluoridated water, period.
167. Saying no should not involve anything more than saying no. It should not involve additional steps to be undertaken by the person refusing medical treatment. Saying no should not mean that the person has to actively opt out of the "treatment" by taking steps to avoid receiving the fluoride component by the use of filters, or going on a separate supply.
168. In conclusion fluoridation is an interference with a person's right to chose not to take into their body a pharmacologically active substance to prevent dental caries. For all practical purposes a person is compelled to

³² Menkes second affidavit paragraph [21] and [22]

³³ at 270

ingest fluoride in direct breach of the right to refuse to undergo medical treatment.

Response to Attorney-General's submissions

169. The Crown's approach to the ability to refuse fluoridation defies common sense concepts and takes a technical and ungenerous approach to the right. For the reasons explored above, it is impractical to suggest that persons have an effective right to opt out of fluoridated water.
170. There is also no support in the case law for the "threshold" approach advocated by the Crown at paragraphs 89 to 90, *Smith and Herwine* concerned the right to be free from arbitrary detention and the passage cited concerned how to determine what does or does not amount to a detention. This is a matter of definition, not threshold, and needs to be decided in light of the purpose of the underlying right.
171. At paragraph 90 of their submissions, the Crown cites *Atkinson* as confirming that an alleged discriminatory impact must be material before s 5 is triggered. Far from supporting the Crown's claim, *Atkinson* undermines it. In *Atkinson* the Human Rights Review Tribunal, the High Court and, ultimately, the Court of Appeal, rejected the Crown's contention that the right to be free from discrimination ought to be read narrowly so as to exclude distinctions that did not "discriminate in a substantive sense". The Court of Appeal preferred a broad and generous approach to discrimination. It is true that the Court did consider that distinctions needed to amount to "material disadvantage" to amount to discrimination but that simply acknowledged the obvious point that not all distinctions amount to discrimination. The threshold for what was considered material was extremely low. And again, this goes to the definition of what amounts to "discrimination", not to some subsequently applied threshold for intervention. In this case, the proper focus of the inquiry is on what (in light of the purpose of the right) amounts to "medical treatment" and what amounts to an interference

with the right to refuse. Once those matters have been determined there is no additional threshold.

172. The case for a threshold can be considered against the following counterfactual. Would a doctor be able to force a patient to take a paracetamol? The answer is clearly no.
173. In any event the plaintiff submits that a threshold of non-triviality or materiality is clearly met. The current scientific evidence (discussed below) establishes that excessive ingestion of fluoride poses a significant risk of dental fluorosis. Those at risk are formula fed babies and young children. Ingestion of large amounts of fluoride potentially exposes consumers to more serious health risks. While the scientific evidence remains unresolved as to where the safe threshold can be set, caution in matters of health and safety must be given first place particularly as there is no way to regulate consumption by consumers in order to ensure that they remain within those thresholds.
174. The Crown’s approach to *de minimis* is confusing. It says at paragraph 91 that to constitute medical treatment the effect on the individual must be more than trivial or transient. And at paragraph 74 it says that fluoride ends up in the body “and in the minutest degree alters the composition of that body”. These submissions appear to be premised on the proposition that fluoride has no discernible effect on individuals – good or bad. That immediately begs the question as to why fluoride is being added.

Water fluoridation is not prescribed by law

175. Section 5 of the NZBORA provides that the rights and freedoms in that Act “may be subject only to such reasonable limits prescribed by law as can be demonstrably justified in a free and democratic society”.
176. In *Hansen v R* [2007] 3 NZLR 1 McGrath J stated at [18] that:

To be prescribed by law, limits must be identifiable and expressed with sufficient precision in an Act of Parliament, subordinate

legislation or the common law. The limits must be neither ad hoc nor arbitrary and their nature and consequences must be clear, although the consequences need not be foreseeable with absolute certainty.

177. Any limit on a fundamental right must be express: *Gravatt v Coroners Court at Auckland* [2013] NZHC 390 at [39].

178. In *Cropp v A Judicial Committee* [2008] NZSC 46 the Supreme Court agreed with the appellant's submission that a fundamental right such as bodily integrity may not be interfered with except under a statutory provision where the right is excluded or abridged expressly or by necessary implication. They cited the following quote from Lord Hobouse in *R (Morgan Grenfell & Co Ltd) v Special Commissioner of Income Tax*

[a] *necessary* implication is one which necessarily follows from the express provisions of the statute construed in their context. It distinguishes between what it would have been sensible or reasonable for Parliament to have included or what Parliament would, if it had thought about it, probably have included and what it is clear that the express language of the statute shows that the statute must have included. A necessary implication is a matter of express language and logic not interpretation.

179. It is submitted that to authorise water fluoridation, what is required is a provision that either expressly permits water fluoridation, or expressly or impliedly permits the addition of a compound to water for therapeutic purposes.

180. No such power exists.

181. To the extent the defendant relies on the general power of competence to add fluoride, it is submitted that such a general power could never be sufficient to meet the requirement of being "prescribed by law".

182. A general power of competence is simply a power to do what is not otherwise prohibited. Even if the Court does not accept the plaintiff's submission (at Issue 1) that the power of general competence does not authorise a monopolistic and coercive regulatory action such as fluoridating the water, it cannot follow that the power of general

competence is sufficiently precise to meet the requirement of being “prescribed by law”.

183. In *Herbert v R* [1990] 2 SCR 151 an accused made inculpatory statements to an undercover police officer placed in his cell. The issue was whether the conduct of the Police infringed the right to silence and made the statements inadmissible. The Supreme Court of Canada held that the Police conduct was not prescribed by law.

