

**LEGISLATIVE ASSEMBLY FOR THE AUSTRALIAN CAPITAL TERRITORY**

**STANDING COMMITTEE ON  
SOCIAL POLICY**

**INQUIRY INTO WATER  
FLUORIDATION IN THE ACT**

**JANUARY 1991**

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## **COMMITTEE MEMBERSHIP**

<b>Presiding Member:</b>	<b>Mr Bill Wood</b>
<b>Deputy Presiding Member:</b>	<b>Mrs Robyn Nolan</b>
<b>Members :</b>	<b>Dr Hector Kinloch</b> <b>Ms Carmel Maher</b> <b>Mr Dennis Stevenson</b>
<b>Committee Secretaries :</b>	<b>Dr Ann Scott</b> <b>Ms Judith Henderson</b>
<b>Research Officer:</b>	<b>Mr David James</b>
<b>Administrative Assistant :</b>	<b>Mrs Kim Blackburn</b>



## **PREFACE**

I thank my colleagues on the Committee for their dedication over a long period as we examined this matter. It has not been easy for there are strongly held views within the Committee as there are in the community.

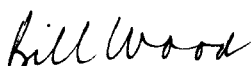
Our major difficulty has been to separate fact from fiction. Indeed I sometimes wondered if fluoridation was being made the scapegoat for every ill, real or imagined.

Throughout the report we have sought to cite only those scientific and research references which we believe to be valid, except Chapter 6, which allowed an extensive review of the range of views opposed to fluoridation.

Great reliance has to be placed on the interim report of the Working Group on the Effectiveness of Water Fluoridation of Australia's premier scientific body, the National Health and Medical Research Council which rejected recent arguments questioning the value and safety of fluoridation.

Those who quote this report, or seek to use it as evidence one way or another, should note that the recommendation for a level of 0.5 ppm is based predominantly on the ground that with fluoride provided to ACT residents from more sources than in 1964, it simply may not be necessary to retain the former level to achieve the desired beneficial result on children's teeth.

I thank Dr Ann Scott and Ms Judith Henderson for their outstanding work and assistance to the Committee in the preparation on this report.



**Bill Wood**  
**Presiding Member**  
29 January 1991.



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## PART I

### 1 ESTABLISHMENT OF THE INQUIRY INTO WATER FLUORIDATION IN THE ACT

1.1 The Standing Committee on Social Policy was created by the ACT Legislative Assembly on 23 August 1989.

1.2 On Wednesday 27 September 1989, the ACT Legislative Assembly passed the **Electricity and Water (Amendment) Act (No 2) 1989**, which banned the fluoridation of the ACT water supply for six years, to be followed by a referendum.

1.3 On Thursday 28 September 1989 the Legislative Assembly referred an inquiry into water fluoridation in the ACT to the Standing Committee on Social Policy, asking that:

- (1) the matter of fluoride in relation to public health be immediately referred to the Standing Committee on Social Policy;
- (2) the committee be asked to seek professional, technical and scientific advice on several matters including:
  - (a) the effect of fluoride on public health;
  - (b) the issue of mass medication and civil liberties; and
  - (c) other matters relating to the issue of fluoridation in the ACT which the committee considers should be drawn to the attention of the Assembly.

1.4 On Monday 9 October the ACT Electricity and Water Authority ceased adding fluoride to the ACT water supply, which supplies the ACT and the City of Queanbeyan.

1.5 On 18 October 1989 the Legislative Assembly passed a second bill, the **Water Supply (Chemical Treatment) Act 1989**, which permitted the continuation of water fluoridation in the ACT until 30 June 1990. It was also established that 31 May 1990 was the date by which the Social Policy Committee should table its report.

1.6 On 3 May 1990 a motion to postpone the reporting date to 29 November 1990 was passed by the Legislative Assembly. The purpose of this delay was to enable the Committee to take account of the findings of the National Health and Medical Research Council's Working Group on the Effectiveness of Water Fluoridation.

1.7 At the time of moving the motion, the Presiding Member of the Social Policy Committee, Mr Bill Wood, tabled a letter to the National Health and Medical Research Council seeking information on the Working Group's proposed reporting date.

1.8 On 6 June 1990 the Legislative Assembly passed the **Water Supply (Chemical Treatment ) (Amendment ) Act 1990** which extended the continuation of water fluoridation until 28 February 1991.

1.9 On 29 November 1990 a further motion postponing the reporting date to the first sitting day of 1991 was moved. The motion was passed with amendment by the ACT Legislative Assembly. The amendment stated:

and if the Standing Committee on Social Policy is unable to present a report by this date then the Committee be required to present a range of options for consideration by the Assembly to resolve these issues<sup>1</sup>.

1.10 In November 1990, the National Health and Medical Research Council Working Group issued an interim report. This interim report indicated that the full draft report was still being finalised and that it was planned that it would be completed and submitted to the Health Care Committee of the Council within three months.

1.11 The Social Policy Committee finalised its own report taking account of the Working Party's interim conclusions and recommendations.

1.12 The Committee acknowledges that as it is now 25 years since fluoride was added to Canberra's water supply it is an appropriate time to assess its efficacy and safety.

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<sup>1</sup> Legislative Assembly for the Australian Capital Territory Minutes of Proceedings No 88 item 20.

## **2 METHOD OF INQUIRY**

2.1 The Committee advertised the inquiry in both the local and national press in late October and early November 1989. The advertisement called for submissions to be received by 28 February 1990. As a result of the extension of the reporting date submissions were accepted until November 1990.

2.2 The Committee thanks all those who made submissions and gave evidence.

2.3 Appendix 1 lists all those who made submissions to the inquiry. The Committee received submissions from 160 individuals and organisations.

2.4 In addition, the Committee wrote to all embassies and high commissions in Canberra asking for information about water fluoridation policies in the countries concerned and seeking any other information which might assist it in its inquiry.

2.5 In response to this request, information was received from the following embassies:

- Chile
- Czechoslovak Socialist Republic
- Federal Republic of Germany
- Finland
- Greece
- Ireland
- Islamic Republic of Iran
- Italy
- Lebanon
- Norway
- Portugal
- Republic of Chile
- Republic of Korea
- South Africa
- Sweden
- Switzerland
- The Netherlands
- Turkey
- Union of Soviet Socialist Republics
- United States

2.6 Information was also received from the following high commissions:

- Britain
- Canada
- Malaysia
- Pakistan
- Republic of Cyprus
- Republic of Malta
- Singapore

2.7 The Committee is most grateful for assistance it received from the embassies and high commissions.

2.8 The Committee visited the Googong Water Treatment Plant and Pumping Station, one of the two points from which fluoride is added to the ACT water supply.

2.9 The Committee held a number of public hearings. A list of those who gave evidence is at Appendix 2.

2.10 The Committee also travelled to Brisbane and the Gold Coast to hold discussions with state and local government organisations and individuals.

## **GLOSSARY**

2.11 This report uses some abbreviations common to the fluoride debate:

ppm = parts per million

DMFT = decayed, missing or filled permanent teeth

dmft = decayed, missing or filled deciduous teeth

2.12 The terms "anti-fluoridationist" and "pro-fluoridationist" are used in this report to refer in general to those who either oppose or favour the fluoridation of public water supplies. No judgement or criticism is intended or applied in the use of these terms.

### 3 THE HISTORY OF THE WATER FLUORIDATION DEBATE

#### Introduction

3.1 The debate over the fluoridation of public water supplies has a long history. It has, from the start, been characterised by a polarisation of views and mutual suspicion between the opponents and proponents of water fluoridation.

3.2 In February 1990 an article in *Newsweek* on the current debate in the United States concluded:

No-one can foresee how the fluoride debate will play out this time. But since the 1950s, the country's consciousness has been heightened. In the end, deciding whether or not to fluoridate turns less on science than on values. The sheer weight of good research may finally, after four decades, begin to inform those judgments and even overwhelm the unscientific rhetoric that has characterised both sides of the debate for far too long.<sup>1</sup>

3.3 In August 1986 an article in the *Atlantic Monthly*, again referring to the debate in the United States, concluded with the words:

Opinion on the issue of fluoridation is so thoroughly polarized that, as one social scientist has put it, 'only people with iron wills and blinders are willing to get involved'. Debates almost always end in deadlock. Proponents argue that fluoridation is a safe, effective way to protect Americans from costly and painful tooth decay. Opponents counter that fluoride has never been proved safe and that tests showing its effectiveness are inconclusive and biased. Proponents say that fluoridation is the only way to protect the teeth of people too poor to seek dental care. Opponents say that fluoridation interferes with their right to choose their own and their children's medications. No new epidemiologic or laboratory study seems to change the position of either side. This is because the fluoride debate was ushered out of the scientific and into the political arena more than thirty years ago, and it shows no signs of retracing its steps.<sup>2</sup>

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<sup>1</sup> Begley, S, "Don't Drink the Water?", *Newsweek*, 20.2.90, p 65.

<sup>2</sup> Shell, E O, "An Endless Debate", *Atlantic Monthly*, August 1986, p 31.

3.4 The **Journal of the American Dental Association**, a strong advocate of water fluoridation describes the tone of the early debates on fluoride in its criticism of the opposition:

Back in the late '40s and early '50s, everyone was worried about Communist plots, Communist infiltration of the government, and Communists under the bed. It was near hysteria for a while. And while people make jokes of it now, back then it was charged that fluoridation was a Communist plot to poison the American people. But at the same time it was just as real a scare as today when we have anti-fluoridationists charging that fluoridation causes AIDS, Alzheimer's disease, and cancer. Fluoridation gets tagged with whatever comes along.<sup>3</sup>

3.5 While the anti-fluoride case may sometimes have been characterised by far-fetched claims and deep suspicion of what has been seen as a conspiracy on the part of pro-fluoridation lobby, there are undoubtedly reasonable, valid arguments on both sides. Indeed, there has been a tendency for both sides to ignore or discredit the arguments of the other.

The political role of dentists has been emphasized throughout the history of fluoridation. In 1970, even after 25 years of fluoridation, John W Knutson, then professor at the University of California Medical Center, advised dentists that when they discussed fluoridation with the public, they must realize that "they are propagandizing, not simply educating". This attitude, widely shared by political proponents, led early advocates to treat fluoridation campaigns as debates to be won with dogmatic assertions and attacks on the credibility of the opposition. To promoters, the debate has never been seen as a scientific search for truth.

As a result, profluoridationists prepare booklets for the public that contain highly biased information. If scientific studies are cited, only those that support their side of the argument are mentioned. Those opposed to fluoridation counter with equally biased propaganda.<sup>4</sup>

3.6 Given the strength of feeling on both sides of the debate, it was with some trepidation that the Social Policy Committee approached this inquiry. However, as a cross-party committee it embarked on its examination of water fluoridation with great concern to make recommendations which were in the best interest of the ACT community.

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<sup>3</sup> **Journal of the American Dental Association**, vol 118, May 1989, p 529.

<sup>4</sup> Hileman, B, **Fluoridation of Water: Questions about health risks and benefits remain after more than 40 years**, Chemical and Engineering News, 1 August 1988, p 27.

## **History of water fluoridation in the United States**

3.7 There are numerous sources which describe the genesis and history of water fluoridation. It was in the United States of America that the possible causal relationship between fluoride levels in water supplies and the condition of teeth first emerged. In 1901, Dr Frederick McKay, a dentist who had recently moved to the area, observed an unusual brown stain on the teeth of inhabitants of Colorado Springs. He became sufficiently interested to investigate the phenomenon, which he discovered was not restricted to Colorado Springs but appeared in different communities dispersed around the United States. He became convinced that the stain was related to the source of drinking water.

3.8 He believed he had proved this connection in 1923. In 1908, residents of Oakley, Indiana, had built a pipeline to a spring about five miles away:

In time they began to notice brown stains on their children's teeth, while those who grew up there before 1908 and others in nearby towns showed no such discolouration.<sup>5</sup>

3.9 The connection with the level of fluoride in the water supply was made by chemists for the Aluminium Company of America (ALCOA) who analysed the drinking water of a company town, Bauxite, where residents' teeth tended to have the brown stain. They discovered that:

The water contained high trace elements of fluorine, a gaseous element that exists only when it's joined with another element and becomes a fluoride compound.

Fluorine is found in rocks, soil, and sand worldwide. But most of the conventional water analysis methods of the day failed to detect it.

Dr McKay arranged to have water samples from other towns where stained teeth were common sent to ALCOA's lab. Chemists saw that the samples from the communities contained levels of fluoride that ranged from 2 to 13 parts per million. And they concluded that fluoride had caused the stain.<sup>6</sup>

3.10 In the 1930s, the US Public Health Service investigated ways to help eliminate the brown stain. In the course of this investigation, one of the dental officers involved discovered that there was a correlation between instances of fewer caries among children and fluoridated drinking water. It was felt safe to establish that a fluoride concentration level of one part fluoride per million (ppm) of water helped prevent caries and at the same time held no threat of staining teeth.<sup>7</sup>

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<sup>5</sup> Journal of the American Dental Association, vol 118, May 1989, p 530.

<sup>6</sup> Journal of the American Dental Association, vol 118, May 1989, p 532.

<sup>7</sup> Journal of the American Dental Association, vol 118, May 1989, p 532.



3.11 During World War II, the United States government noted that the major cause of rejection for military service was missing teeth. This observation provided the impetus for President Truman to create the National Institute of Dental Research (NIDR) in 1948. The legislation establishing NIDR contained the mandate to conduct research and research training to improve oral health. NIDR's early research focused on eliminating dental caries. The research confirmed to NIDR scientists that fluoride was safe and effective in preventing tooth decay. This led to the United States embarking on a program to fluoridate community water supplies.<sup>8</sup>

3.12 The first addition of fluoride to a community water supply occurred slightly earlier, in Grand Rapids, Missouri. It has been claimed that since that time the steady growth of evidence drawn from surveys and other research has:

yielded unarguable conclusions on fluoride's benefits to oral health. Today, it is one of the country's most heralded public health measures. By 1988, 41 of the 50 largest cities in the United States were served by fluoridated water systems.<sup>9</sup>

3.13 Despite this apparent success, water fluoridation remains a subject of controversy. There are three primary areas of conflict. These relate to safety, efficacy and ethics. These controversies will be examined later in this report.

3.14 Both the proponents of fluoridation of public water supplies and its opponents often have fallen back on what could appear to be irrational arguments. However, the debate is certainly not completely irrational. The debate has become more complex over the years as the sources of fluoride have become more diverse (for example, through toothpastes, topical application by dentists, fluoride tablets and alternative water supplies). This complexity makes proof on either side more difficult to establish.

## **Water fluoridation in Australia**

3.15 The debate is worldwide. Indeed, the Social Policy Committee has received submissions from the United States, the United Kingdom, Canada, New Zealand and Sweden as well as solicited information from other countries, through their Canberra embassies or high commissions.

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<sup>8</sup> Sheridan, P G, "National Institute of Dental Research: Forty Years of Research Advances in Dental Health", *Public Health Report*, Sept-Oct 1988, 103(5), pp 493-9.

<sup>9</sup> Abstract, "Fluoride and oral health: a story of achievements and challenges", *Journal of the American Dental Association*, May 1989, 118(5): pp 529-40.

3.16 In Australia, the debate goes back to the 1950s and 1960s and has surfaced and resurfaced as the various State or local governments have contemplated adding fluoride to their water supplies.

3.17 The debate has always become highly politicised. Brian Head, in an analysis of a fluoridation controversy in Victoria, has written:

Wherever fluoridation has been proposed, opposition has developed to such a level that, what seemed at first to be a "technical" issue to be decided by Health Department experts, became a volatile political controversy marked by great fervour among active partisans on both sides. The emotional nature of the conflict has even led to violence.<sup>10</sup>

3.18 In an analysis of the fluoride debate, **Chemical and Engineering News** reported:

Ever since the Public Health Service (PHS) endorsed fluoridation in 1950, detractors have charged that PHS and the medical and dental establishment, such as the American Medical Association (AMA) and the American Dental Association (ADA), have suppressed adverse scientific information about its effects.

Some of those who generally support fluoridation make similar charges. For example, Zev Ramba, the Washington Bureau editor of **AGD Impact**, the monthly publication of the Academy of General Dentistry, wrote last year that supporters of fluoridation have had an "unwillingness to release any information that would cast fluorides in a negative light," and that organized dentistry has lost "its objectivity – the ability to consider varying viewpoints together with scientific data to reach a sensible conclusion."

The dozen or so scientists C&EN was able to contact who have done research suggesting negative effects from fluoride agree on this aspect. They all say that fluoridation research is unusual in this respect.

If the lifeblood of science is open debate of evidence, scientific journals are the veins and arteries of the body scientific. Yet journal editors often have refused for political reasons to publish information that raises questions about fluoridation. A letter from Bernard P Tillis, editor of the **New York State Dental Journal**, written in February 1984 to Geoffrey E Smith, a dental surgeon from Melbourne, Australia, says: "Your paper ... was read here with interest," but it is not appropriate for publication at this time because "the opposition to fluoridation has become virulent again."

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<sup>10</sup> Head, B W, "The Fluoridation Controversy in Victoria: Public Policy and Group Politics", **Australian Journal of Public Administration**, vol XXXVII, No 3, September 1978, p 257.

