

## Uncertainty about pending challenges to the lawfulness of Ministry of Health fluoride directives to TLAs.

Local districts have been poorly served by the actions of the Ministry of Health, the Environment Protection Authority and the Select Committee process.

Ministry of Health studies on fluoride and the prevention of dental caries demonstrate that there may be – but this is inconsistent, a marginal reduction in the prevention of some dental caries. This marginal decrease must be lawfully balanced against other risks to health, so as to protect health. Risk includes risks to brains and bones, the main target organs of fluoride.

Rule of law in a democracy is founded on constitutional and administrative law principles. Certain rights, opportunities, and obligations follow. New laws must be reasonable. Processes and procedures followed by officials and elected members must promote trust. Based on cost/benefit, balancing risk with benefit.

It is the duty of every local authority to improve, promote, and protect public health within its district. The purpose of the Water Services Act is to ‘provide safe drinking water to consumers.’

You’ll be aware that safe in the latter Act includes ‘*other causes together with the consumption or use of drinking water.*’

You may consider that Auckland and Wellington have been fluoridated since the 1960s and that extending fluoridation here is based on solid grounds. With respect to the current state of scientific evidence, solid grounds do not exist.

When did the Ministry of Health consider the lowest safe level of exposure of fluoride in drinking water in combination with existing levels of fluoride? Are you aware that fluoride exposures in 5-7 year olds are higher than older age groups? That’s a 2018 study that was ignored by agencies and the 2021 Inquiry committee. How much fluoride should be added to prevent harm from prenatal exposures to 7 year olds, based on Bay of Plenty data?

Since the 1960s, years studies showing an association between levels of exposures to fluoride and neurodevelopmental cognitive and IQ risk, particularly for exposures during pregnancy and up to 7 years have been consolidating.

Please note, as the European Food Safety Authority states, fluoride is not a nutrient. Where commonly ingested nutrients have upper limits by orders of magnitude, for fluoride the margin is unknown and slim. Fluoride is a known neurotoxin. Our authorities do not discuss this.

In the 50 years of fluoridating Wellington & Auckland, the NZ EPA have never conducted a risk assessment – either of emissions to water or to assess the lower limit where neurodevelopmental risk, and other problems such as skeletal fluorosis, may occur.

Administrative law requires that decision-makers take into account facts which contribute to risk. This has not been undertaken.

The legislation permitting the Director General to mandate fluoridation of water – which has potential to adversely harm sub-populations, is primarily based on two reviews (2014 and 2021) by the Office of the Prime Minister’s Chief Science Advisor (OPMSCA), a non-regulatory body who had no terms of reference, no methodology to demonstrate that impartial processes were followed.

The OPMSCA’s 2021 advisory committee was over-weighted with experts with a bias towards dental and oral health. Indeed, the author of one of the papers which was heavily weighted in the 2021 update was on this committee.

I think the courts would regard such a bent panel dimly. There were no experts with a focus on neurodevelopmental or cognitive risk on this panel.

Then let us appreciate two submission processes to Government Committees, one in 2016 and one in 2021. Despite thousands – indeed ‘most’ submissions from the public expressing great concern for the safety of fluoride and health risk, neither committee took it upon themselves to consider the public's cause for alarm. In fact, both Committees dismissed public comments, claiming that fluoride safety was outside the scope of interest.

Massive reviews of the literature by globally recognised institutions are rare. The US based National Toxicology Program (NTP) reviewed the literature on cognitive and IQ risk. It's evident from this paper that the guideline limit of 1.5 mg/L (established in 1984) is now arguably unsafe. The global debate now rests around the issue of whether the current claimed safe level of 0.7 mg/L is safe or not. The most expert scientific committee in the world will not say that level is safe. Their case rests upon multiple studies at many different levels, and the fact is - no lower limit of exposure has been demonstrated to be safe for cognitive risk and loss of IQ. Neurodevelopmental risk.

The NTP study looked at NZ's Otago Broadbent study. NTP scientists are far less favourable of the Broadbent study than the OPMSCA. The NTP consider there are multiple uncertainties in that paper. The OPMSCA did not carry out a meta-review.

Despite 50 years of dosing Auckland and Wellington none of multiple brain institutes have carried out a study to look at a safe lower level. We do have many problems with cognition and IQ in our schools. There can be no claim fluoridation is not a factor. Exposures and brain risk are generally not studied in New Zealand.

The current exposure levels of our children were not considered by the OPMSCA even though that data was available. There seems to be a very slim margin between exposure levels and so-called safe levels as required by the Water Services Act.

Mean 5–7-year-old urinary levels are 743 µg/L – 0.74 mg/L, while the average of all children in an 2018 study was 0.63 mg/L. 5-7 year olds – 18% higher.

If we think about the mean level of under 18's in the BOP in this study – the mean was 0.502 mg/L. Add 18% to factor in higher exposures to 5-7 year olds – 0.593 mg/L – nearly 0.6 mg/L.

Drinking water suppliers are going to add 0.7 mg/L and above. Kids most developmentally vulnerable may already sit at this level.

Exposure levels are already high – it is understood that only half of urine is excreted with the rest absorbed into bones and tissues. Has the TCC taken account of this?

The Ministry of Health hasn't.

Is there a plan within the TCC to take account of local exposure levels in local children? What TCC may also be uninterested in is the impact to Council assets and state houses from fluoridated water.