[41] The police conduct that constituted the Charter violation in the present case was a police initiative, and was not the execution or necessary implication of a statutory or regulatory duty, and was not the result of the application of a common law rule. The use of undercover officers in these circumstances is certainly legal, in the sense that it is not *proscribed* by law; but it does not follow that this tactic is *prescribed* by law. The word “prescribe” connotes a mandate for specific action, not merely permission for that which is not prohibited. For these reasons, it cannot be said that the limiting effect on the appellant’s s 7 rights was “prescribed by law”, and it is therefore unnecessary to consider the application of s 1 to the facts of this case.

184. The same reasoning can apply here.
185. That such a general power could not be relied on to breach s 11 is clear from a consideration of s 7 of the NZBORA. Under this provision the Attorney General is required to report to the House if a provision in the Bill appears to be inconsistent with the rights in the NZBORA.
186. There is nothing in the general power of competence that might alert the Attorney-General that this provision is triggered and so require him to consider whether a report to the House is required
187. If the general power of competence applies, then it is not confined to authorising water fluoridation but must be seen to confer on the defendant a general power to prima facie breach rights under the NZBORA, subject to any rule of law to the contrary. That cannot reasonably have been the intention of the provision and would render the requirement that limits be “prescribed by law” meaningless.

Water fluoridation is not reasonably justified in a free and democratic society

188. If it is accepted that water fluoridation breaches the right to refuse medical treatment then the onus shifts to the defendant to establish that the limit on the right is reasonable: *Ministry of Transport v Noort* [1992] 3 NZLR 260. The standard of proof is the balance of probabilities: *Multani v Marguerite-Bourgeois* [2006] 1 SCR 256 at [43].

189. Where a provision is found to limit a particular right or freedom the test as to whether that limit may be a reasonable limit that is justifiable under s 5 of the NZBORA, is set out in *Hansen v R*.

190. In that decision Tipping J stated (at [123]):

Whether a limit on a right or freedom is justified under s 5 is essentially an inquiry into whether a justified end is achieved by proportionate means. The end must be justified and the means adopted to achieve that end must be proportionate to it. Several sub-issues inform that ultimate head issue. They include whether the practical benefits to society of the limit under consideration outweigh the harm done to the individual right or freedom.

191. The Court postulated the following inquiry:

- a. First, does the objective served by the limiting provision serve a purpose sufficiently important to justify limited a fundamental right.
- b. Secondly, the court said that the means adopted by the limiting provision in achieving its objective must be reasonable. This entails a three-step proportionality inquiry:
 - i. First, is the limit rationally connected with the objective it purports to serve?
 - ii. Does the provision should impair the right in question as little as is reasonably possible [minimal impairment]? Are there alternative and less intrusive means of achieving the

provision's objective? If so, are such less intrusive means sufficiently effective in achieving the objective?

iii. Thirdly, is the limit in due proportion to the importance of the objective [proportionality]? The more serious the effects of the measure, the more important the objective must be in order for the measure to constitute a demonstrably justifiable limit.

192. In *R v Hansen* the Supreme Court emphatically endorsed a proportionality inquiry as being at the heart of s 5, saying “[w]hether a limit on a right or freedom is justified under s 5 is essentially an inquiry into whether a justified end is achieved by proportionate means”.
193. Before engaging in a proportionality assessment, it is necessary to look at the benefits and harms of water fluoridation generally as these matters will inform the proportionality assessment.

Efficacy, benefits and harms

Topical mechanism of action

194. It is now widely accepted that fluoride works topically.
195. Previously it was thought that systemic application (ie swallowing) of fluoride was required to inhibit caries as a result of fluoride being incorporated into the tooth enamel during the development of the tooth prior to eruption. On the basis that the effect was systemic, an “optimal” concentration at 0.7 to 1 ppm was identified as being one that would achieve the systemic effects of protecting the tooth enamel but at the same time minimise fluorosis.
196. Since at least 1999 it has been known that fluoride does not work systemically but rather operates post eruptively and topically.
197. The benefit from fluoride is from having continued elevated levels in the saliva and plaque caused by an initial application of high concentration

fluoride such as in toothpaste. After brushing with toothpaste with 1000 ppm fluoride, fluoride levels in saliva are elevated to the levels required to achieve a cariostatic action and fall back to baseline levels over 2 to 6 hours.³⁴

198. If a carious lesion has commenced, fluoride can operate to prevent the demineralisation process and enhance the remineralisation process. The process is described by Dr Litras at paragraphs [20] and [21].

[20] Fluoride ions available in the saliva bind with the plaque and, under the right conditions, can flow through to the underlying enamel to encourage a reversal of ion flow into the enamel (remineralization), exchanging for hydroxyl groups and lowering solubility products of precipitating calcium phosphates encouraging the reformation of less soluble carbonates, thus slowing down the development of the lesion.

[21] However, fluoride has no effect on intact enamel. It requires:

- 21.1. That a carious lesion is already in progress.
- 21.2. Plaque on the tooth surface is required to "bind" the fluoride in the area.
- 21.3. Salivary fluoride concentration needs to be at least 0.03 ppm to have a remineralizing effect.³⁵

199. While the effect of fluoridated toothpaste in caries prevention is clear, the effect of fluoridated water is negligible.
200. First, its concentration is too low to have any significant topical effect as it washes over the teeth.³⁶ Secondly, the fluoride concentration in saliva is too low to provide any cariostatic effect.³⁷

³⁴ Litras affidavit paragraph [14] and [25]

³⁵ Featherstone JDB (1999) Prevention and reversal of dental caries: role of low level fluoride. *Community Dent Oral Epidemiol* 27:31–40.