The article continues:

Most authoritative scientific overviews of fluoridation have omitted negative information about it, even when the oversight is pointed out. Phillipe Grandjean, professor of environmental medicine at Odense University in Denmark, wrote to the Environmental Protection Agency in June 1985 about a World Health Organization study on fluorine and fluorides: "Information which could cast any doubt on the advantage of fluoride supplements was left out by the Task Group. Unless I had been present myself, I would have found it hard to believe." ...

According to Robert J Carton, an environmental scientist at EPA, the scientific assessment of fluoride's health risks written by the agency in 1985 "omits 90% of the literature on mutagenicity, most of which suggests fluoride is a mutagen."<sup>11</sup>

3.19 The League of Rights has been heavily involved in anti-fluoridation campaigns in Australia. As long ago as 1955 its **Intelligence Survey** carried the transcript of a radio talk by Eric Butler, "The Truth About Water Fluoridation" in which he talked of the "anti-Christian policy of mass medication".

3.20 A brochure<sup>12</sup> put out by the League of Rights encouraged people to oppose fluoridation because:

- **Rights** – A free people have a RIGHT TO EXPECT THAT THEIR WATER SUPPLY remains PURE. Those wanting Fluoride can buy tablets.
- **Force** – Nobody has the right to force others to consume that which they do not want.
- **Poison** – Sodium Fluoride is a cumulative poison.
- **Safe?** – Regular ingestion of Fluorides has NOT been proved harmless.
- **Mass Medication** – is contrary to sound medical practice.
- **Dosage** – Experience has shown that there is no guarantee that the "safe" dosage will not be exceeded.
- **Economics** – Why flush the sewers, streets – water parks and gardens with fluoride when only about 0.25% is used for drinking?

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<sup>11</sup> Hileman, B, "Fluoridation of Water : Questions about health risks and benefits remain after more than 40 years", **Chemical and Engineering News**, 1 August 1988, p 36.

<sup>12</sup> League of Rights brochure, undated.

3.21 Reflecting similar arguments in the United States at the time, another League of Rights brochure<sup>13</sup>, an article "Communism and Fluoridation" argued:

At first sight there may not appear to be any relationship between Communism and the fluoridation of public water supplies. But as Communist tactics support all policies which extend government control over the individual and weaken his sense of personal responsibility, it is not surprising that fluoridation has the endorsement of Communists.

This article concluded:

A community whose members cannot defend themselves against a policy of mass medication, irrespective of how the promoters of this policy describe themselves, has suffered a serious erosion of the very foundations of the free society. This erosion delights the Communists, who are experts in exploiting all developments which weaken a belief in freedom and personal responsibility.

3.22 The League ran a strong campaign in Victoria.

The League's involvement was highlighted by the publication of (Eric) Butler's lengthy pamphlet **Fluoridation or Freedom?** in 1960, and by the informal establishment of a Fluoridation Committee of the League under the chairmanship of Mr H H Gerrand. The Committee prepared and distributed anti-fluoride leaflets, and organized a great deal of letter-writing to newspapers throughout the State.<sup>14</sup>

3.23 In 1964 Hobart became the first Australian capital city to fluoridate its water supply. However, as a result of the contention over fluoridation the Tasmanian Government then established a Royal Commission into the Fluoridation of Public Water Supplies. The report supported fluoridation.

3.24 In common with the debates in the United States and elsewhere, the Australian inquiries were also characterised by conflict and mutual animosity. In 1968, the Tasmanian Commissioner reported:

There have been many excesses and some quite irresponsible things said and done in the course of public controversy even in this State. I am astonished and in fact dismayed by the vituperation and the unbridled arguments *ad hominem* employed by men who not only claim but in fact possess high scientific attainments.<sup>15</sup>

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<sup>13</sup> League of Rights brochure, undated.

<sup>14</sup> Head, B W, *op cit*, p 252.

<sup>15</sup> Report of the Royal Commissioner into the Fluoridation of Public Water Supplies, Hobart, 1968, p 4.

3.25 The Victorian Legislative Assembly established a Committee of Inquiry into the Fluoridation of Victorian Water Supplies, which reported in 1980. In common with the Tasmanian report, this report also supported fluoridation. Discussing public attitudes and the basis for decisions on fluoridation as a public health measure, the report said:

Much of the information available to the public is sensational, ill-informed, incomplete or misleading...

Members of the public, unless they have the basic scientific training which would enable them to examine critically the material put before them, tend to accept published or broadcast matter as factual and complete. The result is that debate on fluoridation becomes emotional and is not often guided by logical thought.

We have noted the "chain-effect" of adverse publicity. Local supply authorities have on occasions discontinued fluoridation because of fears generated in the public mind through publications that are not based on sound, scientific evidence. When one authority decides to abandon fluoridation, this is then quoted as further evidence against fluoridation and may then lead to cessation of fluoridation by another authority, and so on. The end result is that a number of communities are deprived of the benefits of fluoridation for reasons stemming from an original unsound hypothesis.<sup>16</sup>

3.26 The introduction of water fluoridation in the ACT in 1964 also took place after a sharply divided and acrimonious debate. At that time, governance of the ACT fell within the Commonwealth Government's responsibilities. After some months of dispute, the then Minister for the Interior curtailed debate by announcing that fluoride would be added to the ACT water supply. In 1989, twenty-five years later, the debate over fluoride, though never ceasing, was brought to a head. This Committee's inquiry is the result.

3.27 As a result of this long-term debate, the impact of fluoride on public health has been extensively researched. The Royal Commissioner into the Fluoridation of Public Water Supplies in Tasmania, the Honourable Justice Crisp, reported that by 1963 16,000 scientific papers were available on the subject. By 1989, the Australian Dental Association (Brisbane) reported that 30,000 papers had been written on fluoride.

3.28 Over the last few years numerous articles published in some of the world's leading scientific and research journals have questioned the scientific validity and methodology of findings on the efficacy and safety of fluoride. Among these researchers are Dr M Diesendorf and Dr P Sutton (Australia), Dr J Colquhoun (New Zealand) and Dr J Yiamouyiannis (United States).

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<sup>16</sup> Report of the Committee of Inquiry into the Fluoridation of Victorian Water Supplies for 1979-80, Government Printer, Melbourne, 1980, pp 202-203.

3.29 In 1985 the National Health and Medical Research Council (NHMRC) undertook a review of the literature to assess the efficacy and safety of water fluoridation, which it confirmed. Since then, the validity of the research findings have been further questioned. In 1989, in response to questions raised in a letter by Drs Diesendorf, Sutton and Colquhoun, the NHMRC established a Working Group with the following terms of reference:

- . What is the reasonable interpretation of the data provided by Diesendorf et al?

Given the estimated magnitude of any beneficial effect of water fluoridation, the likely dependence of such benefit upon the underlying dental caries rates, and the estimated benefits achievable via other contemporary sources of supplementary fluoride, is water fluoridation still a desirable public health policy in Australia.

- . Is there a special need for the ongoing monitoring of fluoridation, and if so, what form might it take?

3.30 This NHMRC inquiry, which has reviewed the literature on water fluoridation published since 1984, took place concurrently with the Social Policy Committee's inquiry into water fluoridation in the ACT. The Committee was concerned to monitor the outcome of the NHMRC inquiry. The NHMRC released two interim reports. The final report was not available before the Committee completed its inquiry.

3.31 This chapter has described some of the history and tone of the fluoride debate. Chapter 4, which follows, will describe the composition and action of fluoride. Chapter 5 will provide an overview of the arguments in favour of water fluoridation. Chapter 6 will provide an overview of the arguments against water fluoridation. These chapters will simply provide a review of the arguments. They should not, and cannot, necessarily be interpreted as this Committee's view. The Committee's comments will be contained in Part Two of the report.



## **4 FLUORIDE – ITS COMPOSITION AND ACTION**

4.1 The first problem facing the Committee in its inquiry into water fluoridation lay in establishing some basic facts about fluoride. While it had been required to seek professional, technical and scientific advice it soon discovered that no-one was seen as impartial, whatever their specialist background.

4.2 It was also obvious that the study of fluoridation could be (and had been) undertaken from many differing scientific and professional standpoints. For example, the dental profession might be able to discuss the effect of fluoride on teeth but not be qualified to talk about its effect on bone structures. Epidemiologists, allergists, medical practitioners and civil libertarians all view fluoridation from their own particular perspective.

4.3 The Committee wished to be given a basic briefing on the nature of fluoride and was at pains to be briefed by a specialist who had not at any time been involved in the fluoride debate. Professor Michael Irving, Dean of the Faculty of Applied Science, University of Canberra, generously offered to provide such a briefing. Professor Irving's field is clinical biochemistry, and he lectures in clinical biochemistry, clinical pharmacology and toxicology. Professor Irving emphasised that as he did not possess medical qualifications he was not in a position to make medical judgements.

4.4 In 1989, at the University of Canberra, students in clinical biochemistry measured fluoride levels in the ACT water supply from taps in homes in a number of suburbs. Professor Irving also described the results of these measurements (see Chapter 8).

4.5 Much of what follows here draws on Professor Irving's briefing. The chapter also draws on the technical sections of the Report of the Committee of Inquiry into the Fluoridation of the Victoria Water Supply.

### **The creation of sodium fluoride**

4.6 It is important, at the outset, to clarify what fluoride is, especially as there is considerable confusion about its relationship to other fluorine combinations in much of the literature on water fluoridation which has been received by the Committee.

4.7 Sodium silico-fluoride (fluoride) is the substance which is added to the ACT water supplies to achieve a concentration of approximately 1 part fluoride per million parts water (1 ppm).

4.8 Fluoride is normally obtained as a biproduction of heating cryolite with caustic soda. Cryolite contains fluorine, and it is this fluorine which, when combined with caustic soda, produces the salt, sodium fluoride.



4.9 Fluorine (not fluoride) is a member of a group of elements termed the "halogens". The term halogen is derived from the Greek words for "salt" and "to produce". Of the halogens, fluorine and chlorine are gases at room temperature, bromine is a liquid and iodine is a solid. All of these elements readily combine with metals to form salts. They are very reactive, particularly fluorine which is the most reactive of all.

Fluorine is an extremely reactive gas and in consequence was not isolated as such for many years after the chemistry of its compounds with other elements had been studied extensively and its existence as an element recognised. The fluorine atom is characterized by high electron affinity and an electronegativity which is the highest of all elements. Special methods were needed to isolate elemental fluorine ...

Since the second world war fluorine has been produced in large quantities commercially, since the compounds derived from it have found wide industrial, domestic and pharmaceutical application ...

It is important to realize that the properties, both physical and chemical, of the various compounds are quite different from those of elemental fluorine and from those of other fluorine compounds. The toxic properties of fluorine compounds range from extremely toxic to completely non-toxic ...

It can be accepted that the environmental occurrence of fluorine is exclusively as its inorganic fluorides, in which the fluorine atom occurs as the fluoride ion. Because of the added electron, which has come from another atom, the properties of the fluoride ion are quite different from those of the fluorine atom, the fluorine molecule, or any other fluorine-compound in which the fluorine atom is bonded covalently.<sup>1</sup>

4.10 While fluorine can react with carbon to form stable fluorocarbons which, in turn, can react with chlorine to form chlorofluorocarbons (CFCs), CFCs have totally different properties to fluoride. Sodium fluoride is a salt and has no effect on the ozone layer.

4.11 Waters with high fluoride content are usually found at the foot of high mountains and in areas with geological deposits of marine origin. Typical examples are the geographical belt from Syria through Jordan, Egypt, the Libyan Arab Jamahiriya, and Algeria to Morocco, and the Rift Valley through Sudan and Kenya. Another belt is the one stretching from Turkey through Iraq, the Islamic Republic of Iran, and Afghanistan to India, northern Thailand, and China. Similar areas can be found in the Americas and in Japan and China. The highest natural fluoride concentration ever found in water was recorded in Lake Nakuru in the Rift Valley in Kenya, namely 2800 mg/litre.<sup>2</sup>

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<sup>1</sup> Report of the Committee of Inquiry into the Fluoridation of Victorian Water Supplies for 1979-80, op cit, pp 23-25.

<sup>2</sup> Murray, J J (ed), *Appropriate Use of Fluorides for Human Health*, World Health Organisation, Geneva, 1986, pp 4-5.

## **Fluoride absorption in humans**

- 4.12 The absorption of ingested inorganic fluoride depends in the first place on its solubility. Fluoride is removed from the gastrointestinal tract by simple diffusion across the lining of the stomach and small intestine and then into the blood stream. Soluble fluorides are absorbed rapidly and almost completely. The less soluble fluorides are incompletely absorbed as the rate of absorption depends on the particle size, mode of intake, and various physical properties of the compounds concerned. Undissolved fluorides are excreted unchanged in the faeces.<sup>3</sup>
- 4.13 Fluoride salts are rapidly absorbed from the gastrointestinal tract in humans. Approximately half the fluoride absorbed is excreted in the urine with the remainder stored primarily in calcified tissues. The urinary excretion of fluoride increases with an increase in the dietary intake of fluoride.
- 4.14 There is considerable evidence that the concentration of fluoride progressively increases in bone and teeth with advancing age, provided a constant level of fluoride is ingested. However, individuals on long-term relatively constant fluoride intake reach an equilibrium between intake and retention, at which time the fluoride uptake by the skeletal tissue is reduced and the concentration of fluoride in the urine approximates that of drinking water.
- 4.15 Fluoride is absorbed in different ways by different parts of the body.

## **Fluoride in the plasma**

- 4.16 Fluoride is able to enter intracellular and extracellular fluid pools in the body. About 75 percent of total fluoride of blood is in the plasma, the remainder is associated with the erythrocytes and other cells in blood. The ionic concentration of fluoride in plasma has been reported to be 0.01–0.04 ppm which represents 15–70 percent of the total plasma fluoride.
- 4.17 It is important to note that the ionized (salt) form of fluorine, sodium fluoride, is the form that reacts with bone, dentine etc. Literature reports that cite the concentration of fluorine in blood, tissue or foodstuffs give the total concentration of fluorine, and thus greatly overestimate the "biologically active" amount of fluoride.

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<sup>3</sup> Report of the Committee of Inquiry into the Fluoridation of Victorian Water Supplies for 1979–80, op cit, p 35.

4.18 What is known is that the plasma fluoride levels are tightly regulated by skeletal and renal tissues, even when there is a variation of dietary intake of fluoride. Diseases of bone or kidneys and previous exposure to fluoride are the principal problems with this tight regulation of fluoride balance in the body.

### **Incorporation of fluoride into bone**

4.19 Bone can serve as a reservoir for elements such as fluoride, lead and strontium. For example, 90 percent of lead in the body is found in the skeleton. Skeletal uptake of these foreign materials occurs via an exchange mechanism with the hydroxyapatite crystals of bone mineral. Upon being transported to a crystal of bone by extracellular fluid, the toxicant enters the hydration shell of the crystal and penetrates the crystal surface. By virtue of similarities in size and shape, fluoride ions readily replace hydroxyl ions, whereas lead and strontium replace calcium in the hydroxyapatite crystal structure.

4.20 It is important to note that foreign elements incorporated into bone are not irreversibly trapped there. The cellular components of bone are continually being replaced by new ingested compounds. Furthermore the turnover of bone is also under hormonal control. Thus, although fluoride can replace hydroxyl ions in the hydroxyapatite crystal structure of bone, this is not an irreversible situation. This is an important consideration when reviewing claims concerning toxicity.

### **Incorporation of fluoride into teeth**

4.21 Similar processes are involved in the deposition of fluoride into dental tissues. However, there are some differences:

Dental tissues differ from bone in that the constant remodelling as described in bone does not occur. Mature enamel has no cellular activity and in addition mature dentine is almost impermeable. These various properties of mature dental tissues restrict ionic mobility which is not common to other human body structures.<sup>4</sup>

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<sup>4</sup> Report of the Committee of Inquiry into the Fluoridation of Victorian Water Supplies for 1979-80, op cit, p 44.

4.22 There are three broad phases in the fluoride deposition in teeth:

- (a) in the initial formation stage, fluoride ions are relatively uniformly taken up through developing dental tissues;
- (b) in the mineralization phase, the uptake of fluoride ions is largest in the areas of dental tissue where mineralization occurs;
- (c) in the last stage, when mineralization is complete and teeth are fully formed, the uptake of fluoride ions is almost entirely limited to the marginal regions of both the enamel and dentine.

4.23 The activity of fluoride on the mature teeth was described in the Victorian report:

The concentration of fluoride in mature teeth decreases from the enamel surface to the dentine–enamel junction and then increases from this junction to the pulp. The uptake of fluoride by erupted teeth is independent of cellular activity and its concentration in a fully formed tooth is greatest adjacent to the odontoblastic layer. Once enamel has been formed, its cellular activity ceases and the incorporation of fluoride depends entirely upon ion–exchange mechanisms and may be up to 10 times greater in the outer layers of enamel than in the deeper layers.

### **Fluoride in the biological food chain**

4.24 There is always concern that toxins, for example mercury, can accumulate and concentrate in the food chain so that foods ingested by man may be heavily contaminated.

