IN THE HIGH COURT OF NEW ZEALAND
NEW PLYMOUTH REGISTRY

CIV-2013-443-107

UNDER THE	Judicature Amendment Act 1972 and Declaratory Judgements Act 1908
IN THE MATTER	of an application for judicial review and an application for declaration
BETWEEN	**NEW HEALTH NEW ZEALAND INC**
	Plaintiff
AND	**SOUTH TARANAKI DISTRICT COUNCIL**
	Defendant

AFFIDAVIT OF GREGORY CONRAD SIMMONS ON BEHALF OF THE DEFENDANT

AFFIRMED 6th **September 2013**

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I, Gregory Conrad Simmons, of New Plymouth, Public Health Medicine Specialist, solemnly and sincerely affirm:

1. I am a public health physician for Taranaki District Health Board (**TDHB**). I summarise my relevant qualifications and experience below:

   (a) I hold the following qualifications:

      (i) Bachelor of Human Biology (BHB, 1980);
      (ii) Bachelor of Medicine and Bachelor of Surgery (MBChB, 1983);
      (iii) Diploma in Obstetrics (Dip Obst, 1985); and
      (iv) Master of Public Health (MPH, 1996).

   (b) I am a Fellow of the Royal New Zealand College of General Practice (FRNZCGP, 1998), a Fellow of the Australasian Faculty of Public Health Medicine (FAFPHM, 1998), and a Fellow of the New Zealand College of Public Health Medicine (FNZCPHM, 2008).

   (c) My medical career spans 30 years and commenced with House Surgeon positions in Taranaki and Auckland from 1983 to 1985. I then entered General Practice, spending 8 years specialising in obstetrics on Auckland's North Shore.

   (d) I retrained in Public Health in 1993 and spent a year in the Department of Community Health at the University of Auckland as junior researcher in cardiovascular epidemiology. I joined the Auckland Regional Public Health Service as a Public Health Registrar in 1995 and subsequently qualified as a Public Health Physician in 1998, working in the areas of environmental health and disease control.

   (e) I was Medical Officer of Health for Auckland until 2008, when I was seconded to the New Zealand Ministry of Health as Chief Advisor Population Health until 2009.

(f) I commenced employment with TDHB in 2009 as Medical Officer of Health and became Chief Medical Advisor to the Board in 2012.

2. I confirm that I have read and am familiar with the Code of Conduct for expert witnesses in Schedule 4 to the High Court Rules and agree to comply with it. I am familiar with the matters at issue in this proceeding and this evidence is within my area of expertise. I am authorised to make this affidavit on TDHB's behalf.

3. I have personal knowledge of the facts and matters set out in this affidavit. I have read the affidavits of:

(a) David Menkes; and
(b) Martin Ferguson,

filed in these proceedings on behalf of the Plaintiff.

4. In my statement below, I describe the socio-economic and population factors relevant to South Taranaki District Council's decision to fluoridate drinking water in Patea and Waverley.

5. In my opinion, fluoridation is particularly appropriate for these towns and is likely to reduce oral health inequalities among residents.

Fluoridation helps decrease oral health inequalities in children, Maori and lower socio-economic communities

6. On a national level, oral health inequalities exist between Maori (and Pacific Islanders), and non-Maori New Zealanders. Inequalities also exist between lower socio-economic communities and higher socio-economic communities, and children who have access to fluoridated drinking water and those who do not.

7. Figure 1 below compares the average number of decayed, missing, and filled tooth surfaces (**DMFS**) among 12 year old children living in Wellington who are exposed to community water fluoridation against the DMFS for those living in Christchurch, without community water

fluoridation. The figure further stratifies DMFS by socioeconomic status and ethnicity. The level of tooth decay is higher among poorer children, Maori and Pacifc Island children.

Figure 1[1]

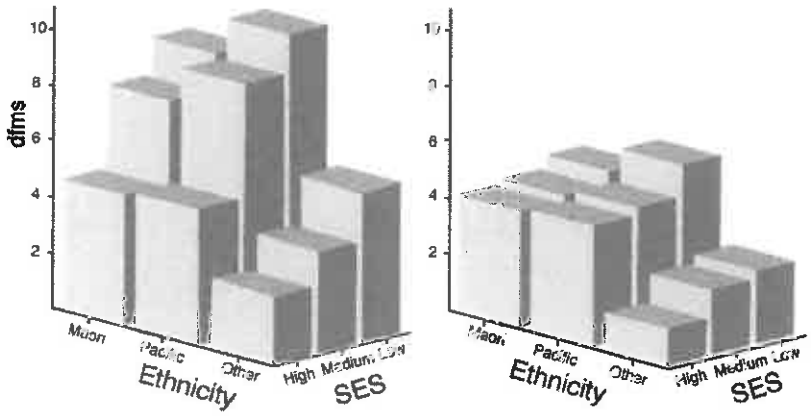


FIG 1 - Mean dmfs scores by ethicity and socioeconomic status for 5-year-olds from non-fluoridated and fluoridated areas.