Fejerskov O (2004) Changing paradigms in concepts on dental caries: consequences for oral health care. *Caries Res* 38:182–191.

³⁶ Litras affidavit, paragraph [23], Thiessen affidavit paragraph [21]

³⁷ Litras affidavit paragraph [26], Thiessen affidavit paragraph [21]

201. An understanding of the mechanism of action shows that swallowing fluoridated water provides no caries protection. The justification claimed by Dr Whyman that it needs to be swallowed because the fluoride returning in saliva assists in preventing caries is fallacious as the concentration of fluoride in ductal saliva is too low to have any remineralisation effect.³⁸

Benefits

202. The claimed benefit of water fluoridation is that it reduces tooth decay. However, the scale of this benefit, is uncertain due to a lack of quality research evidence on the subject.
203. A systematic review of water fluoridation by the NHS Centre for Reviews and Dissemination at the University of York in 2000 was the first full systematic review on the subject (the York review). It identified 5 objectives:
- 203.1. What are the effects of fluoridation of drinking water supplies on the incidence of dental caries?
- 203.2. If water fluoridation is shown to have beneficial effects, what is the effect over and above that offered by the use of alternative interventions and strategies?
- 203.3. Does water fluoridation result in a reduction of caries across social groups and between geographical locations, bringing equity?
- 203.4. Does water fluoridation have negative effects?
- 203.5. Are there differences in the effects of natural and artificial water fluoridation?
204. After nearly 50 years of study into water fluoridation it found that there was a surprising lack of high quality studies demonstrating benefits. In

³⁸ Whyman affidavit paragraph [36](e)

respect of objective 1 its conclusions were based on a limited number (26) of moderate quality studies, many of which lacked appropriate analysis. From these data the executive summary recorded:

The best available evidence suggests that fluoridation of drinking water supplies does reduce caries prevalence, both as measured by the proportion of children who are caries free and by the mean change in dmft/DMFT score. The studies were of moderate quality (levelB), but of limited quantity. The degree to which caries is reduced, however, is not clear from the data available. The range of the mean difference in the proportion (%) of caries-free children is -5.0 to 64% with a median of 14.6% (interquartile range 5.05, 22.1%). The range of mean change in dmft/DMFT score was from 0.5 to 4.4 median teeth (interquartile range 1.23, 3.63 teeth). It is estimated that a median of six people need to receive fluoridate water for one extra person to be caries-free (interquartile range of study NNTs 4,9). The best available evidence from studies following withdrawal of water fluoridation indicates that caries prevalence increases, approaching the level of the low fluoride group. Again, however, the studies were of moderate quality (level B), and limited quantity. The estimates of effect could be biased due to poor adjustment for the effects of potential confounding factors.

205. In respect of objective 3 it found that there were no level A or B studies examining the effect of water fluoridation on the inequalities of dental health. Relying on level C (poor quality) studies:

[t]here appears to be some evidence that water fluoridation reduces the inequalities in dental health across social classes in 5 and 12 year-olds, using the dmft/DMFT measure. This effect was not seen in the proportion of caries-free children among 5 year-olds. The data for the effects in children of other ages did not show an effect. The small quantity of studies, differences between these studies, and their low quality rating, suggest *caution* interpreting these results.

206. In respect of objective 4 it found:

- 206.1. That the prevalence of fluorosis at a level of 1 ppm was estimated to be 48% and for fluorosis of aesthetic concern predicted to be 12%.

206.2. Studies into bone fracture and cancer were of low quality with a high risk of bias. No clear association was found between the incidence of hip fracture and cancer and water fluoridation.

207. The executive summary concluded:

This review presents a summary of the best available and most reliable evidence on the safety and efficacy of water fluoridation.

Given the level of interest surrounding the issue of public water fluoridation, it is surprising to find that little high quality research has been undertaken. As such, this review should provide both researchers and commissioners of research with an overview of the methodological limitation of previous research conducted in this area.

The evidence of a benefit of a reduction in caries should be considered together with the increased prevalence of dental fluorosis. The research evidence is of insufficient quality to allow confident statements about other potential harms or whether there is an impact on social inequalities. This evidence on benefits and harms needs to be considered along with the ethical, environmental, ecological, costs and legal issues that surround any decisions about water fluoridation. All of these issues fell outside the scope of this review.

Any future research into the safety and efficacy of water fluoridation should be carried out with the appropriate methodology to improve the quality of the existing evidence base.

208. This report is hardly an endorsement of the efficacy and safety of fluoridation. Despite the expressed lack of certitude about these, the report was used by those promoting fluoridation (eg the British Dental Association and British Medical Association) to support claims of safety and efficacy. This prompted the York Reviewers to express concern about such misrepresentations in a statement dated 28 October 2003.

We are concerned about the continuing misinterpretations of the evidence and think it is important that decision makers are aware of what the review really found. As such, we urge interested parties to read the review conclusions in full.

We were unable to discover any reliable good-quality evidence in the fluoridation literature world-wide.

What evidence we found suggested that water fluoridation was likely to have a beneficial effect, but that the range could be anywhere from a substantial benefit to a slight disbenefit to children's teeth.

This beneficial effect comes at the expense of an increase in the prevalence of fluorosis (mottled teeth). The quality of this evidence was poor.

As association with water fluoride and other adverse effects such as cancer, bone fracture and Down's syndrome was not found. However, we felt that not enough was known because the quality of the evidence was poor.