4.25 Fluorides are widely distributed in soils, fertilisers and as air pollutants. Although there is evidence of uptake of fluoride in plants, the ingestion of contaminated plants by animals poses little danger to humans. That is because 99 percent of fluoride retained in animals is stored in bone, and minimal changes occur in the concentration of fluoride in soft tissues at high levels of dietary fluoride intake. Milk from cows consuming high levels of fluoride show slight elevations of fluoride, indicating that the mammary gland is not a primary route for excretion.

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<sup>5</sup> Report of the Committee of Inquiry into the Fluoridation of Victorian Water Supplies for 1979–80, op cit, p 44.

4.26 Analysis<sup>6</sup> of the total fluorine content (not ionisable fluoride) of common foodstuffs shows fluorine levels to be for the most part very low, and in the case of milk products, which are mainly in the form of complexed insoluble calcium, fluoride levels are extremely low. There are two notable exceptions, namely tinned fish and tea. In Australia the small consumption of tinned fish does not present a problem. However, the high levels in tea may be of significance in those people who consume tea in copious quantities.

It is well known that tea leaves are high in fluoride (up to 400 mg/kg dry weight), but the tea infusion itself will have a fluoride concentration of only 0.5–1.5 mg/litre. The amount present in one cup of tea, however, will depend not only on the size of the cup, but also on the brand of tea, the amount used, the duration of the infusion, whether it is a dilution of a previous brew, and whether it was made with fluoridated water. In study of Duckworth and Duckworth<sup>7</sup>, the ingestion of fluoride by tea drinkers of all ages ranged from 0.04 mg to 2.7 mg per day. The fluoride was rapidly released from tea leaves and reached the highest concentration in the tea infusion after approximately 8 minutes. With various brands of tea leaves, there was up to a four-fold variation in the fluoride content of the tea infusions.<sup>8</sup>

4.27 A table showing the content of fluoride in various foods is given at Appendix 3.

## Conclusion

4.28 In this chapter, the composition and action of fluoride has been described as factually as is possible in a debate in which every fact appears to be subject to dispute.

4.29 The following chapter (chapter 5) will consider the arguments in favour of water fluoridation. Chapter 6 provides an overview of the case against water fluoridation.

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<sup>6</sup> For a table showing fluorine levels see Appendix 3.

<sup>7</sup> Duckworth, S C and Duckworth R, "The ingestion of fluoride in tea", *British Dental Journal*, 145:368 (1978).

<sup>8</sup> Murray, J J (ed), *op cit*, p 7.

## 5 ARGUMENTS FOR WATER FLUORIDATION

5.1 Dental caries has been described as a major dental disease affecting the lives of a large proportion of the inhabitants of this world:

It impairs the quality of life for many people by causing pain and sepsis and lack of treatment can aggravate other systemic diseases. In addition, it places a heavy financial burden on private and public health services.

Dental caries is a disease in which host, agent, and environmental factors interact to produce irreversible destruction of the hard tissues of the teeth – namely, enamel, dentine, and cementum (caries of root surfaces). Despite continuing efforts to develop methods of lowering the number of bacteria on teeth by mechanical means or of reducing the cariogenic activity with chemical agents, the proper use of fluorides remains our best defence against dental decay.<sup>1</sup>

5.2 The terms of reference for the current inquiry instruct the Committee to seek professional, technical and scientific advice in relation to its investigation into water fluoridation in the ACT.

5.3 It is therefore appropriate to give an overview of the case for water fluoridation based on the submissions from the Australian Dental Association (ADA) and the Association's ACT and Southern Tablelands Division (ACT Dental Group) as pertinent professional advice.

5.4 The ADA submission urged the Committee to recall the state of children's teeth about 25 years ago.

You are surrounded by a group of high-school children. What do you see of their teeth and smiles as they talk and laugh among themselves.

If their ages were, say, thirteen to sixteen, they would have an average, amongst them, of around twelve teeth that had already been affected by caries. Since this would be an average figure, there would be some in the group that would be worse-off, and some not so bad.

For those children from affluent families, few teeth would have been lost, but there would be many fillings, and their back teeth would be showing rows of amalgam restorations. Front teeth would show signs of repair, and for many this would be in the form of large gold fillings.

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<sup>1</sup> Murray, J J (ed), *Appropriate Use of Fluorides for Human Health*, World Health Organisation, Geneva, 1986, p 1.

For those less affluent, you would see gaps resulting from extraction of permanent teeth, and there would certainly be some among the group with unrepaired large holes, brown to black with the evidence of active caries, visible in their smiles. If the group exceeded 25 in number, at least one regular member would be absent because of pain or infection or treatment needs attributable to dental disease (ABS statistics).

5.5 Evidence recorded in the Report of the Tasmanian Royal Commission of 1968 on the condition of Tasmanian children's teeth graphically describes the poor dental state of Tasmanians. Tasmania was notable for having the worst incidence of dental caries in Australia, and compared badly with other Western nations. One witness to the Royal Commission had qualified and practised in England:

As against his experience in England where to supply a child under 18 with full dentures would be an outstanding thing (in fact in 10 years of practice he could not remember a single case in a population of 17,000), he found it commonplace, as did other dental surgeons in Tasmania and he had to do clearances of either or both jaws for 21 school children in his first year.<sup>2</sup>

5.6 It is important to remember, especially when considering the perceived dangers of fluorosis (discolouration and staining), the extent of and distress caused by dental caries in children and young adults. Another Tasmanian witness, who had qualified in Sydney and practised both in Sydney and in the United Kingdom, had not experienced the necessity for full clearances in children under 18 until he arrived in Tasmania:

Most of them expect to have false teeth before they are married. I quite regularly get girls and boys who come in and see me in their late teens, early twenties – "I don't want any fillings done at the moment. Just take this one out because it is aching – because I am going to get them all out next year – because I'm being married". This is almost standard procedures; it is almost part of the dowry. They have not any future as far as keeping their teeth is concerned. The state of their teeth is so poor that you just are putting your finger in the hole in the dyke trying to patch them up until they are a bit older and they will have them out.<sup>3</sup>

5.7 The ADA submission to the Social Policy Committee moved on to describe the current condition of children's teeth.

A comparable group today would show an experience of caries about one-fifth to one-sixth of that of the earlier group of children. There would be almost no visible evidence of dental disease that a casual observer could detect – unless it was deduced from the number of children with orthodontic bands on their teeth. As caries experience has fallen, parents have found it increasingly worthwhile to have their children's teeth straightened, since there is, today, a reasonable prospect of life time use and benefit from one's dentition.

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2 Report of the Royal Commissioner into the Fluoridation of Public Water Supplies, Hobart, 1968, p 47.

3 Report of the Royal Commissioner into the Fluoridation of Public Water Supplies, Hobart, 1968, p 47.

ADA says, without any doubt or equivocation, that this vast change in dental disease experience has occurred wherever in the world fluoridation has been introduced, and it is primarily attributable to fluoridation. This view is based on a large volume of published investigations by respected scientists in many countries.

5.8 It was pointed out in evidence to the Committee that it was not just the young who benefited through a drop in dental caries, but that even the elderly, for whom good nutrition is vital, benefited if they had maintained their teeth throughout life and therefore found eating easier.

### **Fluoride and dental caries**

5.9 It is argued that fluoride ions in low concentrations lead to the formation and stabilisation of a well-crystallised mineral structure in the enamel of teeth. There is also evidence from experimental animal studies and from human epidemiological studies that fluorides may modify the shape of the teeth so that they are less likely to harbour food debris. Fluoride is incorporated into the tooth mineral as fluorapatite at the time of calcification and thus exerts a major effect in developing teeth.

5.10 Fluoride also plays a major role in the local environment outside the tooth where dental caries form. Dental caries form in enamel beneath a layer called dental plaque. The dental plaque consists of protein, bacteria and products of bacterial metabolism. These plaque bacteria also degrade carbohydrates from food to produce acidic end-products, and it is these acids that produce dental caries.

5.11 In the presence of fluoride either in surface enamel of teeth or in water or foodstuffs the acid produced by plaque bacteria releases fluoride which inhibits bacterial activity, and thus prevents caries. The use of topical fluoride in an acidic environment allows maximum uptake of fluoride into voids in tooth structure, and the use of insoluble salts such as calcium fluoride provide an additional surface film.

5.12 Levels of fluoride necessary to inhibit bacterial enzymes are usually of the order of 30 ppm. The outermost enamel of teeth contains fluoride levels of the order of 1500 ppm which can be temporarily increased by topical application of fluoride. Thus two to five percent of the fluoride in dental enamel needs to be mobilised as ions to inhibit bacterial enzymes. Considering the tight binding of fluoride to apatite in teeth, this would be a maximal figure and thus fluoride supplementation in drinking water would be required to assist this inhibition of dental caries.

5.13 The submission from the ACT Dental Group describes three main modes by which fluoride exercises its anti-caries effect:

First, by the incorporation of fluoride in the form of fluorapatite into the dental enamel during the years of pre-eruptive maturation, giving a fluoride-rich enamel which is resistant to attack, thus inhibiting the initial caries lesion.



Second, fluoride can help assist the remineralisation of porous enamel and the early carious lesion.

Third, the presence of fluoride ions at the tooth plaque interface reduces plaque colonisation and inhibits plaque acid production, thus reducing the intensity of the challenge.

5.14 Often, according to the ACT Dental Group submission, these effects are divided into either systemic/topical or pre-eruptive/post-eruptive categories, as determined by either the method of fluoride exposure or the actual timing of the event.

5.15 Fluoride, the ACT Dental Group argues, is widely distributed in the environment and in the body. Unsubstantiated claims of adverse effects of fluorides in the control of dental caries have, says the submission, been made for almost fifty years.

These claims have been based largely on speculation and supposition, and also on unwarranted assumptions concerning the application in the biological context of laboratory studies using extremely high concentrations of fluoride. Extensive investigations both in Australia and other countries have consistently shown that the levels of fluoride used in fluoridation programs were not a health hazard.

5.16 The ACT Dental Group argues that an inverse correlation between the fluoride content of drinking water and dental caries was shown almost 50 years ago in the USA. This investigation involved the examination of 7,257 children aged 12 to 14 years in 21 cities. Children using water with a natural fluoride content of 0.9 to 1.2 ppm fluoride had about half the amount of caries than children whose drinking water contained 0.2 ppm or less.

5.17 Subsequent studies showed that caries inhibition from water containing approximately 1.0 ppm fluoride continued into adult life.

5.18 In the period 1945 to 1946 four independent projects were begun in North America to assess the effect on dental caries of adding fluoride to fluoride-deficient water supplies. In each case a control city was selected in which the fluoride level of the water was very low. However, one of these cities was lost as a control when it started to fluoridate its water supply. After periods ranging from 10 to 17 years it was found that the children using fluoridated water had approximately 50 to 60 percent less teeth affected by dental caries than children who were not using fluoridated water.

5.19 According to the ACT Dental Group submission, a summary of published reports relating to 98 fluoridation projects in 20 countries, initiated between 1945 and 1972, found that the decayed, missing or filled (DMF) indices amongst children had been reduced by amounts ranging from 29 to 85 percent, with a mean of 55.6 percent.

5.20 A report of a carefully controlled survey in North Wales, using a non-fluoridated control group, showed that dental caries indices were reduced by 38, 43 and 55 percent for children aged 15, 12 and 5 years respectively.

5.21 In Australia, the ACT Dental Group points out, there have also been investigations into the effect on dental caries in children living in areas with fluoridated water. Other than Townsville, these were longitudinal studies. In the Townsville project, caries experience of children was compared with that of children in 16 low fluoride towns in Queensland. Results of these studies showed that after 10 years fluoridation the DMF indices of children declined by approximately 50 to 60 percent.

5.22 The ACT Dental Group submission drew attention to the National Oral Health Survey, undertaken in 1988, which showed that in a comparison between fluoridated Canberra and unfluoridated Brisbane, children in Brisbane aged between 5 and 9 years had a 59 % higher DMF rate than Canberra children, a 53 % higher DMF rate for the 10 to 14 years group and 40% higher DMF rate for the 15 to 19 years group.

5.23 In spite of such overwhelming evidence, the ACT Dental Group submission argues, some critics of fluoridation allege that it is ineffective in the control of dental caries, and that because of poor design fluoridation/caries studies are unacceptable.

5.24 The issue was raised at a major legal case in Scotland. The presiding judge, Lord Jauncey, ruled that:

allowing for the fact that in a perfect world each study might have been carried out in a more perfect manner in one or more details the message is nevertheless loud and clear from many different parts of the world. Water fluoridation to 1.0 ppm substantially reduces the incidence of caries.

5.25 The ACT Dental Group argues that the effect of fluoride on caries is probably greater than indicated in the many published reports which generally refer to the number of decayed, missing or filled teeth as a measure of caries. The size of the various lesions had not been taken into account in such studies because there is no severity index. However, an indication that the DMF index understates the benefits is shown in a summary of three studies. Amongst children in fluoridated areas the number of first permanent molar teeth which had to be extracted as 95, 75 and 85 percent respectively less than in low fluoride areas (0.1 ppm fluoride).

5.26 An individual dentist, in a submission to the Committee, argued that prevention of disease and abnormality is a fundamental principle in the achievement and maintenance of health:

It is an important part of our advancing society and contributes to reduction of costly treatment and health facilities. The community has increasingly embraced not only the concepts but the practice of prevention. These comments apply equally to the control of dental disease.

It would be a retrograde step to discontinue fluoridation which has been used successfully for so long in so many countries. It is now almost 50 years since the procedure was initiated in USA and Canada, 37 years since the first project in Australia, and 25 years since it was begun in Canberra. We are not dealing with a new procedure but one which has been consistently validated internationally, and which has survived the test of usage for half a century.

## **The conclusions of other inquiries**

5.27 One submission cited ten authoritative reports from official inquiries, all of which have come down in favour of fluoridation:

- . Commission of Inquiry in New Zealand (1957)
- . Commission of Inquiry in South Africa (1966)
- . Inquiry in the Republic of Ireland (mid-1960s)
- . Royal Commission, Hobart (1968)
- . Congressional Committee, United States of America (1977)
- . World Health Organisation (1969, 1975, 1978 and confirmed again in 1986)
- . Governor's Commission, Minnesota, USA (1979)
- . Victorian Committee of Inquiry, Australia (1981)
- . Lord Jauncey Report, Scotland (1983)
- . National Health and Medical Research Council, Australia (1979, 1985)

5.28 The Jauncey Report, while supporting fluoridation, did find that the Strathclyde Regional Council, against which legal action had been taken resulting in the Jauncey inquiry, did not have the power to add fluoride to the water supply. However, the British Parliament, after extensive investigation and discussion, passed the Water (Fluoridation) Act 1985 to overcome this legal problem, enacting that:

Where a health authority have applied in writing to a statutory water undertaker for the water supplied within an area specified in the application to be fluoridated, that undertaker may, while the application remains in force, increase the fluoride content of the water supplied by them within that area.<sup>4</sup>

5.29 The 1968 Hobart inquiry concluded that there was substantial and material benefit in Tasmania to dental health from the addition of fluoride to water supplied to the public having regard to the existing state of scientific knowledge and to experience with respect to water supplies containing fluorides, whether naturally or by addition, in other States of the Commonwealth and elsewhere.

5.30 The Commissioner responded to the question as to whether any detriment or other public disadvantage might result from the addition to 1 ppm fluoride to the public water supply. He replied that there was not, subject to two minor qualifications:

There is a risk of dental fluorosis occurring in some children. The number affected will not exceed 10 percent of the child population and may be less. The degree will be 'mild' (probably about 2 percent) and the remainder will be 'very mild' or 'questionable'. There is no reason to fear that it will in any case be disfiguring or even noticeable except to a clinical observer. In any case, over the child population as a whole it will be more than counter-balanced by the improved shape and appearance of the dentition and by an even greater reduction in mottling and staining of teeth from other causes.

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<sup>4</sup> **Water (Fluoridation) Act 1985 – 1985 Chapter 63 – An Act to make provision with respect to the fluoridation of water supplies, 30 October 1985.**

There is a possibility that some individuals will exhibit a hypersensitivity not shared by the rest of the population to fluoridated water. The possibility is extremely remote, so remote that I cannot quantify it statistically. The fact that such individuals do exist has not been clearly demonstrated but the possibility that they may exist cannot be dismissed. If they do exist the reaction to be expected is that of an abnormal toxic response to low dosages, not an allergic reaction in the strict sense. Hence in relation to water fluoridated at 1 ppm the reaction would be mild, easily relieved and prevented.<sup>5</sup>

5.31 The Victorian inquiry concluded:

Various elements are essential for human and animal development and life. They may be required in nutrition in either relatively large (eg calcium and iron) or in low or trace quantities (eg iodine and copper). Fluorine has been ingested by humans and animals since life began. It is considered by most authorities as an essential trace element. The purpose of fluoridation of community water supplies is to adjust the fluoride content of such water to its optimal beneficial level for the population and geographical area served.