8. Decay is also higher among children in Christchurch not receiving community water fluoridation regardless of socioeconomic status or ethnicity.

9. Maori have a significantly higher prevalence of tooth decay than non-Maori. The decayed, missing and filled deciduous (baby teeth) (**dmft**) and permament teeth (**DMFT**) scores in children are a common measure, as discussed by Ms Pryor in her affidavit.

10. In Taranaki in 2009, Maori children in non-fluoridated areas had a mean DMFT score of 3.7, whereas non-Maori had a mean score of 1.4.[2] The difference between Maori and non-Maori children is smaller in areas where the drinking water is fluoridated – Maori children had a mean DMFT score of 2.8, whereas non-Maori had a mean score of 1.4.

[1] Lee M, Dennison P. Water fluoridation and dental caries in 5- and 12-year-old children from Canterbury and Wellington. NZ Dental J 2004,100, No. 1: 10-15.
[2] Taranaki DHB Community Oral Health Service 2009.

11. It is important to recognise that these scores are averages. Children with tooth decay are likely to have a far larger number of decayed, missing or filled teeth than the average, as a proportion of children will be decay free. Also, DMFT scores do not account for multiple surface decay on a single tooth, and one tooth could have decay on all five of its surfaces and potentially require extraction but that tooth would only amount to a single DMFT score.

12. The Ministry of Health's New Zealand Health Survey (2008) also highlighted the oral health inequalities between Maori and non-Maori. In Taranaki, it is estimated that 19.7% of Maori had an "unmet oral health care need".[3] The percentage of non-Maori estimated to have unmet need was a much lower 9.8%.

13. The respondents in the New Zealand Health Survey who reported they had "unmet oral health care" were indicating that, in the last year, they felt they should have seen an oral health professional but did not for a variety of reasons. Cost was the most common reason cited nationally for adults, at 52.9% of respondents.

14. Techniques for improving oral health such as brushing teeth twice daily, flossing, regular dental check-ups and a low sugar diet are either not obtainable, or not a priority for many people in communities of low socio-economic status.

15. Despite broad and persistent oral health promotion over several decades, many people do not take proper care of their teeth. The 2009 Oral Health Survey[4] found that 36.5% of children nationwide do not brush their teeth twice daily and 57% of children do not brush twice a day with a fluoride-containing toothpaste of 1000ppm or greater.

16. Also, 34.7% of adults (aged 18 years and over) stated they did not brush their teeth twice a day with toothpaste containing 1000ppm of fluoride or greater. In my opinion, even if toothbrushes and tooth paste were free, there is no certainty that they would be used appropriately.

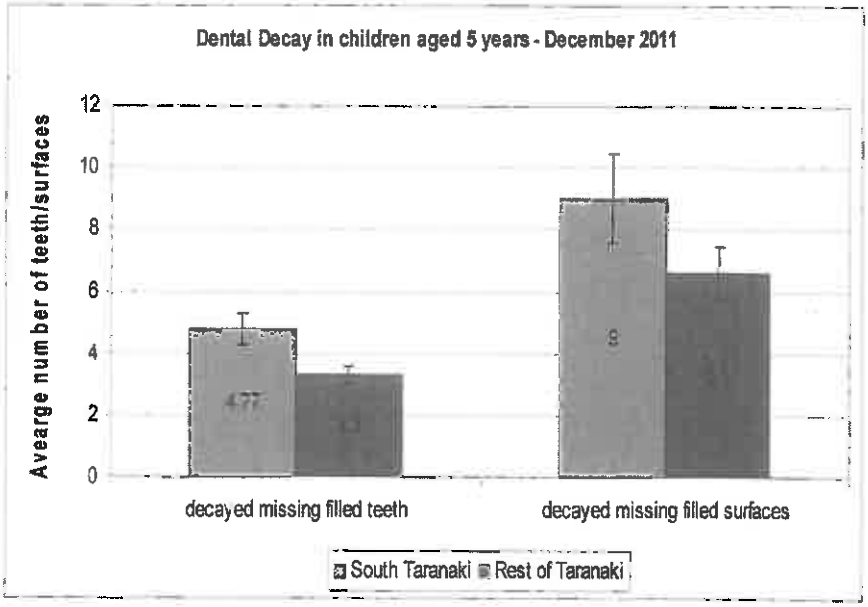
[3] Ministry of Health 2008, 2006/07 New Zealand Health Survey.
[4] 2009 New Zealand Oral Health Survey.