The evidence about reducing inequalities in dental health was of poor quality, contradictory and unreliable.

Since the report was published in October 2000 there has been no other scientifically defensible review that would alter the findings of the York review. As emphasised in the report, only high-quality studies can fill in the gaps in knowledge about these and other aspect of fluoridation. Recourse to other evidence of a similar or lower level than that included in the York review, no matter how copious, cannot do this.

209. In 2001 Professor Trevor Sheldon who chaired the Advisory Group for the York review published the following open letter

3/1/2001

In my capacity of chair of the Advisory Group for the systematic review on the effects of water fluoridation recently conducted by the NHS Centre for Reviews and Dissemination the University of York and as its founding director, I am concerned that the results of this review have been widely misrepresented. The review was exceptional in this field in that it was conducted by an independent group to the highest international scientific standards and a summary has been published in the British Medical Journal. It is particularly worrying then that statements which mislead the public about the review's findings have been made in press releases and briefings by the British Dental Association, British Medical Association, the National Alliance for Equity in Dental Health and the British Fluoridation Society. I should like to correct some of these errors:

1. Whilst there is evidence that water fluoridation is effective at reducing caries, the quality of the studies was generally moderate and the size of the estimated benefit, only of the order of 15%, is far from "massive".

2. The review found water fluoridation to be significantly associated with high levels of dental fluorosis which was not characterised as "just a cosmetic issue".

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.

4. There was little evidence to show that water fluoridation has reduced social inequalities in dental health.

5. The review could come to no conclusion as to the cost-effectiveness of water fluoridation or whether there are different effects between natural or artificial fluoridation.

6. Probably because of the rigour with which this review was conducted, these findings are more cautious and less conclusive than in most previous reviews.

7. The review team was surprised that in spite of the large number of studies carried out over several decades there is a dearth of **reliable** evidence with which to inform policy. Until high quality studies are undertaken providing more definitive evidence, there will continue to be legitimate scientific controversy over the likely effects and costs of water fluoridation.

SIGNED,

Professor Trevor Sheldon MSc MSc DSc FMedSci

210. A systematic review of the efficacy and safety of fluoridation was carried out by the Australian National Health and Medical Research Council in 2007. This systematic review took the York review as its exemplar for the areas of enquiry into fluoridation where they coincided and effectively endorsed the relevant York findings.
211. The efficacy of water fluoridation can also be assessed by considering world-wide caries rates and recent MoH data. The conclusion from this material is that water fluoridation is unlikely to be a material causal factor in reducing caries.

212. WHO data (2012) show that there is no difference in dental decay between fluoridated and non-fluoridated countries.³⁹
213. Currently the average caries rate in 12 year olds in NZ is less than 2 DMFT out of 24 to 28 teeth.⁴⁰ Ministry of Health 2011 figures show little real difference between fluoridated and non-fluoridated areas, including Taranaki.⁴¹ Any differences in favour of water fluoridation could be due to the fact that fluoridation delays tooth eruption.⁴² Once such differences are taken into account any small apparent benefits are nullified.⁴³
214. Against the international literature and real doubts about the benefits of fluoridation, one needs to be cautious about accepting claims of a 50 % reduction in tooth decay in Patea and Waverley if fluoridation were introduced.⁴⁴ Such a benefit can only be regarded as speculative and unlikely in light of the known mechanism of action. Further the reduction is intended to occur amongst children with high unmet oral health needs. Even assuming a modest benefit from water fluoridation, unless children clean their teeth fluoridation will have no effect. There is no topical affect on the tooth enamel during the act of drinking water which is fluoridated at 1ppm, as the contact time with the plaque biofilm is too short to allow incorporation of fluoride ions at that concentration into the plaque matrix.⁴⁵

³⁹ Litras affidavit paragraph [52]

⁴⁰ Litras affidavit paragraph [55]

⁴¹ Litras affidavit paragraphs [59] to [67]

⁴² Thiessen affidavit paragraph [17]

⁴³ Litras affidavit paragraphs [67] to [69]

⁴⁴ Simmons affidavit, paragraph [22]

⁴⁵ Litras affidavit

Adverse effects of water fluoridation

215. Dental fluorosis is an accepted adverse effect of water fluoridation at the current concentration of 0.7 to 1 ppm.
216. Fluorosis is the result of systemic (and excessive) ingestion of fluoride during tooth development and causes porosities in the enamel known as dental fluorosis, which manifest as chalky patches (classified as mild), white and dark brown discolourations (moderate), and pitting and malformation of the enamel (severe). It occurs because fluoride ions interfere with the normal function of the ameloblasts (enamel forming cells), generally during 10-20 months of age, when enamel formation is taking place.⁴⁶
217. New Zealanders exposed to water fluoridation in childhood suffer very mild to moderate fluorosis. The prevalence of very mild or mild fluorosis in New Zealand children is estimated at 15% and approximately 2% have moderate forms.⁴⁷ The York report figures would suggest a much higher prevalence of fluorosis – 48%.
218. A picture of moderate fluorosis is contained in paragraph [72] of Dr Litras' affidavit. Dr Litras says he would see 2 to 3 patients per month who have moderate fluorosis.
219. Even mild fluorosis cannot be dismissed as simply a cosmetic issue. It is the result of fluoride damaging the enamel through systemic ingestion. It is a lifelong effect and its incidence is markedly reduced in the absence of water fluoridation.