There is overwhelming evidence that the regular ingestion of water containing fluoride at its optimal concentration is an effective public health measure in reducing the incidence of dental caries, in the population served.<sup>6</sup>

5.32 The Jauncey inquiry was established because when the Strathclyde Regional Council decided, in 1978, to fluoridate its water supply, a citizen of Glasgow, Mrs McColl applied for an interdict to restrain implementation of the decision. The resulting court case was heard by Lord Jauncey. In an article published in 1985, Professor Stephen of the University of Glasgow Dental School, commented:

Thus, after 201 days' legal debate and at a cost of between 600,000 to 1,000,000 pounds, it has been proven that fluoride at a level of 1 ppm in the domestic water supply is a safe, effective, caries-inhibiting agent and the only disease it seems capable of producing is hysteria in the minds of misguided anti-fluoridationists.<sup>7</sup>

5.33 Quite clearly, scientific knowledge constantly extends as new research is undertaken. The conclusions of reports published in the 1960s or 1970s may well have been superseded by scientific discoveries in the intervening period. This possibility is the subject of the Social Policy Committee's assessment of the evidence in Part 2 of this report.

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<sup>5</sup> Report of the Royal Commissioner into the Fluoridation of Public Water Supplies, Hobart, 1968, p 7.

<sup>6</sup> Report of the Committee of Inquiry into the Fluoridation of Victorian Water Supplies for 1979-80, op cit, p 205.

<sup>7</sup> Stephen, K W, "Fluoridation Experience in the United Kingdom", The Journal of the Royal Society of Health, Vol 104, No 4, August 1985, pp 115-118.

5.34 Many studies of the effects of fluoridation have been undertaken and there has been general consensus in the mainstream scientific community that they demonstrate the effectiveness of water fluoridation. In Britain alone, these include the following:

- . A 1974 study by Jackson et al of decay experience of 5-year-olds and 15-year-olds living in fluoridated Anglesey. 5-year-old Anglesey children had 38 percent fewer "attacked" teeth than 5-year-olds living in a control (non-fluoridated) area. 15-year-olds in Anglesey had 44 percent fewer "attacked" teeth than 15-year-olds in the control area.
- . A 1979 survey by Whittle and Downer of the dental health and treatment needs of infant and secondary school entrants in fluoridated Birmingham and non-fluoridated Salford. 4-5-year-olds in Birmingham had 54 percent fewer decayed, missing or filled deciduous teeth (ie first teeth) than those in Salford. 11-12 year olds in Birmingham had 45 percent fewer decayed, missing or filled permanent teeth than those in Salford. Fluoridation began in Birmingham in 1964.
- . A 1979 study by Jackson et al of fluoridation in Leeds. Since 1968 the water supply to four districts of Leeds has been fluoridated. A comparison of 5-year-olds in these districts and in others revealed that 57 percent of children living in the fluoridated areas were free from dental decay compared to only 31 percent in non-fluoridated areas.
- . In 1979 two surveys were carried out in Wick by Stephen et al in 1979 following the cessation of fluoridation in 1977 on 106 5-year-old children and again in 1984 on 126 children. The two surveys showed that following the cessation of fluoridation there was a 27 percent increase in the incidence of decayed missing and filled teeth, a 60.9 percent increase in the number of tooth extractions and a 10 percent reduction in the number of caries free children, indication that the deterioration in dental health over the period was due to the cessation of fluoridation.<sup>8</sup>
- . In 1980 a study by Attwood and Blinkhorn of 10-year-old children in Stranraer (which had been fluoridated for 10 years) and those in Annan (which had a negligible amount of natural fluoride in the water) showed 100 percent greater prevalence of caries in non-fluoridated Annan than those in Stranraer.
- . A second study in 1986, following the cessation of fluoridation in Stranraer in 1983, showed that while dental health in Annan had improved by 19 percent compared with 1980, dental caries in Stranraer had deteriorated by 3 percent over the 1980 position although the dental health was still better in Stranraer compared to Annan.<sup>9</sup>

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<sup>8</sup> Stephen K W (and others), "Caries Prevalence in Northern Scotland Before, and 5 Years After, Water Defluoridation", *British Dental Journal*, 1987; 163, 324-326.

<sup>9</sup> Attwood D, Blinkhorn S, "A Reassessment of the Dental Health of Urban Scottish Schoolchildren Following the Cessation of Water Fluoridation", *Community Dental Health*, 1989, 6(3), 207-214.

These results are interpreted as showing that whilst the dental health in South West of Scotland had improved generally due to the effect of dental education and fluoride toothpaste etc, the effect of the withdrawal of fluoridation in Stranraer was to increase the incidence of dental caries.

A 1985 study by Duxbury et al of the dental health of samples of 5-year-old children in fluoridated Newcastle and non-fluoridated North Manchester. This showed that 5-year-olds in Newcastle had approximately 60 percent less decay than their counterparts in Manchester. The North Manchester children suffered more toothache and underwent more dental extractions.<sup>10</sup>

A 1987 study by Mitropoulos et al comparing samples of 14 year old children from fluoridated South Birmingham and non-fluoridated Bolton. The study showed that 32 percent of children in Birmingham were free of decay compared to only 19 percent in Bolton. 36 percent of the Bolton children had experienced high levels of dental caries, that is five or more decayed, missing or filled teeth, as against 15 percent of the Birmingham children.<sup>11</sup>

5.35 As will be seen, the anti-fluoridationists dispute the results of the above studies, generally claiming imperfections in the research design or in interpretation.

5.36 One of the problems in establishing what the effects of fluoride are lies in the fact that, as the Committee was told by an epidemiologist, epidemiology, which focuses on linking cause and effect in relation to population health, is essentially an inexact science. Epidemiology is the study of patterns, drawing evidence from a whole series of different sources, such as patterns of population over time, looking at dose/response relationships, biochemical mechanisms (whether they exist or not) and so on. With fluoride there are many components in the epidemiological judgement, including population movement, changes in incidence of dental caries, changes in the availability of fluoride, and topical versus systemic application.

5.37 Professor Douglas, Director of the National Centre for Epidemiology and Population Health and Past President of the Australasian Epidemiological Association and his research assistant, Ms Alison Hill, appeared before the Committee. They made the following statement:

There is no doubt at all that fluoride, when added to water supplies to the level of one part per million, has been demonstrated to have a beneficial effect on dental health in communities where fluoride levels were previously low. There is no doubt in our minds, on the basis of extensive

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<sup>10</sup> Duxbury J T, Lennon M A, Mitropoulos C M, and Worthington H V, "Differences in Caries Levels of 5-year-old Children in Newcastle and North Manchester in 1985", *British Dental Journal*, 1987, 162, 457.

<sup>11</sup> Mitropoulos C M, Langford J W, Robinson D J, "Differences in Dental Caries Experience in 14-year-old Children in Fluoridated South Birmingham and in Bolton", *British Dental Journal*, 1988, 164, 349.

evidence we reviewed, that even in the current environment where fluoride toothpastes are widely used communities which have fluoridated water supplies have some beneficial effects compared with those who do not.

Now, were fluoride to be removed from Canberra's water supply entirely, we believe it is likely there would be some deterioration in dental health but the extent of that deterioration cannot be predicted at this time on the basis of current evidence.<sup>12</sup>

5.38 However, despite what appears to be convincing evidence of the impact of fluoridated water on the teeth of children and young adults, some people still cast doubt on whether this is a clear case of cause and effect. This doubt, and other arguments, will be examined in Chapter 6 which looks at the case against water fluoridation.

5.39 This chapter has given an overview of the arguments put to the Committee by those who favour water fluoridation. It does not necessarily represent the Committee's view, nor does Chapter 6. The Committee's assessment is given in Part 2 of the report.

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<sup>12</sup> Transcripts of Proceedings, 14 March 1990, p103.

## **6 ARGUMENTS AGAINST WATER FLUORIDATION**

**6.1** In the evidence received by the Committee a number of major arguments emerged against fluoridating public water supplies including:

- that water fluoridation is a form of mass medication which infringes individual liberty;
- that the benefits of fluoride have, in fact, never been conclusively proved because the research methodology has always been flawed;
- that fluoride is dangerous and its long-term effects on other parts of the body have not been determined.

### **Mass medication and individual liberty**

**6.2** This question was raised in many of the submissions from people opposed to water fluoridation. For example, the New York State Coalition Opposed to Fluoridation (USA) argued that:

A public water supply, which we all must share, is to provide safe, palatable water to all its citizens, not to serve as a vehicle for compulsory medication or treatment, for an entire populace, for a lifetime, for a non-contagious disease.

**6.3** The Safe Water Coalition of Washington State (USA) argued that:

Not fluoridating the public water supply will not cancel anyone's opportunity to obtain fluorides from other sources if they so choose, but not fluoridating the public water supply will protect the rights of individuals who want to avoid fluorides.

**6.4** Colin A Phillips of Queensland argued that:

Water fluoridation is a precedent in mass medicine. It is a breakdown in the doctor/patient relationship, where a waterworks employee dispenses medicine for a non contagious disease.



## **Absence of proof of benefits of fluoride**

6.5 Dr Diesendorf, a mathematician, has examined the research methodology and conclusions of studies which claim to demonstrate the efficacy of fluoride in reducing tooth decay. The summary of his conclusions is given below.

- 1 In the major cities of Australia and New Zealand, and in 84 locations in the USA, there is on average the same level of tooth decay, as measured by DMFT (the number of decayed, missing and filled permanent teeth per child), in both fluoridated and unfluoridated regions.

For example, in 1987, tooth decay in permanent teeth in unfluoridated Brisbane was approximately equal to that in fluoridated Adelaide and Perth, and was less than that in fluoridated Melbourne.

- 2 Over the past two to three decades, tooth decay has been declining by similar amounts in both fluoridated and unfluoridated regions of developed countries.

For example, from 1977 to 1987, DMFT declined by 65 percent in 10-year-olds in unfluoridated Brisbane. The corresponding declines in fluoridated Adelaide, Perth and Melbourne were 62, 54 and 72 percent respectively.

- 3 In several unfluoridated areas (eg Sydney, New Zealand and Gloucestershire), there were large declines in tooth decay in the 1960s. These occurred too early to have been caused by fluoride toothpaste and were too large to have been caused by fluoride tablets, and so non-fluoride factors must have been playing an important role. These factors include changes in diet (such as increased consumption of cheese and wholemeal bread) and possibly improved oral hygiene and improved immunity.

In the mid and late-1970s and in the early 1980s, the use of high-concentration topical fluorides, especially fluoride toothpaste became widespread, and could have made a significant contribution to the decline in tooth decay.

- 4 Recent scientific evidence suggests that, although there is benefit in applying fluoride to the surface of the teeth in high concentrations (eg 1000 ppm or more in toothpaste, mouth rinses and gels), there is negligible benefit in actually swallowing it. This greatly weakens the case for fluoridating drinking water.

- 5 The design of many of the classical surveys and quasi-experiments on human populations, which are supposed to prove enormous benefits from fluoridated drinking water, is so poor from a scientific viewpoint that these studies may be worthless. The conduct of and/or publicity from some of the trials (eg Tamworth NSW and Hastings New Zealand) even raises questions of possible fraud.

The benefits of fluoridating drinking water have been greatly exaggerated. Provided that schoolteachers are willing to supervise daily toothbrushing in primary schools, as in Brisbane, and provided that dietary improvements continue (eg through the reform of school canteens), there would be no increase in tooth decay following the general termination of water fluoridation. Indeed, it is likely that tooth decay would continue to decline, as is occurring in unfluoridated Brisbane and most of continental western Europe which is now almost entirely unfluoridated.<sup>1</sup>

- 6.6 In commenting on the Second Interim Report of the NHMRC Working Group on water fluoridation Dr Diesendorf stated:

it actually evades or obscures most of the scientific evidence we have put forward<sup>2</sup>

- 6.7 Dr Diesendorf does not contest that the topical application of fluoride may have some effect in reducing caries. He does dispute the benefits of ingesting fluoride and therefore opposes fluoridation of public water supplies.

6.8 Dr Colquhoun, who travelled from New Zealand to appear before the Committee, similarly contests the effectiveness of ingested fluoride in reducing dental caries. Dr Colquhoun had worked in private practice as a dentist in Auckland for 12 years and at that time had been a strong advocate of fluoridation. From 1967 to 1984 he was a member of the public service as a community dentist. It was during this period that he changed his view on fluoridation.

6.9 Dr Colquhoun argued that the prevalence of dental fluorosis amongst children in fluoridated areas was considerably higher than had been predicted when fluoride was introduced in New Zealand. He also argued that fluoride ingestion overall was likely to be at a toxic level, given all the fluoride sources in addition to fluoridated water.

6.10 Dr Colquhoun informed the Committee that when, as chairman of his department's Fluoridation Promotion Committee, he gathered statistics on the condition of children's teeth he discovered that more children were free of dental decay in unfluoridated parts of most health districts in New Zealand. He said that his colleagues were reluctant to accept his interpretation of the statistics and that since that time he (in common with Dr Diesendorf) had had difficulty in getting their research published in recognised dental journals.<sup>3</sup>

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1 Diesendorf, M, "Have the benefits of water fluoridation been exaggerated?", part 1 of a submission to the Social Policy Committee of the ACT Legislative Assembly.

2 Diesendorf M, "Comments on the Interim Report of the NH&MRC Working Group on Fluoridation, November 1990", unpublished paper, 1990.

3 *Transcripts of Proceedings*, 17 May 1990, pp 433-436.

6.11 Drs Colquhoun and Diesendorf both argue that the statistics demonstrate that the decline in caries preceded fluoridation, was a phenomenon throughout the western world regardless of fluoridation, and continued to decline after the comparative effects could be attributed to fluoride. It is therefore necessary, they say, to look at alternative explanations for the dramatic decline in dental caries over the last twenty to thirty years. They suggest causes such as change in diet, natural immunity to caries developing, topical applications of fluoride, and alternative sources. But Dr Colquhoun differs from Dr Diesendorf in that he also questions the efficacy of the topical application of fluoride.

6.12 Both Drs Colquhoun and Diesendorf are sharply critical of the research methods used in the various studies which appear to prove the effectiveness of water fluoridation. Criticisms include the lack of properly established control groups, lack of blind or double-blind studies and lack of consistency in recording DMFT levels. They also suggest undue examiner bias in the case of dental examinations arguing that if someone was examining teeth of children in a fluoridated area they would be more likely to record low DMFT rates than they would in unfluoridated areas.

6.13 Dr Colquhoun also argued at the public hearings that doctors and other researchers using computer search tools such as Index Medicus were only able to access pro-fluoride articles because the index was controlled by the United States Public Health Service.

#### **Fluoridation has led to increase in number of dentists**

6.14 A submission from the Freedom From Fluoridation Federation of Australia stated that:

It is recorded in the Government Census that between 1981 and 1986 Canberra experienced a 39 percent increase in practising dentists.

Canberra also has the highest number of dentists per population in Australia.

In the same recorded period each State of Australia had an increase of at least 10 percent dentists.

That is only a five-year period, so the real factor of increased dentists is our 86 percent artificially fluoridated country is quite contrary to the information promulgated by the Australian and State Governments and the Australian Dental Association, the NHMRC, the Health Departments and the controlled bureaucracy.

During October, Hansard 3/10/89 records a statement by the Minister of Health, Dr Blewett, that artificial fluoridation is taking away the livelihood of dentists.

Again and again you must ask yourself why artificial fluoridation is so adamantly promoted against the truth.

## **Dangers of fluoride ingestion**

6.15 A number of scientists and researchers have reported the health risks associated with the ingestion of fluoride.

### **Total fluoride intake**

6.16 Since the introduction of fluoridation of public water supplies there has been growing concern about the dangers of increasing levels of total fluoride intake. Individuals are now receiving fluoride from a large number of sources. Fluoride is contained in soft drinks, tea, processed foods, vegetables, toothpaste and even some medications. It is also added during the cooking process when fluoridated water is used eg in soups, sauces, rice and pasta.

6.17 In an article by Geoffrey Smith in *New Scientist* in May 1983, concerns are expressed about the dangers of individuals receiving fluoride from a number of sources.

During the past two years alone, reports in a series of highly respected scientific journals, including *The Journal of the American Chemical Society*, *Science*, and both *The British Medical Journal* and *The British Dental Journal*, have warned that individuals are receiving fluoride from a growing number of sources and that too much fluoride can be harmful. ...

The reasons for the present rethink about fluoridation are twofold. First, people are now ingesting fluoride from many more everyday sources, including water, food, dental health products, and medicines as well as pesticide, insecticide and fertiliser residues and even the air we breathe. Therefore the amount received by the individual cannot be controlled. Secondly, in 1976-77, scientists at Sweden's Karolinska Institute developed a simple and reliable way of measuring levels of ionic fluoride in the blood. They found that even very small dosages of fluoride may cause "normal" blood fluoride levels to surge to potentially harmful value

6.18 In discussing the fluoride content of food and beverages in a submission to the Committee Ms A Hill stated:

The effect of processing foods and beverages with fluoridated water produces an average daily fluoride intake in the range 1.0 to 2.0 mg. The mean fluoride content in communities with fluoridated water has been shown to be three times higher than those where water is not fluoridated (2.7 versus 0.9 mg/day). Spinach has the highest amount of fluoride amongst commonly consumed vegetables and gelatin, bone meal and fish protein are also potent sources of fluoride. The fluoride content of dried cereals is highly influenced by the fluoride content of the water in which they were processed. ... Ready-to-drink fruit juices increase the fluoride content by 5 to 20 times when fluoridated water is used.

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<sup>4</sup> Smith Geoffrey, "Fluoridation— are the dangers resolved?", *New Scientist*, 5 May 1990.

