

## **THE FLUORIDATION EXPERIMENT SHOULD CEASE**

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I made a paid hobby, in my academic career, of publicising several health hazards. The first, in 1971 – aerial spraying of 2,4,5-T – provoked anti-fluoridation activists to accost me for help. I wouldn't have anything to do with them; Prof Edson (Otago) had looked into fluoridation and concluded it caused no harm and some benefit.

Ensuing campaigns against nuclear weapons, nuclear power stations, lead additives in petrol, genetic 'engineering' etc. forced me to realise that governments can quite often be misled by misrepresentations of science. I therefore later looked into fluoridation for myself. The evidence failed to show detectable good. That fact alone should rule out any such mass medication. Worse, several types of harm to health are strongly suggested by evidence which, in circumstances of uncontrolled variables, cannot be scientifically conclusive but is more than worrying enough to rule out fluoridation.

Contrast the proven mass medication of iodised salt, which does prevent goitre and is not suspected of harm. Another example is folate supplement in bread flour, which prevents a worthwhile proportion of birth defects such as spina bifida.

As the facts stand today, there is good evidence that fluoride can inhibit tooth decay (caries) – if applied directly to the teeth (in fluoridated toothpaste); but fluoride in drinking water, a thousand times less concentrated, is not proven to confer any benefit.

Tooth decay turns out to have declined by about two-thirds since the 1950s in the wealthy countries that gather dental statistics. This welcome trend is not understood; possible causes include improved diet, better brushing, widespread antibiotics secreted in saliva, and, more recently, fluoride in toothpaste, a concentrated direct application that does work. Much of the

decrease in NZ preceded, and therefore cannot have been caused by, fluoridation.

In some still-controversial studies, fluoridation has been rather closely correlated with cancer. Various other types of harm have been reasonably suspected; the one established beyond dispute is dental fluorosis - bilaterally symmetrical diffuse white mottling of the teeth, a form of damage commonly observed among children drinking water fluoridated to 1 ppm (*i.e.* 1 mg/litre). The margin, if any, is uncomfortably slim between 1 ppm and levels known to cause serious damage to bones (skeletal fluorosis).

Also, there are many possibilities for adverse synergistic reactions between the fluoride added to water and the thousands of other chemicals to which modern industrial systems expose us. Little research is done to look for such synergisms. Lack of evidence does not equal proof of safety!

The oft-mentioned Hastings fluoridation experiment begun in 1952 is widely believed to have proven that fluoride added to the public water supply decreases tooth decay; but detailed review has revealed it was rigged. The experiment was initially planned with a 'control' city, Napier, drawing from the same aquifer, not fluoridated (natural concentration 0.015 ppm fluoride). Surviving records suggest the decay rate was declining if anything faster in Napier than in Hastings. That was presumably the reason why the comparison was quietly abandoned.

A key intervention, also not publicised, was the order to refrain from filling tiny defects in enamel. This was doubtless a logical improvement in dentistry; but it had the effect of decreasing the filling rate, which is, in such thorough systems of dental services, very close to the decay rate. The claimed success was, in this way, rigged.

A yet less widely known fact I pointed out in 1986: within the design of the Hastings/Napier experiment, the dental nurses ceased their routine application of concentrated fluoride directly onto teeth. This change makes all the more difficult any inferences of effects during the study.

Later trials claimed to demonstrate benefit from fluoridation have been severely criticized for lack of controls, and other major defects. Thorough surveys (including in NZ) have refuted early claims that natural fluoride in water is correlated with relative freedom from tooth decay.

Fluoridation reclassifies toxic waste liabilities of aluminium smelters (sodium fluoride) and superphosphate factories (fluosilicic acid & many other names) into commercial products disbursed as 'mass medication'.

The majority of dentists, who continue to advocate fluoridation as taught in their BDS lectures, stand to lose financially from fluoridation if it does decrease caries. They are behaving altruistically, not selfishly. They deserve credit for good intentions. But the facts refute their misinformed belief.

Dr Mann was Senior Lecturer in Biochemistry & in Environmental Studies, University of Auckland; he published the main facts on the 'Hastings' experiment, with his then doctoral student the dentist John Colquhoun, in *The Ecologist* <<http://exacteditions.theecologist.org/read/resurgence/vol-16-no-6-1986-5395/18/3/>>