⁴⁶ Litras affidavit paragraphs [71] and [72]

⁴⁷ Taranaki District Health Board submission, Common Bundle, Vol 2, p 675

Other adverse effects

220. The NRC review in 2006 which dealt with fluoride toxicology⁴⁸ found that the EPA's current maximum contaminant level of 4 ppm was not sufficiently protective of human health and recommended that it should be lowered. Concerns raised by the review included dental fluorosis, skeletal fluorosis and increased risk of bone fractures.
221. It also identified other adverse health effects which are associated with fluoride exposure:
- 221.1. The potential of fluoride to initiate or promote cancers even though the overall evidence was mixed.⁴⁹
- 221.2. Genotoxicity
- 221.3. Endocrine effects including altered thyroid function
- 221.4. Neurotoxicity, deleterious effects on cognitive development and performance.
222. All adverse effects other than fluorosis are dismissed by NZ health officials as not being likely at the current concentration of fluoride at 0.7 to 1 ppm. Indeed they claim that fluoridation is completely safe.
223. However, such an attitude overlooks that with fluoridated water it is impossible to control for dose. Dosage depends on the quantity consumed, normalised by weight. Individuals will drink different amounts of water and thus receive different doses. Formula-fed babies in particular, but also athletes and diabetics (and others who drink more than average) receive disproportionately higher doses of fluoride from fluoridated water.

⁴⁸ Fluoride in Drinking Water: A Scientific Review of EPA's Standards (2006)

⁴⁹ In *Aitkenhead v Borough of West View* GD-4585-78 (November 16, 1978) Judge John P Flaherty concluded that fluoridation presented a sufficient risk of cancer to the populace to justify an injunction.

224. If 4 ppm is not protective of human health, what is?
225. Dr Thiessen in her affidavit identifies that 0.7 ppm is not a sufficiently level to protect against known or anticipated adverse effects and

does not allow an adequate margin of safety to protect young children, people with high water consumption, people with kidney disease (resulting in reduced excretion of fluoride), and other potentially sensitive population subgroups.
226. In Dr Thiessen's view a "safe" level of fluoride would be at least a factor of 10 below the "unsafe" level of 4 ppm.⁵⁰ That would make it 0.4 ppm.
227. Another risk of water fluoridation comes from the nature of the fluoridation chemicals used and the fact that they include carcinogens such as mercury, lead and arsenic.
228. These heavy metal contaminants are not removed prior to being used in water fluoridation. As Mr Atkin says in his affidavit, arsenic is a known human carcinogen for which there is no safe level. He estimates that the addition of arsenic to the water supply at the current level of the population drinking fluoridated water results in 1.1 cancer deaths per year.⁵¹

Importance of objective

229. Addressing the proportionality test, the plaintiff submits that the first limb of it cannot be met.
230. The objective of water fluoridation is to prevent dental caries (primarily in children) and reduce oral health inequalities (again primarily in children).
231. It is submitted that these objectives while prima facie laudable are not sufficiently important to override a constitutionally protected right.

⁵⁰ Thiessen affidavit paragraph [29]

⁵¹ Atkin affidavit paragraph [25] to [29]

232. These objectives are no more or less pressing or substantial than any other public health objective, eg reducing obesity, promoting childhood immunisation, encouraging breast feeding, reducing tobacco consumption.
233. We don't require parents to immunise their children, we don't force mothers to breastfeed, nor do we ban junk food or prohibit smoking.
234. The scale of dental caries also does not indicate that it is sufficiently important to override the freedom in s 11, particularly given the low quality evidence and, in the best case scenario, only modest benefit of water fluoridation.
235. Dental decay rates are at an historical low. As already noted, the average DMFT rates for 12 olds is less than 2.

Rational connection

236. The second limb of the proportionality test cannot be met either.
237. The test requires that the measure be "fair and not arbitrary, carefully designed to achieve the objective in question and rationally connected to that objective".⁵²
238. Water fluoridation is a population-based measure which affects everyone indiscriminately and arbitrarily, including those who don't want it, and (even assuming a modest benefit) those who won't benefit such as babies and young children without teeth, the edentulous, as well as those who are at low risk of caries due to regular toothbrushing, good diet and good oral hygiene.
239. It is an overbroad and ill-tailored measure.

⁵² *Hansen* at [103], Tipping J citing *Oakes*

240. The link between the objective and the means to achieve is weak at best. Dental caries is not caused by a lack of fluoride. It is caused by an excess of sugar in the diet and poor oral hygiene habits.
241. Evidence that water fluoridation may reduce caries is of low quality. Even assuming a benefit, a 12 year old in a non-fluoridated community could expect to have perhaps a fraction less of one filling.
242. On the basis of the York report findings there is little evidence to show that water fluoridation has reduced social inequalities in dental health.

Is the impairment greater than reasonably necessary (minimal impairment)

243. A person does not need to drink fluoridated water to prevent tooth decay. They simply need to clean their teeth, have a healthy diet, and regular dental check-ups. In other words fluoridated water is not necessary to prevent tooth decay.
244. The objective of reducing dental decay and reducing health inequalities can be achieved in a number of different ways which do not impair the right.
245. Dr Litras identifies a number of targeted preventive policies including: banning soft drinks and sugary snacks in schools, fluoridated salt in fast foods and soft drinks in at risk areas, supervised tooth brushing programmes in schools, diet and oral hygiene education for low socio-economic families and improved access to dental care. For those at high risk of dental caries, he would recommend fluoride mouth rinses, and professionally applied gels and foams.⁵³

⁵³ Litras affidavit paragraphs [79] and [80]