6.19 Dr Diesendorf has also raised the issue of total fluoride intake. He is concerned about the variation in dose levels particularly among high risk individuals of whom infants are a major group. He claims that:

Although the concentration of fluoride is controlled at about 1 ppm, the dose in mg per day varies substantially between individuals. High fluoride doses (compared with average doses) are ingested by the following groups, among others, in fluoridated areas:

- formula-fed babies;
- young children who drink mostly tapwater-based drinks;
- outdoor workers;
- long distance runners;
- people with diabetes insipidus.

In addition, people with malfunctioning kidneys store greater quantities of fluoride in their bones.

It is such high-risk groups which require protection from environmental chemicals such as fluoride, rather than just the "average person". Although the average daily fluoride dose to adults in fluoridated areas of the USA is about 2.5-3.0 milligrammes(mg), about 1 per cent of adults (excluding tea-drinkers and those who eat canned fish regularly) ingest about 5.5 to 7.5 mg of fluoride per day. Heavy tea-drinkers consume an additional 1.0 to 7.5 mg per day.

The fluoride dose in mg per kg of body mass per day generally increases with decreasing age, so that it is greatest for infants who drink powdered formula reconstituted with fluoridated water. The daily fluoride doses received by this group of infants are 4 to 6 times the doses from fluoride supplements currently recommended by the National Health and Medical Research Council for infants in unfluoridated areas.

The doses received by this high-risk group of infants are also 100 times the natural fluoride doses received by breastfed babies who do not take fluoride supplements. (The fluoride concentration of breastmilk is only about 0.01 ppm, whatever the fluoride intake of the mother). This group of infants with high fluoride intake contains prime candidates for dental fluorosis in permanent teeth, hypersensitivity reactions, and, if high fluoride intake continues through childhood and adulthood, skeletal fluorosis in middle and old age. There are also some grounds for concern that large fluoride doses during infancy may affect the developing immune system.

6.20 A number of other recent studies have started to question the level of fluoride added to water supplies, suggesting that it may lead to excessive intake and therefore stimulate detrimental dental and non-dental effects. For example, a recent American study, reported in the Journal of the American Dental Association concluded:

At twice the optimal fluoride concentration, the additional intake from extraneous sources of fluoride could be approaching a critical threshold for producing severe fluorosis. At 2 x optimal, 7.6 percent of the labial surfaces of maxillary anterior teeth of 13 to 15 year olds examined during the latest survey showed forms of severe fluorosis. It might be that the margin of safety between optimal water-fluoride concentrations and higher-than optimal water-fluoride concentrations, while always small, could have become even smaller. Further research is needed to corroborate the findings of this study.<sup>6</sup>

6.21 The Freedom From Fluoridation Federation of Australia also submitted that:

There is a serious pharmacological question on the dental "optimum" fluoride dose for children (and adults).

The belief of the fluoridation lobby is that children should ingest 1 mg of fluoride (F) each day of their lives in order to develop caries-free teeth.

The dose they state can be daily by either 1 mg/fluoride tablet or 1 litre of fluoridated water containing 1 mg/litre (1 ppm). How this works is not known, and the fluoridation literature for many years, (WHO, Royal College of Physicians etc etc) say the mechanism by which fluoridation works is unknown.

One may question the science of the "optimum" dose when they (the profluoridationists) do not know the mechanism by which fluoridation treats the teeth, let alone just how the fluoride arrives at the necessary point of treatment, then of course, how does the physiological change occur?

A hoax which is cleverly named optimal dose is drinking water supplies at 1 ppm (F) and all the disciples endorse it accordingly. It is a religion because it is a "belief" not a science, as the dose is uncontrollable, uncontrolled, unsubstantiated and relies completely upon the thirst of an individual, clearly demonstrating the lack of scientific basis for such a process.

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<sup>6</sup> Heifetz, S B, et al, "Prevalence of dental caries and dental fluorosis in areas with optimal and above-optimal water-fluoride concentrations: a 5-year follow-up survey", *Journal of the American Dental Association*, Vol 116, April 1988, p 495.

## **Dental fluorosis**

6.22 Dental fluorosis is the mottling of teeth as a result of fluoride ingestion. This condition ranges from fluorosis so mild that only dentists can identify it to severe mottling which is disfiguring. Severe mottling causes complete discolouration, pitting and possible tooth deformation with all enamel surfaces affected.

6.23 Mild dental fluorosis has been reported to occur at concentrations of fluoride above 0.6 ppm. Chronic intake of more than 6 mg per day of fluoride results in severe mottling of tooth enamel.

6.24 Anti-fluoridationists argue that:

Little concern has been shown for, or study made of, the reactions of children who have developed visible dental fluorosis as a result of ingesting the formerly-recommended dose of fluoride in tablets or through consuming fluoride in their drinking water. The mental stress, to both the child and its parents can be considerable, and stress can be a factor in the development of acute dental caries.<sup>7</sup>

6.25 Dr Colquhoun, as stated above, asserts that the level of fluorosis is considerably higher than predicted in areas which have been fluoridated. He contests the claim, made by some dentists, that it is hard to differentiate between mottling caused by fluorosis and other forms of mottling.

## **Non-dental effects of fluoride ingestion**

### **Interference with enzyme function – leading to birth defects**

6.26 The Nambucca Valley Association informed the Committee that:

In 1976 Swedish scientists developed simple and reliable ways of measuring blood levels of fluoride and found that even minute doses can cause 'normal' blood levels to 'peak' to potentially harmful ones. The free fluoride ion in the bloodstream has the ability to penetrate cell membranes and to interfere with enzyme function and mineral balance throughout the body and explains many disorders and pathological conditions arising from fluoridation. The health implications of enzyme changes are not fully known, but the possible damage is profound and diverse. For example, the oxygen carrying enzymes (called cytochrome C oxidase) in the blood are inhibited by fluoride. A deficiency in these enzymes causes oxygen starvation in the cells, which is acknowledged as one of the major causes of birth defects, infant mortality, Down's Syndrome and cot deaths.

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Sutton, P R N, **Fluoridation, 1979: Scientific Criticisms and Fluoride Dangers**, a personal submission to the Committee of Inquiry into the Fluoridation of Victorian Water Supplies, August 1979, p 169.

. **Repetitive Strain Injury (RSI)**

6.27 Some people believe that there is a relationship between repetitive strain injury and fluoride ingestion. Indeed, one sufferer made a submission to the Committee to this effect.

. **Skeletal fluorosis**

6.28 A high level of fluoride ingestion over a protracted period can lead to the development of skeletal fluorosis. This condition was first reported in workers involved in the manufacture of aluminium from cryolite and was subsequently shown to result from the inhalation of airborne fluoride. The Committee of Inquiry into the Fluoridation of Victorian Water Supplies noted that endemic fluorosis was first reported in 1937:

The condition occurred among the inhabitants of certain villages in Madras, India. Some of the wells supplying the drinking water to those villages contained fluoride in concentrations in excess of 10 ppm. Shortly after, the condition was described in the Punjab and other areas of India, South Africa, China and several other countries with high fluoride contents in drinking water and soil.<sup>8</sup>

6.29 Skeletal fluorosis is endemic in tropical regions in which there is a high concentration of fluoride in the drinking water. Whether skeletal fluorosis can be attributed solely to fluoride in the water, or is complicated by malnutrition, is uncertain.

. **Cancer**

6.30 The Nambucca Valley Association, in its submission to the Committee, also claimed that:

A Canadian Government enquiry came to the conclusion that artificially fluoridated water contains mutagens. This was based on information from scientific studies demonstrated before the USA courts. These studies were done by Dr Dean Burk, a world leading biochemist with 50 years in cancer research including 35 years in the USA National Cancer Institute with many awards given for previous research, and his colleague Dr John Yiamouyiannis, a biochemist and Science Director of the National Health Federation of the USA.

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<sup>8</sup> Report of the Committee of Inquiry into the Fluoridation of Victorian Water Supplies for 1979-80, op cit, p 49.



Dr Burk and Dr Yiamouyiannis present one of the largest and most sophisticated epidemiological studies in modern science, covering the cancer/fluoridation experience derived from official government statistics, of 18 million Americans over 30 years. There were controls for known and unknown variables including geographic and environmental factors, double-blind design to avoid bias, and an objective and manageable index (vis cancer deaths), for the time trend studies, together with adjustments for age, race and sex by direct and indirect methods. It revealed that at least 10,000 more persons die of cancer each year in the USA due to fluoride ingestion.

Professor Ali Mohamed, of the University of Missouri, a noted cytogeneticist, did a series of experiments which showed the capacity of fluoride, even at low concentrations, to induce or accelerate genetic damage, tumours and cancer in experimental animals, plants and insects under controlled laboratory conditions. Further experiments by other researchers (T Tsutsui et al) as late as 1984, show that at least one type of mammalian cell grown in fluoride-treated culture, induces tumours when injected back into the living mammal. Untreated cells do not have this effect. While there are limitations in both laboratory experiments and epidemiological surveys, they are the two main methods used to help identify carcinogens. There is much more research to be done in the area of a cancer/fluoridation connection, but there is a definite risk, and so far the evidence is worrying.

6.31 The United States National Toxicology Program (NTP) was conducting a study of chronic toxicity and carcinogenicity of sodium fluoride in rats concurrently with the Social Policy Committee's inquiry. On January 22 1990, an interim "fact sheet" was made public. Pathology results were available, but not the interpretation and evaluation of the results. This fact sheet was submitted to the Committee from several sources.

6.32 The National Health and Medical Research Council deferred their Working Group report on fluoride, pending the results of the United States study. The findings of both will be considered in Part 2 of this report.

### **Allergic reactions to fluoride**

6.33 The Nambucca Valley Association describes these:

In the USA particularly, large populations have been ingesting fluoride in their drinking water for decades. This gave scientists and others time to carry out tests and note the health statistics. A certain percentage of people are intolerant to fluoride (ie allergic) and the water has caused them to have serious health problems and even death. Some of the symptoms are: skin eruptions, gastric upsets, headaches, excessive thirst and urination, and exhaustion. If the allergic person does not drink fluoridated water for some weeks their symptoms disappear.

6.34 Dr G L Waldbott wrote a strong attack on water fluoridation, **Fluoride the Great Dilemma**, in which he documented many case histories of patients whose symptoms he attributed to the effects of fluoride, and especially fluoridated water. In it he listed the major symptoms (with the caveat that some of these symptoms could have other origins even in someone suffering from chronic fluoride poisoning):

- Chronic fatigue not relieved by extra sleep or rest
- Headaches
- Dryness of the throat and excessive water consumption
- Frequent need to urinate
- Urinary tract irritation
- Aches and stiffness in muscles/bones (arthritis-like pain) – in lower back, jaws, neck area, arms, shoulders, legs
- Muscular weakness
- Muscle spasms (involuntary twitching)
- Tingling sensations in fingers (especially) and feet
- Gastrointestinal disturbances – abdominal pains, diarrhoea, constipation, blood in stools, bloated feeling (gas) tenderness in stomach area
- Feeling of nausea (flu-like symptoms)
- Pinkish-red or bluish-red spots (like bruises, but round or oval) on the skin that fade and clear up in 7–10 days
- Skin rash or itching, especially after showers or bathing
- Mouth sores (also from fluoridated toothpaste)
- Loss of mental acuity and ability to concentrate
- Depression
- Excessive nervousness
- Dizziness
- Tendency to lose balance
- Visual disturbances – temporary blind spots in field of vision, diminished ability to focus (possible retinal damage)<sup>9</sup>

### **Kidney problems**

6.35 Several submissions referred to fluoride causing problems to people with kidney disease, and especially those on dialysis. A submission from Mr Walter Miller, of California, cited Dr Yiamouyiannis:

Dr Luis Juncos and James Donadio of the Mayo Clinic described a 17-year-old girl and an 18-year-old boy who had skeletal and dental fluorosis, accompanied by markedly reduced kidney function. The youths' primary source of drinking water contained 1.7 and 2.6 ppm fluoride, respectively. In regards to these two cases, Drs Juncos and Donadio concluded that either

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<sup>9</sup> Waldbott, G L, **Fluoridation: the Great Dilemma**, Coronado Press, Lawrence, Kansas, 1978, p 393.

fluoride was damaging the kidney or that fluoride was not being removed from the body because of an already damaged kidney. The possibility that fluoride damaged the kidneys is supported by evidence from the Yerkes Primate Research Center in Atlanta and Cornell University which show that 1 to 5 ppm fluoride causes interference with enzymes in the kidney and kidney damage to laboratory animals.<sup>10</sup>

. **Thyroid malfunction**

6.36 Some have also suggested that fluoride is harmful to the proper functioning of the thyroid gland. Dr Sutton cites a number of sources which claim that fluoride impairs the thyroid function. For example:

Professors T Gordonoff and W Minder stated, in 1960:

There is a true antagonism between fluorine and the amounts of iodine taken up by the thyroid. This may result in an approximately 20 to 30 percent reduction in function.<sup>11</sup>

. **Arthritis**

6.37 A number of submissions suggested that fluoride was a cause of arthritis. In his book **Fluoridation the Great Dilemma** George L. Waldbott refers to a number of studies linking fluoride to arthritis including Jolly (1973), Vischer (1969) and Cook (1971).<sup>12</sup> Dr Waldbott himself has linked arthritis and joint pains to the consumption of fluoridated water and claims to have brought about a reversal of the symptoms by eliminating fluoridated water from the diets of his patients. Dr Yiamouyiannis has reported a link between arthritic symptoms and exposure to air-borne fluoride in several countries.<sup>13</sup>

. **Fluoride toxicity**

6.38 Fluoride salts have and are widely used as insecticides and poisons for rodents. Sodium fluoride is widely used as a cockroach powder.

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10 Yiamouyiannis, J, **Fluoride, the Aging Factor: How to Recognise and Avoid the Devastating Effects of Fluoride**, Health Action Press, 2nd edn, 1986, p 9.

11 Sutton, P, *op cit*, p 193.

12 Waldbott George L, *op cit*, pp 101, 132 and 199.

13 Yiamouyiannis J, *op cit*, p 45.

6.39 These fluoride salts act as very potent inhibitors of enzymes in cells which produce the energy requirements for cells. It is this property of fluoride which kills insects and rodents and humans (at doses in excess of 2 grams), as well as (at much lower doses) bacteria in dental plaque.

6.40 Opponents of fluoridation argue that the fluoride salts used for fluoridation are toxic and therefore they should not be added to public water supplies.

### **Opposition on other grounds**

6.41 The Committee received as a submission from Mr Harley Dickinson, Member of the Victorian Legislative Assembly, a copy of **The Dickinson Statement** which suggests a broad conspiracy on the part of advocates of fluoridation. It cites a speech which Mr Dickinson made:

At the end of the second world war, the United States Government sent Charles Eliot Perkins, a research worker in chemistry, biochemistry, physiology and pathology, to take charge of the vast Farben chemical plants in Germany.

While there he was told by German chemists of a scheme which had been worked out by them during the war and adopted by the German General Staff.

This was to control the population in any given area through mass medication of drinking water. In this scheme sodium fluoride occupied a prominent place.

Repeated doses of infinitesimal amounts of fluoride will in time reduce an individual's power to resist domination by slowly poisoning and narcotizing a certain area of the brain and will thus make him submissive to the will of those who wish to govern him.

Both the Germans and the Russians added sodium fluoride to the drinking water of prisoners of war to make them stupid and docile.<sup>14</sup>

6.42 The author suggests that a fluoridation campaign in Northern Ireland, initiated by the British Government, was an attempt by Mrs Thatcher to "sedate the people and render them subservient to her autocratic dictates".<sup>15</sup> This claim was also repeated in the Committee's public hearings.

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<sup>14</sup> Stephens, I E, **The Dickinson Statement: A Mind Boggling Thesis**, published by author, October 1987, p 1.

<sup>15</sup> Stephens, I E, *op cit*, p 13.

6.43 Most of the major writers on fluoride who broadly fit under the description of anti-fluoridationist refer to the politics of the debate and the suppression of evidence of the anti-fluoride case. Dr P Sutton, for example, who made a submission to the Victorian inquiry, which he then published, described repressive actions which included the discouragement of discussion on fluoridation, repression and abuse of opponents of fluoridation, the suppression of published evidence against fluoridation and the difficulties in publishing new material which questions fluoridation.<sup>16</sup>

6.44 Ms Wendy Varney has written that:

Two recurring problems appear to have beset the fluoride question at governmental levels in this country. Firstly, there seems an inescapable conflict of interest within the existing structures. Those bodies and authorities whose task it is to promote fluoridation, such as the NHMRC at federal level, are precisely those which, either by their own monitoring, or through their own reports, or else by virtue of acceptance by "independent" committees that these bodies are the best equipped and most reliable experts to provide the necessary information, are the ultimate "regulators" of the measure. ...