Fluoride is highly reactive, it has a strong negative charge. It binds lead and copper. Have you looked at the cost to utilities outside drinking water utilities – this includes state housing.

So – for a marginal and highly uncertain reduction, do you consider that the risk benefit calculation is appropriate, and that the science really has been considered.

Government processes leading up to the passing of the legislation which transferred power to direct drinking water to be fluoridated to the Director General, do not appear on the surface to be fair. The compulsory fluoridation potentially impacts personal rights and interests.

Perhaps a delay in chasing up tenders and signing contracts might be appropriate.

The public deserve to understand whether the decision to fluoridate was reached justly and fairly

**END**

Tauranga will be dosed with hydrofluorosilicic acid (HFA)

<https://www.gets.govt.nz/TCC/ExternalTenderDetails.htm?id=28315665>

## **Health Act 1956**

S 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—

## **Water Services Act 2021**

3 Purpose of this Act

(1) The main purpose of this Act is to ensure that drinking water suppliers provide safe drinking water to consumers by—

(a) providing a drinking water regulatory framework that is consistent with internationally accepted best practice, including a duty on drinking water suppliers to—

(i) have a drinking water safety plan; and

(ii) comply with legislative requirements (such as drinking water standards) on a consistent basis; and

7 Meaning of safe in relation to drinking water

(1) In this Act, unless the context otherwise requires, safe, in relation to drinking water, means drinking water that is unlikely to cause a serious risk of death, injury, or illness,—

(a) immediately or over time; and

(b) whether or not the serious risk is caused by—

(i) the consumption or use of drinking water; or

(ii) other causes together with the consumption or use of drinking water.

**Table 17a. Geometric means for urinary fluoride, adults.**

	n	n< LOD	GM µg/L	95%CI	(R <sup>2</sup> ) p-value	GM µg/g crea	95%CI	(R <sup>2</sup> ) p-value	GM µg/L spgr	95%CI	(R <sup>2</sup> ) p-value
all	304	0	759	710-812	(0.132)	608	563-657	(0.237)	833	778-892	(0.156)
age 19-24	53	0	804	700-924		515	442-599		832	729-950	
25-34	65	0	740	645-850		472	414-538		723	631-829	
35-49	83	0	749	651-863		597	511-697		833	721-962	
50-64	103	0	757	675-849	0.932	789	690-904	<0.0001	912	809-1029	0.055
male	140	0	778	708-854		499	455-548		744	681-814	
female	164	0	744	677-818	0.332	720	644-805	<0.0001	918	831-1013	0.002
Māori	115	0	758	681-845		598	525-681		805	717-903	
non-Māori	189	0	760	698-827	0.859	615	559-676	0.525	851	782-926	0.370
Northland/Auckland	67	0	964	842-1103		776	669-900		1101	968-1253	
Waikato/BoP	84	0	797	706-901		558	490-636		812	730-904	
lower North Island	78	0	821	727-928		680	573-808		886	762-1031	
South Island	75	0	535	474-604	<0.0001	479	417-551	<0.0001	627	551-713	<0.0001

LOD: limit of detection (19 µg/L); 95%CI: 95% confidence interval of the geometric mean (GM); R<sup>2</sup>: R-squared of the multivariate linear regression model; p-value: the p-value of the multivariate linear regression model for that variable; crea: creatinine adjusted; spgr: specific gravity adjusted.

**Table 17b. Geometric means for urinary fluoride, children.**

	n	n< LOD	GM µg/L	95%CI	(R <sup>2</sup> ) p-value	GM µg/g crea	95%CI	(R <sup>2</sup> ) p-value	GM µg/L spgr	95%CI	(R <sup>2</sup> ) p-value
all	299	0	628	586-674	(0.190)	626	577-678	(0.307)	584	546-624	(0.210)
age 5-7	64	0	743	642-859		871	754-1006		668	584-764	
8-10	120	0	679	616-750		731	653-817		629	567-698	
11-18	115	0	528	469-593	0.001	443	389-503	<0.0001	500	448-559	0.003
male	144	0	651	588-720		624	555-701		584	529-644	
female	155	0	608	553-669	0.138	627	562-701	0.933	584	532-640	0.654
Māori	87	0	597	528-675		583	509-669		546	489-609	
non-Māori	212	0	642	590-698	0.152	644	584-710	0.040	600	552-652	0.044
Northland/Auckland	50	0	492	410-590		390	317-480		444	379-520	
Waikato/BoP	48	0	502	422-597		535	426-671		481	408-566	
lower North Island	171	0	762	704-826		796	735-862		716	664-773	
South Island	30	0	450	370-546	<0.0001	448	344-583	<0.0001	391	314-487	<0.0001

LOD: limit of detection (19 µg/L); 95%CI: 95% confidence interval of the geometric mean (GM); R<sup>2</sup>: R-squared of the multivariate linear regression model; p-value: the p-value of the multivariate linear regression model for that variable; crea: creatinine adjusted; spgr: specific gravity adjusted.

For one of the 300 available urine samples fluoride results were not available due to insufficient sample to perform the analysis.

What are the exposures in the BOP for children aged 5-7?

Mean of all children aged 5-7 is 743 µg/L (mean of all 628) 18.3% higher than mean

- this converts to 0.743 mg/L

Younger ages had higher urinary fluoride levels. Urinary fluoride is associated with recent exposure.

BOP mean is at 502 – add 18% to think about 5-7 year olds. 593