Is the limit in due proportion to the importance of the objective

246. This limb of the test asks if the effects of the intrusive provision are proportionate to the objective advanced.
247. It is submitted that the effects are overwhelmingly disproportionate and the objective cannot justify the intrusion on the right.
248. The effect on the right to refuse to undergo medical treatment is substantial. It is effectively permanently nullified other than for those with the resources and fortitude to “opt-out”.
249. This is a highly important right, protecting as it does, autonomy and bodily integrity. It is paired in the NZBORA with rights such as the right to life and freedom from torture. Limits on it should be rare and justified by compelling reasons (such as a major public health crisis).
250. If one were to ask whether requiring a person to forego their right to refuse medical treatment is reasonable in these circumstances, the following factors would indicate “No”.
251. The disadvantages to the person drinking fluoridated water are disproportionate to the advantages.
252. The actual efficacy and benefit of water fluoridation is unclear due to there being only low quality evidence of benefit. It is remarkable that a public health measure has endured for so long based on what appears to be such poor quality evidence.
253. Further one would have thought that when the fundamental basis on which fluoride was thought to work was proven to be wrong (ie systemically), that there would be a major reevaluation of water fluoridation.
254. However, rather than a reevaluation it appears that an erroneous view as to the physiology of fluoride is still lingering in the dental profession. Dr

Prior in her evidence at the defendant's hearing says that fluoride works both systemically and topically.⁵⁴ She is wrong about the systemic effect.

255. However, assuming for the sake of the argument, that water fluoridation results in a small reduction of decay, this outcome is completely disproportionate to the harm caused to the right, as indicated by the following factors.
256. As the benefit is topical, there is no need to swallow. Further the benefit of swallowing by the fluoride returning in the saliva has been discounted by the CDC.
257. While the benefits are topical alone, the harms are systemic. There is the known and clear risk of dental fluorosis to babies and young children during tooth development.
258. Fluorosis cannot be dismissed as merely cosmetic. It is a permanent condition. For those wanting to correct moderate fluorosis the cost to them would be approximately \$1100 per tooth.⁵⁵
259. There is no clear scientific consensus regarding the risks of fluoride ingestion at the levels used in water fluoridation but clear evidence of risks at 4 ppm. An adequate margin of safety would require allowable exposure to be 0.4 ppm according to Dr Thiessen who, as a highly experienced epidemiologist is well qualified to comment.
260. Professor Menkes also notes the low therapeutic index for fluoride. The level at which toxicity becomes likely is 2.5 times the recommended adequate intake. He identifies several concerns relevant to the net benefit of water fluoridation that relate to its problematic pharmacology. These concerns, in summary, include:

[29]

⁵⁴ Common Bundle of Documents, Vol 1, p 12

⁵⁵ Litras affidavit paragraph [73]

(ii) the low therapeutic index of fluoride poses particular difficulty given the variable doses that individuals ingest, depending on how much fluoridated water they drink. A principle of pharmacology is that systemically administered drugs with a low therapeutic index should be dosed carefully, and are generally either standardised by weight (as in mg/kg/day) or are subject to blood monitoring. Indeed, the recommended fluoride dose ('acceptable intake', see above) to optimize benefit/harm ratio is given as 0.05 mg/kg/day, but this refers to ingestions and is rather illogical in light of fluoride's topical mechanism of action. In any event, as described above, delivering fluoride in drinking water precludes accurate dosing. The other recommended precaution when administering drugs with low therapeutic index, blood level monitoring, is used rarely, if ever, with CWF.

(iii) Because of this dosing problem, formula-fed infants receive higher mg/kg doses than other individuals, and may be especially vulnerable to toxicity given their rapid neurological and other development. Patients with chronic renal failure are unable to excrete fluoride effectively and are thus more prone to toxicity, as a result. Individuals with iodine deficiency are also more sensitive, in this case to fluoride-induced thyroid dysfunction. In my view, it is unacceptable that special protection for these vulnerable sub-populations is not generally considered or implemented in areas with CWF.

261. Next, the economic cost imposed on those who do not want to consume fluoridated water makes opting out unrealistic as those without the means are unfairly discriminated against.
262. Applying the Nuffield Council's stewardship model, there is no justification for water fluoridation. The factors identified by the Council are:
 - 262.1. Reduction of risks of ill-health
 - 262.2. Special care for the health of children
 - 262.3. Reducing health inequalities
 - 262.4. Not intervening with the consent of those affected
 - 262.5. Minimise interventions that affect important areas of personal life
 - 262.6. Not coercing adults to lead healthy lives.

263. While extreme caries may cause ill health this is understood to be rare and not likely to be prevented by water fluoridation⁵⁶.
264. Water fluoridation does not provide special benefits for the health of babies or very young children whose teeth have not yet been erupted. However, it exposes them to the considerable risk of dental fluorosis. Formula-fed babies are greatly at risk of ingesting higher than recommended levels of fluoride. In 2007 the US the American Dental Association issued a brief statement to the effect that parents should not prepare infant formula with fluoridated water if they are concerned about the possibility of their child developing dental fluorosis. In NZ infant formula is required to be labelled with a warning that consumption of the formula has the potential to cause dental fluorosis.⁵⁷
265. There are studies referred to in the NRC report which show an association between fluoride ingestion and impaired cognitive development leading to lowered IQ. Dr Whyman dismisses these reports on the basis that they involved Chinese studies whose participants were “subject to very high exposure levels (between 2.5 ppm and 4 ppm)”. The important adverse effects, with likely lifelong consequences, were seen at exposure levels only 2.5 to 5 times higher than used in water fluoridation. To put it in perspective a person drinking 2.5 litres of water at a concentration of 1 ppm ingests 2.5 mg of fluoride. If that same person consumed 4 litres of water at the same concentration they are consuming 4 mg, the same dose they would ingest if drinking 1 litre of water at 4 ppm.
266. In terms of reducing health inequalities the York report finds little evidence to support this claim. The largely anecdotal evidence referred to in Dr Prior and Dr Simmons evidence must be regarded with caution. While both claim to be independent experts, these witnesses also made