Secondly, and interacting with the first problem, is that from the outset the burden of proof has been squarely placed on those who are uncertain of the safety of fluoridation, who, by and large, fall outside of the bureaucratic structures. Not only, therefore, is the state committed to fluoridation, through its promotional activities, but the resources of the state are directed singularly towards the reinforcement of the notion that fluoride is safe and effective.<sup>17</sup>

6.45 Varney identifies industry beneficiaries of artificial fluoridation which include: those which supply the by-product to the water supply authorities; food manufacturers whose products are conducive to tooth decay; and those companies which have entered the fluoride market with products such as fluoridated toothpastes, sold as harmless and effective prophylactic against dental decay.<sup>18</sup>

6.46 Varney expands on this concept of vested interest in describing the protagonists of fluoride.

While sections of industry have been the quiet beneficiaries from fluoridation, medical bodies such as the Australian Dental Association and the Australian Medical Association have been the vocal endorsers. Indeed,

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<sup>16</sup> Sutton, P R N, *Fluoridation, 1979: Scientific Criticisms and Fluoride Dangers*, August 1979.

<sup>17</sup> Varney, W, *Fluoride in Australia: A Case to Answer*, Hale and Iremonger, 1986, pp 124-125.

<sup>18</sup> Varney, *op cit*, p 53.

any proposal to fluoridate (or statement aimed at allaying fears about fluoride) are invariably prefaced with an assurance that 11 respected and competent bodies are unanimously satisfied as to the innocuousness of fluoridation.<sup>19</sup>

6.47 Indeed, Mr G Walker<sup>20</sup> at the Committee's hearings, went further by suggesting that because "every university in the world was funded directly and indirectly by the fluoridation lobby" it was difficult for scientists to begin discussing the possible drawbacks of fluoridation.

6.48 This chapter has provided an overview of the arguments against water fluoridation which have been put to the Social Policy Committee. As was the case with Chapter 5, they do not necessarily reflect the Committee's own view, which will be given in Part 2.

6.49 Chapter 7, which follows, will outline the responses the Committee received from embassies, high commissions and consulates on fluoridation policies in their respective countries.

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<sup>19</sup> Varney, op cit, p 79.

<sup>20</sup> Mr Glen Walker is author of **Fluoridation: Poison on Tap**, Glen Walker, Melbourne, 1982.



## **7 WATER FLUORIDATION OVERSEAS : RESPONSE TO COMMITTEE'S REQUEST FOR INFORMATION**

7.1 On behalf of the Social Policy Committee, the Presiding Member wrote to all embassies, high commissions and consulates in Canberra to seek information about policies on water fluoridation in their respective countries. A list of those who responded is given in Chapter 2.

7.2 This chapter provides an overview of these responses.

7.3 Great caution should be taken not to draw the wrong conclusions from responses of this kind. For example, natural fluoride levels in water supplies vary considerably. Should a response say that certain areas are not fluoridated, this could mean that the natural sources have a relatively high fluoride level in the first place.

7.4 The constitutional and legal position relating to water fluoridation also varies from country to country. An authority may wish to fluoridate but be subject to legal challenge if it does. In addition, the extent, locus or level of government responsibility for water supplies (national/state/local government and so on) varies from country to country.

7.5 The extent to which people have access to community water supplies also varies considerably, with many poorer or less-developed areas depending on well or bore water. In order to implement water fluoridation it is necessary to have both a reliable public water supply and grid electricity. Many countries lack these basic requirements. The decision here, therefore, may be not whether fluoridation is effective but whether it is possible.

7.6 What appears below, therefore, is an overview of the responses, with elaboration or illustration where this was provided.

7.7 Before looking at the country by country responses, the role of the World Health Organisation and the European Economic Community will be considered.

### **World Health Organisation**

7.8 In its report **Experience on water fluoridation in Europe** the World Health Organisation described the origins of its involvement in the fluoridation issue:

The World Health Organisation's interest in fluoridation of drinking water as a means of tackling the problem of dental caries goes back to the early 1950s when confronted with the first reliable proof that certain concentrations of fluoride in the water supply reduced the level of tooth decay, particularly amongst children.



At a WHO Dental Health Seminar held in New Zealand in 1954, it was concluded that the presence of fluoride in community water supplies of appropriate concentrations of 1 mg/l was associated with lowered incidence of dental caries, and that the adjustment of the fluoride content of community water supplies to an optimal level is a safe and effective health measure, and that particularly in those countries where dental caries is prevalent, fluoridation of water supplies should be undertaken. As one of the follow-ups to the 1954 meeting a WHO Expert Committee on Water Fluoridation met in Geneva in 1957. This committee again concluded that drinking water containing approximately 1 mg/l fluoride has a caries preventive action, and added that maximum benefits are derived if such water is consumed throughout life.

In 1969, the Twenty-Second World Health Assembly, in Resolution WHA 22.30, recommended that Member States introduce community water fluoridation and, where this would not be practicable, study alternative methods of using fluorides to protect dental health. In 1974, the Executive Board of the World Health Organisation requested that the Director-General develop a programme within WHO for the promotion of community water fluoridation and other approved methods of preventive dental caries.

Noting that no nation can expect to solve the problem of dental caries solely by the provision of curative services, the Twenty-Eighth World Health Assembly in 1975, in Resolution WHA 28.64 approved the programme proposed by the Director-General and stressed the importance of optimising the fluoride content of water supplies.

In 1978, the Thirty-First World Health Assembly, in Resolution 31.50, reaffirmed its support of fluoridation as safe, inexpensive, and effective, and urged Member States to consider fluoridation of public water supplies as part of their national plans for prevention and control of oral disease; and it suggested that, where community water fluoridation is not feasible, alternative methods of achieving optimum daily intake or application of fluorides should be envisaged.<sup>1</sup>

7.9 In 1982 there was a further endorsement from an FDI/WHO/KELLOGG Foundation Conference on fluorides in Vienna:

The International Conference on Fluorides reviewed the findings of recent experimental, clinical, and epidemiological research on the use of fluorides in promoting dental health. While welcoming the reports of declining caries experience in many developed countries, it was greatly concerned about the sharp increase in dental caries in some developing countries. As there is no possibility of treating so many decayed teeth with the dental resources at present available in the developing countries, the only hope is to contain the caries problem by preventive measures.

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<sup>1</sup> World Health Organisation, *Experience on water fluoridation in Europe*.

The Conference agreed that community water fluoridation is an ideal public health measure for the prevention of dental caries in countries with well developed, centralized public water supplies. It was in agreement with the view of the FDI, WHO, and the medical and dental professions throughout the world that community water fluoridation is an effective, safe, and inexpensive preventive measure, which has the virtue of requiring no active compliance on the part of the persons benefited. The Conference recommended that community water fluoridation be introduced and maintained wherever possible.<sup>2</sup>

7.10 In a letter to the Geelong and District Water Board the Western Pacific Regional Office of the World Health Organisation advised, in May 1986, that:

As you know, WHO through its General Assembly resolutions have advocated and supported fluoridation of drinking water supply in fluoride deficient areas.

But added the recommendation that:

To determine when it is appropriate to fluoridate is a matter that requires the prior determination of prevailing fluoride intake from all sources including drinking water, food and the general environment.

### **The European Economic Community**

7.11 The Council Directive of the European Economic Community, of 15 July 1980, provides guidelines on acceptable limits for the fluoride concentration in water for public consumption.

7.12 Article 8 states:

Member States shall take all the necessary measures to ensure that any substances used in the preparation of water for human consumption do not remain in concentrations higher than the maximum admissible concentration relating to these substances in water made available to the user and, that they do not, either directly or indirectly, constitute a public health hazard.

7.13 In its list of parameters, under the heading "Parameters concerning substances undesirable in excessive amounts", fluoride is given two upper limits, according to the temperature. If the temperature falls within 8–12 degrees centigrade, 1.5 ppm is the maximum. If the temperature falls within 25–30 degrees centigrade, 0.7 ppm is seen as the maximum concentration of fluoride.<sup>3</sup>

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<sup>2</sup> Murray, J J, *Appropriate use of fluorides for human health*, World Health Organization, Geneva, 1986, pp 127–178.

## **Overview of responses from embassies and high commissions**

### **Britain**

7.14 The British High Commission enclosed a copy of a letter from the British Department of Health which reported:

Evidence from around the world has proved conclusively that water fluoridation reduces dental decay. Although there has been a significant and welcome general decline in the prevalence of dental decay in the UK in recent years, studies which have been carried out contrasting comparable fluoridated and non-fluoridated areas have consistently shown that the reduction in dental decay is between one third and one half greater in the fluoridated areas than in non-fluoridated areas.

The British Government believes fluoridation to be safe. This is the view not only of the eminent independent medical and scientific experts who advise the Government on fluoridation, but also that of the overwhelming weight of medical and scientific opinion throughout the world. ...

Whilst fluoridation is not widespread in Western Europe, the reasons for this have been mainly due to technical feasibility or legality. In this country, some 6.5 million people receive artificially fluoridated water whilst in Eire fluoridation of water supplies is mandatory on a national basis. ...

On the question of freedom of choice, the Government does not believe that the supplementing of fluoride levels in water to a level which occurs naturally in a number of areas in the United Kingdom can be described as mass medication. Fluoride is already present at varying concentrations in all domestic water supplies. Water fluoridation does not introduce any alien substance into the water supply but rather adjusts the level of fluoride to the optimal concentration for dental health of 1 ppm.

However, the Government is also fully aware of the sensitivities surrounding this subject and recognises that local opinion on the need for this measure may differ. The Water (Fluoridation) Act therefore ensures that the final decisions on this matter are taken only at a local level. The results of professional opinion polls have consistently shown public support in this country for fluoridation running at about 70 percent.

. **Canada**

7.15 The Minister of National Health and Welfare wrote:

The year 1989 marked the forty-fourth years since the first city in Canada, Brantford, Ontario, adjusted the fluoride level in its water supply to improve the dental health of its citizens. Yet, only 39.2 percent of Canadians who have the possibility of receiving this benefit are presently able to do so.

Tooth decay is still a widespread and costly disease. Fluoridation, in concert with good oral hygiene, proper diet, and parental counselling, is the most effective and inexpensive method of combating this disease.

Questions concerning the safety of present-day water fluoridation practices have been thoroughly checked many times, and my Department is satisfied that there is no human health hazard from this public health measure.

It is my earnest hope that fluoridation of public water supplies will soon be implemented throughout Canada.

. **Chile**

7.16 The Embassy wrote:

Drinking water is currently being fluoridated in the Province of Valparaiso urban services. It is planned to extend fluoridation to all urban centres in the country.

. **Cyprus**

7.17 Cyprus does not fluoridate its water supplies, giving the ethics of mass medication as its rationale. The Director of Dental Services in the Ministry of Health indicated that water fluoridation would be difficult because of the diversity of water sources (which have a range from .01 to 2.15 ppm natural fluoride concentration).

7.18 The Dental Health Services have a program of topical application and fluoride tablets for children.

. **Czechoslovakia**

7.19 The Scientific Council of the Ministry of Health recommended the introduction of fluoridation of drinking water wherever possible. The methodological instruction for fluoridation was issued by the General Health Officer in 1967.

Development of fluoridation of drinking water: in 25 years it was introduced in 567 localities in the Czech Socialist Republic, supplying about 33 percent of population. The extent of water fluoridation in the Slovak Socialist Republic is very limited due to unfavourable water resources.

After 12 years of fluoridation of drinking water a representative sample of population aged 6–14 was examined. When compared with the results of basic research in 1975 the examination showed a reduction in cariogenicity of 38 percent in the temporary dentition and 39 percent in the permanent dentition.

Children aged 12 living since birth in Prague where water was fluoridated for their entire lives had in 1987 on average 1.8 Decayed, Filled or Missing Teeth. This figure is 44 percent lower when compared with average cariogenicity of 12-year old children in the Czech Socialist Republic and 53 percent lower than in children in Slovakia.

Fluoridation of drinking water in Prague stopped on 30 September for technical reasons and has not been resumed to date.

In connection with the interruption of fluoridation of drinking water in Prague some doubts were expressed in the media (press and television) about the effects of fluoridation on human health and its preventative value. The arguments against the preventative effects were based on the information in foreign countries (Diesendorf, Colquhoun and Ziegelbecker).

Despite the clearly proved effectiveness of fluoridation of drinking water in Czechoslovakia and the continued support for it by the World Health Organisation, the present campaign against it could affect public opinion to such a degree that the water fluoridation could be interrupted or even abandoned at a number of locations.

#### **Federal Republic of Germany (formerly)**

##### **7.20 The Embassy responded that:**

The adding of fluoride to drinking water is not allowed in the Federal Republic of Germany. Section 37 of the Food and Commodities Act gives the state authorities however the possibility exists to grant exemptions from this general rule. So far this provision has not been used.

## **Finland**

### **7.21 The following was included in the Embassy's response:**

Finland has only limited experience on water fluoridation in practice. In the whole country only one city, Kuopio, fluoridates its piped water supply. The paucity of the fluoridated water systems is not a consequence of an adequate supply of natural fluorides among the population. With the exception of a few uniform high fluoride areas in the southeastern and southwestern parts of the country, the natural fluoride content in the drinking waters of Finland tend to be low. The majority (78 percent) of the population (that totals about 5 million) are residing in low fluoride areas with fluoride concentrations of the drinking water being less than 0.5 mg/l. Twelve percent are using water containing 0.5 to 1.5 mg fluoride per litre, and for 10 percent of the population the concentration exceeds 1.5 mg/l.

No legal constraints impede the implementation of water fluoridation programmes in Finland. In contrast, water fluoridation has, especially in the 1970s, been strongly encouraged by the state health authorities. In the Finnish system, however, each commune (in all over 400) may decide quite independently whether it fluoridates its drinking water or not. At present, a permission by the National Board of Health is required before the implementation of any water fluoridation programme in Finland. The state authorities do not have the power, however, to force unwilling communes to introduce such programmes.

Fluoride tablets (0.25 F) are used in young age groups. The total sale in 1988 was 143.5 million tablets. Fluoride tablets can be purchased at pharmacies without prescription and are free of charge to children from the age of 6 months up to the age of 16 years.

At schools 0.2 percent sodium fluoride mouthrinses were common in the 1970s. Recently fluoride dentifrices and topical applications in dental clinics have replaced most of the school-based rinsing programmes.

Fluoride pastes, gels, varnishes, etc (up to 2 percent F) are applied topically on caries risk groups by dental assistants and dentists.

Fluoride dentifrices are freely available all over the country, and some 99 percent of all dentifrice sold in Finland in 1988 contained fluoride. Consumption of dentifrices has gradually increased. In 1988 an average Finn used approximately 172 ml dentifrice.

#### **Sugar fluoridation:**

The first research reports on sugar fluoridation were published in Finland in 1979. Today there are serious attempts to introduce sugar fluoridation in candy production. A field trial on large scale fluoridation of certain candy products is under preparation.

. **Greece**

7.22 The Embassy wrote that fluoride was not added to the community water supply in Athens and, as far as the Embassy knew, this was also the case in other Greek cities. The Embassy indicated that the relevant Greek authorities had provided the following reasons for not supporting water fluoridation:

- . Fluoride is a toxic substance and, as such, is included in a list of undesirable elements which should not be contained in drinking water according to directive No 80/778 of the European Community. It should be noticed that this is especially important for Greece, where a large quantity of the water supplied is actually drunk by the population because of the warm climate.
- . Consumer groups have repeatedly expressed their opposition to water fluoridation.
- . It is considered better to prevent tooth decay through dental care instead of installing expensive plants to fluoride water.

. **Iran**

7.23 The Embassy responded:

I would like to inform you that fluoride is added to the drinking water of my country and it is considered as a very useful element in tooth enamelling especially during the period of childhood.

. **Ireland**

7.24 The Embassy wrote:

Arising from a belief in the 1960s that water fluoridation was beneficial to dental health an Act was passed in 1960, the Health Fluoridation of Water Supplies Act, 1960. The constitutionality of the Act was contested in the Supreme Court and it was not until 1964 that fluoridation began with fluoridation of supplies in Dublin and Cork.

Every suitable supply has since been fluoridated, the criteria being feasibility on engineering grounds and that the population using the supply must be at least 1,000 to 1,500. Sixty-five percent of the population now receive fluoridated water.

Baseline studies were carried out in the 1960s and following on these, a report issued in 1984 found that children who were lifetime dwellers in fluoridated areas benefited from improved dental health.

. **Italy**

7.25 The Ministry of Health provided the following information:

Considering that in Italy a specific legislation on water fluoridation does not exist, we would like to inform that we follow the Superior Council of Health (consultative body of the Ministry of Health) in favour of fluoridation of the water-works, as a method of karyoprophyllaxis.

Such method, found to be the most efficient among many other international bodies and major dentistry organizations, appears to be harmless if correctly applied and has an actual cost inferior to that of fluoroprophyllaxis and prevention in general.

The Embassy cited EEC Directive 80/778 in support of this policy decision.

. **Korea**

7.26 Korean water supplies are not artificially fluoridated. Two reasons were given: that the less additives to water supplies the better; and that there was a danger of side-effects on young teeth.

. **Lebanon**

7.27 The Embassy responded:

The public water supply in Lebanon is not fluoridated. However, fluoride tablets are available from pharmacies and fluoride toothpaste is widely used and recommended by dentists.

. **Malaysia**

7.28 The Ministry of Health Malaysia wrote:

Upon approval by the Government the National Fluoridation Programme was implemented in this country in phases, beginning in 1975. Today, all the major water treatment plants have been installed with fluoride feeders, supplying fluoridated water to more than 60 percent of the population...