17. Patea and Waverley are examples of the populations that suffer some of the worst tooth decay in Taranaki and New Zealand. Both Patea and Waverley are among the 10% (NZDep 10[5]) of the most socioeconomically deprived populations in New Zealand. Also, the proportion of Maori in both towns is higher than for the whole of Taranaki (15%[6]). Patea is 51% Maori and Waverley is 31%.

18. The graphs below at Figures 2 and 3, demonstrate difference in the prevalence of tooth decay in South Taranaki against the rest of Taranaki. Children residing in South Taranaki District, suffer significantly worse oral health than those in the rest of Taranaki (Figure 2), and the decay in Patea and Waverley is some of the worst in South Taranaki.

19. The data on dental decay is collected in a systematic way by Community Dental Therapists during the routine examination and treatment of children. The information is entered using a software programme called 'Titanium' which provides statistics on dental decay.

Figure 2.[7]



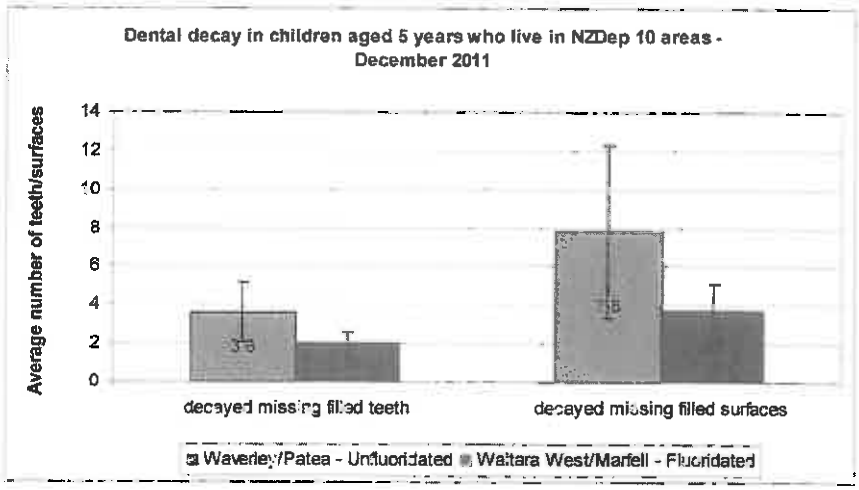
[5] Salmond C, Crampton P, Atkinson J, NZDep2006 Index of Deprivation, August 2007, University of Otago, Wellington.
[6] Census 2006.
[7] Source: Titanium Database of the Taranaki District Health Board Oral Health Service.

20. An analysis of data in the Titanium database was conducted in order to determine the likely effect of introducing community water fluoridation into Patea and Waverley. The analysis looked at dental decay in 5 year old children living in Patea and Waverley and compared decay among 5 year old children in Waitara West and Marfell. Waitara West and Marfell are the only two communities in the New Plymouth District of the same level of socioeconomic deprivation as Patea and Waverley (NZDep 10) and have similar proportions of Maori children as Patea and Waverley.

21. At the time, Waitara West and Marfell were served by a fluoridated water supply. There are no grounds to expect that the diet of 5 year olds living in Patea and Waverley differs from those living in Waitara West and Marfell. So effectively, the analysis controls for key 'confounders' of oral health status: age, ethnicity and socioeconomic status are the same or very similar.

22. Figure 3 would suggest an expected impact of introducing community water fluoridation to Patea and Waverley of about a 50% reduction in the level of tooth decay, which would be a significant improvement.

Figure 3[5]



23. The benefits of fluoridation are in my view clear, as demonstrated in my and my TDHB colleagues' submissions to South Taranaki District Council.[8]

24. In my view, the benefits of community water fluoridation are greatest where the population has the least means to access other sources of oral health care. Community water fluoridation is an ideal public health intervention, having the greatest effect on those populations with the highest unmet oral health needs and in doing so redressing oral health inequalities. Communities such as Patea and Waverley, stand to gain the greatest health benefit from community water fluoridation.

25. It is my view, and that of TDHB, that fluoridation of the community water supplies in Patea and Waverley is a positive and most necessary step.

Gregory Conrad Simmons

AFFIRMED at New Plymouth this 6th day of September 2013 before me:

A Solicitor of the
High Court of New Zealand

[8] Common bundle of documents, pages 183 – 241, 246-249, 297-301, 685 and 1670 – 3216.