⁵⁶ Thiessen affidavit paragraph [38]

⁵⁷ Taranaki DHB submission to STDC, Common Bundle, Vol 2, p 675

submissions to the defendant supporting fluoridation and may be less than impartial.⁵⁸

267. In terms of minimising interventions that affect personal life and coercing ordinary adults to lead healthy lives the measure of fluoridation breaches both of these criteria.
268. Given the uncertainties of both the benefits of water fluoridation and potential harms other than fluorosis (which is a clear and accepted adverse effect) a precautionary approach is warranted.⁵⁹
269. A separate but significant consideration is that the fluoridation chemicals used in New Zealand to fluoridate the water are untested on humans, and contain heavy metal contaminants such as mercury, arsenic and lead. Even if the level of these contaminants does not exceed the MAVs there is no justification for adding a carcinogen to the water supply.
270. Finally when one considers other circumstances in which the right in s 11 has been limited eg Mental Health Act, it is apparent that water fluoridation falls into a category of its own, as being a measure that applies to populations rather than individuals, as a measure that is preventive rather than treating established disease, and treating a patient for their own good rather than to protect the public. Further the treatment is on-going and administered to the whole population rather than based on need. Further it is done in the face of uncertainties of the scale of any benefit and risks of harm (other than the known risk of fluorosis) and when there are viable alternatives available.
271. In conclusion, water fluoridation is a serious and unjustified intrusion on a core right. It is a disproportionate means of achieving the objective of reducing dental caries and reducing health inequalities for the reasons

⁵⁸ Common Bundle, Vol 1, p 11 and 183

⁵⁹ Joel Ticner, ScD, Melissa Coffin BA, What Does the Precautionary Principle Mean for Evidence-Based Dentistry, *J Evid Bas Dent Pract* 2006;6:6-15

expressed above. It is also unnecessary to prevent dental caries given the number of readily available alternatives.

272. Water fluoridation should no longer enjoy the special privileged position it has had as a population health measure. There is no other comparable measure of its kind whereby populations are compulsorily mass medicated. It stands out as anomalous when compared to any other measure which has limited the right in s 11.
273. It is practised in a small portion of the world and has been rejected recently by a succession of countries, most recently by Israel. If NZ had never added fluoride to water in the past it is most unlikely it would today be approved as a vehicle to deliver prophylactic health benefits by an indiscriminate means particularly as it is based on such poor evidence. By analogy, if councils proposed adding lithium to water to improve psychiatric health, people would be appalled, even though lithium has established efficacy in treating certain individuals.
274. Clean and safe water is essential to life. Adding anything to water should be solely for the purposes of rendering it safe to drink.

PART 3: FLAWS IN DEFENDANT'S DECISION-MAKING

275. The plaintiff says that the if the defendant is empowered add fluoride to its water supplies in breach of s 11 of the NZBORA (denied), such a power is discretionary and the defendant when making the decision failed to take into account the following mandatory relevant considerations:
- 275.1. That water fluoridation limits the right contained in s 11 of the NZBORA.
- 275.2. Whether the objective of dental health promotion and protection is sufficiently important to limit that right.
- 275.3. Whether fluoridation is reasonably necessary to achieve the objective.
- 275.4. Whether fluoridation is a proportionate response to the objective.
- 275.5. Whether there are other ways of achieving the objective without limiting the right in s 11.
- 275.6. The costs and benefits of adding fluoride to the water supply versus other ways of achieving the objective which do not limit the right in s 11.
- 275.7. That the fluoride added to water supplies is sourced from industrial by-products and contains contaminants that are potentially harmful to health.
- 275.8. That there is a body of credible scientific evidence that shows that adding fluoride to water supplies to achieve a level of 0.7 to 1 ppm fluoride is potentially harmful to health.
- 275.9. That there is no credible scientific research to show how drinking fluoridated water at between 0.7 and 1 ppm fluoride can reduce tooth decay.

276. No evidence has been filed by any of the councillors as to what considerations taken into account. The only evidence is contained in the Minutes of 10 December 2012.⁶⁰
277. It is apparent that the majority of councillors were content to rely on the evidence of the public health officials and dismiss the contrary evidence provided by the majority of submitters. In effect they abdicated their responsibility to independently consider the issue.
278. From a perusal of the minutes it is clear that while there was some acknowledgement that fluoride was a “medication” no consideration was given to this in the context of s 11 of the NZBORA and none of the mandatory relevant considerations were taken into account.
279. Processes such as the defendant’s are poorly geared towards a proper consideration of issues involving fundamental human rights. This further confirms that if fundamental rights are to be limited, explicit authorisation and guidance needs to be provided by Parliament.

⁶⁰ Common Bundle, Vol 8, p 3265

RELIEF SOUGHT

280. The plaintiff seeks the following relief:

280.1. A declaration that the defendant has no power to add fluoride to the water supply for therapeutic purposes;

280.2. A declaration that the defendant's decision to add fluoride to the water supply constitutes a breach of s 11 of the NZBORA and that such breach is not prescribed by law;

280.3. A declaration that the defendant's decision to add fluoride to the water supply constitutes a breach of s 11 of the NZBORA and that such breach is neither prescribed by law nor reasonably justified.