The programme is quite well implemented and the reduction in caries prevalence among the school children in this country is becoming evident. In 1971 (pre-fluoridation survey) the DMF status for 12-year-old children was 3.7. In 1989 (post-fluoridation survey) the DMF of this group was 2.4. ... The six-year-old showed the greatest decline of about 50 percent as compared to the previous survey. The reduction for the 12-year-old group was about 36 percent and the 16-year-old group was about 9 percent.



## **Malta**

### **7.29 The High Commissioner wrote:**

The Medical and Health Department in Malta have no official policy on the fluoridation of water, it being considered that the compounds found naturally in the water supply in Malta do not need any special treatment.

## **Netherlands**

### **7.30 The Netherlands does not fluoridate. The Embassy provided the following account, "Fluoridation of Drinking Water in the Netherlands":**

#### **Fluoridation of drinking water: the beginning**

In 1942 the results of an epidemiological study were published, which has been carried out on children between 12 and 14 years old in 21 cities in the United States. The results showed a link between the fluoride naturally present in drinking water and the incidence of dental caries. At a concentration of 1 mg fluoride per litre of drinking water, the incidence of caries was reduced by half, while there was little risk of fluorosis, the discoloration of the teeth due to a high concentration of fluoride.

These results led to high expectations within the world of dentistry. The addition of fluoride to drinking water would provide a simple, cheap method of controlling the extremely common disorder of dental caries. In 1945, in the American Grand Rapids, the first water fluoridation project was set up.

#### **Pilot drinking water fluoridation project in Tiel, The Netherlands**

The Dutch were among those whose attention was attracted by the American studies into the results of drinking water fluoridation, and plans were drawn up for the implementation of fluoridation in the Netherlands. For safety's sake, an experiment was to be set up to see whether the effects under Dutch conditions were comparable with those in the United State. The experiment started in 1952 in the town of Tiel, where the fluoride concentration was increased from 0.15 mg to 1.1 mg per litre. The results were compared with those from the municipality of Culemborg, where no fluoridation of the water was carried out.

In 1952 and 1953, the incidence of caries in children was the same for both communities. In 1957, however, 4 to 5 years after the introduction of fluoridation, the results were very favourable.

Depending on age, children in Tiel had 50 to 70 percent less caries than their contemporaries in Culemborg.

### Implementation of drinking water fluoridation

The experiment in Tiel and Culemborg was scheduled to continue for 15 years, but as early as 1955 the Dutch Minister of Health and Social Services sought advice from the Health Council concerning the desirability of fluoridation with a view to caries prevention. The Health Council, partly on the basis of the results from Tiel, recommended the fluoridation of water in the Netherlands at a concentration of 1 – 1.2 mg per litre.

The Minister accepted the Health Council's advice, but left the decision as to whether or not to fluoridate to the water companies, which in most cases meant the local councils. A large number of councils implemented fluoridation between 1962 and 1967, and by the end of 1972 almost four million Dutch citizens were drinking fluoridated water supplied by 18 water companies.

### The resistance

Despite all the public information about fluoridation – for which a special government commission was set up in 1960 – more and more objections were made to the addition of fluoride to drinking water. The main objection concerned the infringement of personal liberty. Fluoride was being added to drinking water as a preventive health measure; the fact that everyone was to be forced to take this 'medicine' was an attack on the rights of the individual. In addition, many dangers to health were cited – often in a highly emotional way.

The resistance became organised in 1962 with the formation of the Association for the Protection of Drinking Water (Vereniging tot bescherming van het drinkwater), followed in 1968 by the Drinking Water Guardian Foundation (Stichting waakzaamheid drinkwater).

The first local action committee was formed in the town of Bussum in 1966. The number of anti-fluoride groups was estimated at around 30, which meant that wherever fluoridation was implemented or there was a threat of fluoridation, there was an action committee present.

### 1970: pronouncement by the Crown

In 1968, opponents of water fluoridation resorted to legal weapons. Shortly after the Central Netherlands Water Company had been granted permission to begin fluoridation, an appeal was lodged with the Crown, and this example was followed by opponents in other municipalities.

In 1970 the Crown made a pronouncement. A condition ought to have been imposed on the water companies, the objectors must be given the opportunity to obtain non-fluoridated drinking water.

This meant that the Association of Water Companies in The Netherlands (Vereniging van Exploitanten van waterleidingmaatschappijen in Nederland – VEWIN) was faced with the task of supplying both fluoridated and non-fluoridated water. As long as the number of objectors was small, it was sometimes possible to meet the demand for non-fluoridated water. In Amsterdam, for example, there were just five supply points where water without fluoride could be drawn. When, thanks to the activities of the Pure Drinking Water action committee, more than a thousand requests for non-fluoridated water were received in Tiel, the water company was forced to end fluoridation in the town.

Legal proceedings sometimes led to the end of water fluoridation, as happened after a judgement by the Dutch High Court in Arnhem, for example. The result of all this was that from 1968 onwards, progress in the drinking water fluoridation programme virtually came to a standstill.

#### 1973 pronouncement by the Supreme Court

##### Drinking Water Fluoridation Bill

In 1973 the Supreme Court of The Netherlands reached the conclusion that drinking water fluoridation could not be included under the independent authority of the municipalities, but that a statutory basis was required for the measure. In the same year, a bill of the 'Amendment of the water company law with respect to the fluoridation of drinking water' was introduced.

When the bill was put through in the Dutch Lower House of Parliament in 1976, the criticism was so great that the Minister first asked for an adjournment of the debate, and later withdrew the bill, thus signifying the end of drinking water fluoridation in The Netherlands.

##### Consequences of the rejection of drinking water fluoridation

As a reaction to the rejection of drinking water fluoridation, attention was focused more strongly on alternative methods of supplying fluoride: fluoride tablets, fluoride toothpaste, and local application of fluoride preparations

Fluoride tablets and local application were included in the services offered by the Dutch Health Service. In school dentistry, several regions switched to the application of fluoride in the form of local application or rinsing with a fluoride solution. There was also a great increase in the use of fluoride toothpaste.

Professor Backer Dirks – then Professor of Preventive Dentistry at the State University of Utrecht and a great champion of drinking water fluoridation, and who also, for example, began the study into the effects of fluoride in Tiel – recently announced that there is no longer a need for water fluoridation for the majority of the population in The Netherlands.

Epidemiological research among young people has shown that the incidence of tooth decay has begun to fall. Moreover, this fall has continued since 1985 and is now also gradually becoming apparent among the young adult population. This leads to the conclusion that, without interference from the authorities, the population itself, by the adoption of a healthier lifestyle - including the use of fluoride - is successfully bringing the dental caries problem under control.

Professor Backer Dirks' view on this subject is that "the problem of dental caries has shifted from being an insoluble problem for the majority to a problem for special population groups, such as: the lower income groups and many immigrant children. Water fluoridation would be helpful for these groups, but they are too small to justify this".

Water fluoridation remains an important measure for many countries with a high incidence of caries, low dental awareness, few dentists and a relatively low income.

In The Netherlands, health is something which in the first place is the responsibility of the individual, and our relatively high level of knowledge enables us to put this into practice.

## **Norway**

### **7.31 Norway does not fluoridate. The Embassy wrote:**

A committee on fluoridation appointed by the Ministry of Health and Social Affairs submitted its report in 1969. The committee unanimously endorsed water fluoridation, considering it as a safe and effective dental public health measure, and recommended that the local authorities be given jurisdiction to pass bylaws for the fluoridation of public water supplies in communities with waterplants meeting defined technical standards.

So far, no fluoridation bill has been presented to Parliament.

There has been and still is an organized and strong opposition to the measure.

The Director-General of the Directorate of Health has for many years recommended water fluoridation as a safe and most effective public health measure.

### **7.32 The use of fluoride toothpastes, fluoride tablets etc appears to have markedly improved the dental health of the Norwegian population.**

. **Pakistan**

7.33 Pakistan does not fluoridate any community water supplies.

. **Portugal**

7.34 Portugal does not fluoridate its water supplies.

. **Singapore**

7.35 Singapore's water supply has been fluoridated since 1957. This has been found to be an effective method for the prevention of dental caries. It is also cost effective. According to the Ministry of Health, in Singapore, in 1984, children about 12 years of age have an average of 2.47 Decayed, Missing or Filled Teeth each. The target recommended by the World Health Organisation is a DMFT of 3.0 by the year 2000.

The fluoride level maintained in our drinking water is between 0.6 and 0.8 milligrams per litre and is within the WHO Guidelines for Drinking Water Quality (1984). Dentists in Singapore are aware that a high intake of fluoride in early childhood does cause fluorosis and some of them are carrying out studies on the prevalence of enamel mottling. The Ministry of Health is also keeping close watch on similar studies in neighbouring countries.

. **South Africa**

7.36 Fluoride is not added to any South African water supplies. The Chief Medical Officer of Johannesburg was cited in the letter from the South African Embassy:

Johannesburg does not add any fluoride to its drinking water, a practice followed in all of South Africa. Although the McKenzie Commission of Inquiry on Fluoridation recommended the fluoridation of drinking water in 1966, it was never proposed into legislation. Due to the fact that fluoridation is such a controversial issue, local authorities were not prepared to take the risks of possible litigation in the absence of an enabling Act.

. **Sweden**

7.37 The Swedish Embassy responded:

The result of the Government Official Report, SOU 1981:32, on fluoridation of drinking water was that Parliament turned down the proposal. The reasons were not scientific but ethical. The majority was against "forced medication".

7.38 An accompanying report of the Swedish Fluoride Commission contained the following conclusions:

The Commission has noted that caries is a disease which can be prevented. The basic cause of caries is the consumption above all of sweet foods. The repeated consumption of sugar and sugar containing products between meals is particularly liable to cause caries. Thus the prevention of caries must be based on dietary and mealtime habits.

7.39 The Commission was satisfied that fluoride has a preventive effect on caries and did not query the existing forms of fluoride treatments. However, it stated:

As regards to fluoridation of drinking water, the Commission is opposed to legislation making it possible for municipal authorities to add fluoride to drinking water supplies. The various measures taken so far have led to a steep decline in the incidence of caries in recent years, and the Commission feels that further preventive effects can be obtained on a voluntary basis. This should be engineered by means of intensified efforts to improve popular dietary habits and oral hygiene and also by means of efficient individual fluoride treatment

To many people, the fluoridation of water supplies represents an encroachment on the individual's freedom of choice. This gives the Commission a further reason against recommending a measure like the fluoridation of drinking water for which it may be difficult to secure public confidence. The combined and long-term environmental effects of fluoride are insufficiently known, which is yet another reason for rejecting fluoridation of water.

#### **Switzerland**

7.40 The following information was provided by the Embassy:

The Cantons (States) of the Swiss Confederation are legally authorised to add for medically prophylactic reasons any substance to food that is necessary or has physiologically favourable effects. Of all the Cantons, it is only the Canton of Basle-City which avails itself of this legal right as far as the addition of fluoride to drinking water is concerned.

The waterworks of the City of Basle regulate the fluoride content of drinking water to be 0.9 ppm in summer and 1 ppm in winter.

In all the other Cantons table salt containing 250 mg of fluoride per kg is being sold. However, the consumer has a choice, since there is also table salt available, which does not contain fluoride. About 80 percent of table salt sold contains fluoride.

. **Turkey**

7.41 The Embassy responded:

Fluoride is not added to community water supplies in Turkey. However, water supplied for home consumption in rural areas, 1.5 mg/lit of fluoride is added. This quantity is in accordance with World Health Organisation standards.

. **Union of Soviet Socialist Republics**

7.42 The USSR Ministry of Public Health, through its embassy, informed the Committee that in accordance with the Soviet standard recommended level of fluoride in the community water may be from 0.7 ml per litre to 1.5 ml per litre. The level depends on the climatic zone.

**Conclusion**

7.43 The Social Policy Committee is grateful for the trouble Canberra's high commissions, embassies and consulates took in preparing and/or supplying information for this fluoride inquiry and has found the different responses particularly interesting. This is why a whole chapter has been devoted to this overview.

7.44 Having looked at some overseas experiences with water fluoridation, the report will now provide an explanation of the mechanics of fluoridating the ACT water supply.

## **8 FLUORIDATION OF AUSTRALIAN WATER SUPPLIES**

8.1 This chapter will give a brief overview of fluoridation in Australia and then describe the water fluoridation process currently practised by the ACT Electricity and Water Authority (ACTEW) in fluoridating the ACT water supply which provides water to the ACT and the City of Queanbeyan.

### **Fluoridation of Australian water supplies**

8.2 Water fluoridation was gradually introduced in Australia through the 1960s and 1970s. The table below gives the dates when the capital cities became fluoridated.

#### **FLUORIDATION OF WATER SUPPLIES OF AUSTRALIAN CAPITAL CITIES**

HOBART	1964
CANBERRA	1964
SYDNEY	1968
PERTH	1968
ADELAIDE	1971
DARWIN	1972
MELBOURNE	1977

8.3 By 1984 nearly 66 percent of the Australian population were served by fluoridated water supplies. It was estimated that 0.9 percent of the population were served by naturally fluoridated water at 0.5 ppm or above. Most striking of these was the Northern Territory, where 9.2 percent had naturally fluoridated water.<sup>1</sup>

### **Fluoride in the ACT water supply**

8.4 Since 1964, fluoride has been added to the ACT water supply. Officers from ACTEW informed the Committee that the ACT currently obtains its water from two primary sources, the Cotter River system (Corin, Bendora and Cotter Dams) and the Queanbeyan River (Googong Dam).

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<sup>1</sup> See Appendix 5.



8.5 The Cotter River supply originates from mountainous catchments which are, to a large extent, closed to the general public. The water from these catchments requires only minimal treatment at the Mt Stromlo Treatment Plant (to meet guidelines established by the Nation Health and Medical Research Council).

8.6 The Googong Reservoir receives its supply from basically uncontrolled rural, agricultural and pastoral land with some eucalypt forests. It requires extensive treatment to deal with bacteria, colour and turbidity in the catchment before it can safely be consumed.

8.7 Googong water is currently only used during the summer high demand period (typically November to March) and for two to three weeks in July to enable maintenance on the Cotter system. The Committee inspected the water treatment plant at Googong while it was in operation in March 1990. The Cotter supply, with the exception of this maintenance period, is used throughout the year.

8.8 Within a typical year, ACT and Queanbeyan residents currently consume in the order of 70,000 Ml of water (approximately 85 percent of which will be supplied through the Cotter system). Maximum summer demands are of the order of 500 Ml per day whilst winter demands are of the order of 120 or 140 Ml per day.

#### **Naturally occurring fluoride levels**

8.9 Fluoride occurs naturally within both catchments but in such small quantities that it requires identification and measurement by special trace element analysis.

8.10 Natural levels of fluoride have been determined to be of the following order:

Cotter	: 0.05 ppm
Googong	: 0.10 ppm

8.11 ACTEW informed the Committee that regular monitoring carried out at the water treatment plant inlets over many years has determined that fluoride levels remain fairly constant with the variation range being reasonably insignificant.

8.12 Sodium silicofluoride is added at both the Stromlo and Googong plants to increase the fluoride levels to the final concentration of 1 mg per litre. The operational limits set for the water treatment operators are 0.90 – 1.10 mg per litre. These dosage rates are in accordance with Section 6 of the NHMRC guidelines. ACTEW indicated that operators had no difficulties in maintaining concentration within these limits.

## **Monitoring**

8.13 ACTEW monitors fluoride concentrations measured at Googong water treatment plant continuously, by automatic analysers, supplemented by a minimum of two manual tests during each eight-hour shift.

8.14 Stromlo has older equipment which does not incorporate automatic analysers; and four manual checks are carried out each shift.

8.15 In addition, a daily cross-check is carried out by ACTEW's Water Quality and Investigation Laboratory, located at Lower Molonglo, on samples sent from both plants. A further six samples are taken for analysis each week at various points throughout the City's reticulation system.

8.16 ACTEW indicated that the final safeguards in the system were the balance storage tanks located at each treatment plant and the dilution offered by the 900 Ml of stored water in the reticulation system. In the unlikely event of an accidental overdose that escaped all of the other safeguards, monitoring would quickly identify this while all the overdosed water was still contained in the balance tank on site. Any small amounts that might have escaped would be diluted so much by the volume of water that the effects would be negligible.

8.17 ACTEW told the Committee that when fluoride was reinstated in the water supply (after being "turned off" between 9 and 19 October 1989) it took nearly three weeks before fluoride levels rose to the normal operation range as a result of the dilution offered by the unfluoridated water in the reticulation system.

## **Grade and source of ACT fluoride supply**

8.18 The fluoride which is added to the ACT water supply is obtained from Redox Chemicals Pty Ltd of Sydney, under contract. The supply contract is a Department of Territories contract originally let in 1987 and has subsequently been taken over by ACTEW. The technical specification for the supply of sodium silicofluoride incorporated within the contract is based upon the American Water Works Association (AWWA) Standard for sodium silicofluoride (the major exception is the sieve sizing which is based upon British sieve sizes which relate to the dosing equipment installed at the Stromlo and Googong treatment plants).

8.19 Redox was one of five companies that tendered for the supply of the fluoride. The contract required a sample of the proposed sodium silicofluoride to be submitted for analysis before letting the contract. Two companies provided samples. Redox was preferred as it was less expensive.