280.4. An order quashing the defendant's decision.

280.5. Costs.

DATED this day of November 2013

Lisa Hansen

Counsel for the plaintiff

Appendix A

Countries that Fluoridate their Water

(SOURCE: British Fluoridation Society; November 2012)

Country	Number of People Drinking Artificially Fluoridated Water	% of Population
Argentina	3,100,000	19%
Australia	17,600,000	80%
Brazil	73,200,000	41%
Brunei	375,000	95%
Canada	14,260,000	44%
Chile	11,800,000	70%
Fiji	300,000	36%
Guatemala	1,800,000	13%
Guyana	45,000	62%
Hong Kong	6,968,000	100%
Irish Republic	3,250,000	73%
Israel	5,270,000	70%
Libya	400,000	22%
Malaysia	20,700,000	75.5%
New Zealand	2,330,000	61%
Panama	510,000	15%
Papa New Guinea	102,000	6%
Peru	500,000	2%
Serbia	300,000	3%

Singapore	5,080,000	100%
South Korea	2,820,000	6%
Spain	4,250,000	11%
United Kingdom	5,797,000	11%
United States	194,206,000	64%
Vietnam	3,500,000	4%
Total	369,656,000	5%

SOURCE: British Fluoridation Society (2012). One in a Million: The facts about water fluoridation. Available online at: <http://www.bfsweb.org/onemillion/onemillion2012.html> (updated Nov. 2012)

COMMENTS

- The NZ figures are now out of date. With Hamilton ceasing fluoridation in 2013 the figure is approximately 48%.
- Most [developed nations](#) do not fluoridate their water. In western Europe, for example, [only 3%](#) of the population consumes fluoridated water.
- While 25 countries have water fluoridation programs, 11 of these countries have less than 20% of their population consuming fluoridated water: Argentina (19%), Guatemala (13%), Panama (15%), Papua New Guinea (6%), Peru (2%), Serbia (3%), Spain (11%), South Korea (6%), the United Kingdom (11%), and Vietnam (4%).
- Only 11 countries in the world have more than 50% of their population drinking fluoridated water: Australia (80%), Brunei (95%); Chile (70%), Guyana (62%), Hong Kong (100%), the Irish Republic (73%), Israel (70%), Malaysia (75%), New Zealand (62%), Singapore (100%), and the United States (64%).
- In total, 377,655,000 million people worldwide drink artificially fluoridated water. This represents 5% of the world's population.
- There are more people drinking fluoridated water in the United States than the rest of the world combined.

APPENDIX B: FLUORIDATION IN NZ**North Island****Northland**

Far North District Council	no (Kaitaia, Kaikohe stopped 31st March 09)
Kaipara District Council	no
Whangarei District Council	no

Auckland Super City

yes (except Onehunga)

Waikato

Hamilton City Council	No (stopped November 2013)
Hauraki District Council	no
Matamata-Piako District Council	no
Otorohanga District Council	no
South Waikato District Council	yes, but only Tokoroa
Thames-Coromandel District Council	yes, but only Thames
Waikato District Council	yes
Waipa District Council	no
Waitomo District Council	no

Bay of Plenty

Kawerau District Council	no
Opotiki District Council	no
Rotorua District Council	no

Taupo District Council	yes
Tauranga City Council	no
Western Bay of Plenty District Council	no
Whakatane District Council	yes

Taranaki

New Plymouth District Council	no (stopped October 2011)
South Taranaki District Council	yes
Stratford District Council	yes

Gisborne

Gisborne District Council	yes
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Hawke's Bay

Central Hawke's Bay District Council	no (stopped September 2012)
Hastings District Council	yes
Napier City Council	no
Wairoa District Council	no

Wellington

Carterton District Council	no
Hutt City Council	yes, except Petone
Kapiti Coast District Council	yes
Masterton District Council	yes
Porirua City Council	yes
South Wairarapa District Council	no
Upper Hutt City Council	yes

Wellington City Council	yes
<u>Manawatu-Wanganui</u>	
Horowhenua District Council	no
Manawatu District Council	yes, but only Feilding
Palmerston North City Council	yes
Rangitikei District Council	no
Ruapehu District Council	no (stopped June 2011)
Tararua District Council	no
Wanganui District Council	no
South Island	
<u>Tasman</u>	
Tasman District Council	no
<u>Nelson</u>	
Nelson City Council	no
<u>Marlborough</u>	
Marlborough District Council	no
<u>West Coast</u>	
Buller District Council	no
Grey District Council	no
Westland District Council	no
<u>Canterbury</u>	
Ashburton District Council	yes - but only Methven
Christchurch City Council	no

Hurunui District Council	no
Kaikoura District Council	no
Mackenzie District Council	no - Twizel stopped 16/07/1984, no other towns ever fluoridated
Selwyn District Council	no
Timaru District Council	no
Waimakariri District Council	no
Waimate District Council	no
<u>Chatham Islands</u>	
Chatham Islands Council	no
<u>Otago</u>	
Central Otago District Council	no - but have agreed (2102) to consult residents on fluoridating Ranfurly
Clutha District Council	yes - Milton, Kaitangata and Tapanui only started in 2011
Dunedin City Council	yes
Queenstown-Lakes District Council	no
Waitaki District Council	no
<u>Southland</u>	
Gore District Council	no - stopped 30/02/1984
Invercargill City Council	yes
Southland District Council	no
<u>Total</u>	
Total number of councils	67

Total fluoridating

22 (if Ashburton District is included) -