8.20 The fluoride originates from Gdansk, Poland. Redox also supply this fluoride to:

- . the Melbourne Board of Works;
- . the Sydney Water Board;
- . the Western Australian Water Authority;
- . the Power and Water Authority of the Northern Territory;
- . several New South Wales local governments.

### **Cost of fluoridation**

8.21 The cost of fluoridating the ACT water supply is at present (1990) \$150,000 per year (this figure includes chemicals, labour and power). The cost of monitoring fluoride levels is an additional \$10,000 per year.

8.22 ACTEW bills the Queanbeyan City Council monthly for the water it receives. This charge is on the basis of a bulk rate at a standard charge per kilolitre and covers the total cost of treatment as well as the provision and maintenance of the infrastructure necessary to supply Queanbeyan. The cost of fluoridating water provided to the City of Queanbeyan is not isolated.

### **Water treatment process**

8.23 Water is treated so that efficient disinfection is possible as well as meeting aesthetically acceptable levels. At Googong the process is as follows:

#### **1 Coagulation**

Chemicals are added to the water to assist in the removal of colour and turbidity by the formation of floc particles. The two chemicals used in the flocculation component of the ACT's water treatment processes are Aluminium Sulphate and Polyelectrolyte (Lt 22).

#### **2 Clarification**

Removal of the floc particles from the water, by a process of settlement, thus leaving "clear water".

#### **3 Filtration**

Final treatment to remove any particles carried over from clarifiers. Water would contain negligible levels of colour and turbidity after this process.

#### **4 Disinfection**

The filtered water is then chlorinated to ensure safe disinfection.

#### **5 pH adjustment**

Disinfection often makes the water more acidic and so the pH has to be adjusted by adding lime, to protect the reticulation system from corrosion.

#### **6 Fluoridation**

Finally, fluoride is added.

8.24 Water is not treated to the same extent at the Stromlo water treatment plant as the water is of such high quality. The process is limited to disinfection, pH adjustment and fluoridation.

### **Chemicals used in water treatment**

8.25 The chemicals used to treat the water are chlorine (as a disinfectant), lime (to adjust the pH of the water), aluminium sulphate (as a coagulant to assist in flocculation and clarification) and polyelectrolytes (coagulant aids).

### **Regulation of the amount of fluoride in water**

8.26 Sampling of fluoride levels is carried out by ACTEW at outlets to each of the reticulation reservoirs. Within a normal week, some six to seven of the reservoirs are sampled and this is rotated on a scheduled basis so that each reservoir is sampled at least every seven weeks.

8.27 However, Professor Irving, in his evidence, raised some doubts about the extent to which the level of fluoride in the water supply could be accurately regulated. He cited the Health (Fluoridation) Act of Victoria, which decrees that the level to which fluorides are to be built up is to a maximum "average optimum concentration" of 1 ppm fluoride. No permissible range of concentration is stated, nor the period over which the average is to be determined. The "maximum concentration determined by the (Health) Commission" is not stated.

8.28 Professor Irving commented that when the Act was passed, the considerable difficulty in carrying out that instruction appeared not to have been appreciated. This difficulty was pointed out by the German Association of Gas and Water Experts (1974), who said:

Certainly it is technically possible to adhere to such a dosage in larger works, but the maintenance of the optimal concentration of fluoride throughout the network of pipes to the ultimate consumer cannot be guaranteed.

They added that:

The impossibility of regulating the total quantity of fluorides ingested by any individual makes nonsense of the demand for very precise dosage added at the waterworks.

8.29 This difficulty in the distribution of fluorides in reticulated water also occurs in "naturally fluoridated" water supplies. Professor Irving drew the Committee's attention to a particular trial whose authors reported that:

In some instances reporting communities have indicated that the fluorine content of the water, when drawn from its source, differed from the fluorine content of the same water when it was collected at some point in the distribution system.

8.30 Professor J B Polya, of the University of Tasmania, said that:

Since all but the most expensive materials for the reticulation of fluoridated water (rubberised pipes or Monel metal) react with fluorides, the concentration of fluoride at delivery points may differ greatly from concentrations at the mixing point.

8.31 Professor Irving reported that failure to obtain the specified concentration of fluoride at the taps of the consumer has been reported many times from the United States. He confirmed this finding through a study undertaken by final year students of Clinical Biochemistry at the University of Canberra before and during the removal of fluoride from Canberra in October 1989. Two different analytical procedures were used.

8.32 Within the different regions of Canberra no significant difference was found in the mean fluoride concentrations within each region. Tuggeranong had the lowest mean value of 1.09 ppm and Woden the highest mean value of 1.13 ppm.

8.33 There was, however, a significant difference between the individual suburbs – from 1.20 ppm at O'Connor to 1.06 ppm at Deakin. Of the 23 suburbs analysed, the water of 8 had significantly different fluoride levels from the other suburbs.

8.34 A number of explanations are possible for this variation. For example, the type of pipe materials used in the plumbing in the suburb may vary, and react differently. A more likely explanation is the build-up of fluoride that occurs on the walls of the pipes. This may be occurring more in some suburbs than in others for various reasons, such as how much the taps are used and therefore how much time the water is stationary in the pipes. The age of the pipes may be significant, with older pipes having more fluoride on them, some possibly being washed off increasing the fluoride concentration of the sample. Newer pipes will tend to absorb the fluoride from the water and therefore decrease the fluoride concentration. Distance may also be a factor. The further water has to travel from the point of inclusion, the more time it has to attach to the walls of the pipes.

8.35 However, Professor Irving emphasised that, while these variations were discovered, the differences in the concentration of reticulated fluoride in different areas of Canberra is small.



## PART II

### 9 THE COMMITTEE'S ASSESSMENT – INTRODUCTION

#### **The nature of the debate**

9.1 The Social Policy Committee has found itself at the centre of a dispute which has occurred and recurred in many communities. As a contentious scientific and community debate it shares some of the characteristics identified by Cullen in relation to issues relating to environmental management. Cullen suggests that the emergence of "advocacy science", where scientists select evidence to support their position, is a threat to the traditional approach of science that is motivated by a search for truth.<sup>1</sup>

9.2 Cullen identifies five elements in environmental conflicts, all of which are recognisable in the fluoride debate. These are:

- **interest elements or distributional elements which refer to the self interest of the people involved;**

9.3 In the debate over fluoride, the anti-fluoridationists, in particular, accuse their opponents as acting out of self-interest. This supposed self-interest ranges from the financial interests of aluminium companies which produce fluoride to the self-interest of dentists who, it is alleged, benefit from fluoridation because it provides them with more work.

9.4 Indeed, it was suggested that the Committee might approach its analysis by considering first whose interest lay where, because people presenting evidence or views at odds with those of the proponents of fluoridation in the establishment were risking their careers. The pro-fluoridationists, it was suggested, had such vested interests in the continuation of fluoridation that they attempted to suppress scientists, doctors and dentists who raised awkward questions about fluoridation.

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<sup>1</sup> Cullen, P, "Values and Science in Environmental Management", preprint of presentation to symposium on water management at Alligator Rivers Region, April 1990.



- **value elements which involve fundamental belief systems;**

9.5 The strongest value element in the fluoride debate is the objection to what is perceived as mass medication and a breach of the rights of the individual. Because this is a question of values rather than scientific evidence it broadens the debate from purely scientific to include civil liberties issues.

- **data elements which arise when people lack the information to make wise decisions;**

9.6 The data elements in the fluoride debate are particularly complex. It is not a matter of not having sufficient information – indeed, there is almost too much. It is more a matter of being able to assess the mass of data when the conflicting protagonists disagree over interpretations. This makes the task of a lay committee most difficult because it is faced with having to make judgements on the opposing scientific evidence before it.

- **labelling elements, which enter a conflict when players label other players with negative labels that may introduce misconceptions and stereotypes;**

9.7 Throughout its inquiry the Committee has been presented with evidence in which labels are given to other participants in the debate. For example, the NHMRC was described as:

an impregnable giant of bureaucratic totalitarian health dictatorship with no accountability. It is the most undemocratic scientific operation in the whole of Australia's so-called democracy and Government in the interest of public health. It is purely a protective organisation for past performance of that organisation.<sup>2</sup>

9.8 Anti fluoridationists have been described in the following way:

Anti fluoridationists worldwide have not been able to present any new evidence about the safety and efficacy of fluoride.

In their endeavours to discredit original fluoride research, they have been quick to selectively misquote (out of context) the various findings and conclusions. Further, their analyses of their own research are anything but objective, as you will discover in this section.

It is unfortunate that unsupported claims can be made without the proponents being held accountable.<sup>3</sup>

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<sup>2</sup> Freedom from Fluoridation of Australia submission.

<sup>3</sup> Australian Dental Association (ACT and Southern Tablelands Division) submission.

- **structural elements introduced by the organisational structure erected to manage a resource.**

9.9 This last characteristic applies less to the fluoride debate. The principal structures involved are the department responsible for the water resource and the department with responsibility for dental health (if one counts the nation's teeth as a resource).

9.10 The structure of science itself, and the various disciplines within it, affects the fluoride debate. For example, generally dentists speak with most authority about the effects of fluoride on dental caries. They are less qualified to argue the range of other, associated health issues, which involve other professionals. If a mathematician says that it is not known how fluoride acts on teeth but a biochemist says that it is, it is reasonable to give more weight to the evidence, on this issue, of the biochemist.

9.11 The debate is so broad that it encompasses many different health and ethical perspectives which have to be assessed against one another in the process of evaluating the evidence.

### **The Committee's assessment**

9.12 The Committee has heard evidence and received submissions from a wide range of people, often with an equally wide range of strongly held views.

9.13 The Committee is aware of the responsibility it holds in recommending practices which will affect the health of present and future generations of residents of the Australian Capital Territory and the City of Queanbeyan. It is also only too aware of the fact that it is not possible to make any recommendation which will be universally well received.

9.14 The conclusions presented below address each of the Committee's terms of reference for this inquiry in turn. The Committee was asked to seek professional, technical and scientific advice on several matters, including:

- (a) the effect of fluoride on public health;
- (b) the issue of mass medication and civil liberties;
- (c) other matters relating to the issue of fluoridation in the ACT which the Committee considers should be drawn to the attention of the Assembly.

9.15 Each of these topics is treated in a separate chapter in Part 2 of this report. The first, chapter 10 which follows, looks at the complex issue of the effect of fluoride on public health.



## **10 THE EFFECT OF FLUORIDE ON PUBLIC HEALTH**

10.1 This chapter of the report, and those which follow, give the Social Policy Committee's assessment of the various arguments relating to water fluoridation.

10.2 The Committee is concerned, as other inquiries have expressed concern, at the polarisation which occurs on the question of fluoridation. This polarisation has sometimes led to quite offensive accusations by the protagonists of one another's motives, accusations which tend to act as a smokescreen inhibiting rational analysis.

10.3 However, for every new inquiry into water fluoridation the situation also becomes more complex. This complexity arises from the proliferation both of research findings (and disputes over such findings) and of alternative sources of fluoride.

### **The effectiveness of water fluoridation**

10.4 The first issue to resolve is whether fluoride can still be seen as an effective measure in caries prevention. If the conclusion is that it can not, then none of the related safety and ethical issues are relevant.

10.5 In its terms of reference, the Committee was asked to seek professional, technical and scientific advice on the matter of fluoride and public health. The Committee took the view that the NHMRC Working Group, comprised of experts across a range of disciplines which approached the evaluation of water fluoridation from different perspectives, could be accepted as one of the principal Australian professional body whose assessment of fluoridation should be heeded. Members of the Working Group were:

Prof A J McMichael, Professor of Occupational and Environmental Health,  
Department of Community Medicine, University of Adelaide

Ms Hilda Bastian, Consumers' Health Forum, Canberra

Professor R M Douglas, Director, National Centre for Epidemiology and  
Population Health, Australian National University

Dr B T Homan, Department of Dentistry, University of Queensland

Dr B G Priestly, Department of Clinical and Experimental Pharmacology,  
University of Adelaide

Professor A J Spencer, Professor of Social and Preventive Dentistry, Dental  
School, University of Adelaide

Dr S R Wilson, Statistics Research Section, School of Mathematical Sciences,  
Australian National University

10.6 Because the Committee wished to await the conclusions of the Working Group, it extended the tabling date for its report from 31 May 1990 to 29 November 1990.

10.7 The Working Group has not yet completed its final report but has issued two interim reports. The first was issued in November 1989; the second on 2 November 1990. The Committee notes that the second interim report states that the full draft report is planned for completion within three months of that date.

10.8 The first interim report stated that:

The application of 1 ppm fluoride to water has provided a public health measure of apparently great efficacy. Repeatedly, in observational and experimental studies, in which caries experience has been monitored, the standard index of decayed, missing and filled teeth or surfaces in which children who have been exposed to fluoridated water supplies has fallen substantially, and the reported differences between fluoridated and non-fluoridated areas have led to the inference that fluoridated water was the key determinant of the fall. The magnitude and consistency of the benefit and absence of convincing evidence of toxicity or harm from this measure has led many highly respected bodies in the health field including the Royal College of Physicians (England), the World Health Organisation, the American Medical Association, the American Dental Association and the National Health and Medical Research Council of Australia, to firmly advocate a policy of universal water fluoridation.

10.9 After some discussion, the first interim report concluded with the statement that:

The Australian contribution to the international debate on fluoride has come principally from those opposed to adding fluoride to water supplies, using data that are less than optimal for answering the new and complex set of questions which the new sources of fluoride have introduced. We should now embark on research into this important area of public health which can contribute positively to international understanding of the complex relationship between the protective role of fluoride and the incidence of caries, and will inform the development of national public policy on this matter.

10.10 The second interim report, of November 1990, carried the following statement:

This Interim Report provides the background to the Working Group's activities, and summarises its detailed review of the scientific evidence, along with its conclusions and recommendations, as currently drafted. The full draft report (approximately 130 pages long) is still being finalised. It is planned that it will be completed and submitted to the Health Care Committee of the NHMRC within three months.

10.11 The major conclusions of the Working Group were published with the interim report, but with the caveat that:

The Working Group does not anticipate any substantive changes to its conclusions or recommendations. However, it wishes to reserve the right to make modifications to them if such changes become warranted during the completion of the full report.

10.12 The major conclusions from the review were:

- 1 In the assessment of the Working Group, the aggregate evidence establishes that fluoridation of water to around 1 ppm has, in the past, conferred a substantial protective effect against dental caries. The evidence for this protective effect is strongest in childhood, reflecting the preponderance of research in this age-group. In recent decades, the magnitude of the beneficial effect of water fluoridation appears to have decreased, as the pattern of dental disease has changed and as fluoride has become widely available from a number of discretionary sources. Nevertheless, water fluoridation continues to contribute to the prevention of dental caries, and therefore to provide an important, community-wide, and readily achievable, foundation to dental public health. While further confirmatory research is needed in contemporary adult populations, water fluoridation appears also to be of increasing importance to dental health in an ageing population.
- 2 Fluoridation of drinking water remains the most effective and socially equitable means of achieving community-wide exposure to the caries-prevention effects of fluoride. A fluoride concentration of 1 ppm in drinking water is still regarded as appropriate for the prevention of caries (in a temperate climate). A concentration of 1 ppm secures most of the caries prevention effect available from fluoridated water, while maintaining minimal contribution of water fluoride to dental fluorosis in children.
- 3 There is no evidence of adverse health effects attributable to fluoride in communities exposed to a combination of fluoridated water (1 ppm) and contemporary discretionary sources of fluoride. The increased total fluoride exposure in recent decades has been associated with some increase in the occurrence of dental fluorosis – predominantly in those individual children with a history of high total ingestion of fluoride, mostly from discretionary sources. While it is conceivable that some isolated cases of skeletal fluorosis may be occurring in individuals with either a high long-term intake or a particular metabolic susceptibility, no cases have been reported in Australia.

- 4 There is no evidence to justify a change in the view that fluoride supplementation within the intended normal range of daily intake is safe in human populations. The recent equivocal evidence of increased risk of bone neoplasms in one species of experimental animals exposed to very high doses indicates a need for a raised and ongoing attentiveness to these (and any other) possibilities of adverse effects in human populations experiencing lifelong exposure to fluoride supplementation.
- 5 In attempting to estimate the consequences of reducing the concentration of fluoride in drinking water below 1 ppm, the Working Group concluded that such a reduction would inevitably result in an increase in the occurrence of dental caries. If one uses as a best estimate of the magnitude of any such increase an interpolation of the data describing increases in childhood caries in communities in which water fluoridation has been terminated, and, further, assumes that the historically-documented curvilinear relationship between natural water fluoride concentration and community dental caries rates is applicable, the predicted increase for a reduction in fluoride concentration from 1 ppm to 0.5 ppm (chosen here for illustrative purposes only) would be of the order of 10–15% in the short to medium term (ie within 5–10 years). However, the Working Group is aware of the constraints to adopting this approach – most notably the lack of direct data on the change in caries rates consequent upon changes in water fluoride concentration within this range (0.5–1.0 ppm). Therefore, it is acknowledged that the actual change could range from a very small figure to – in the case of certain groups that have a higher caries rate, including older adults – a substantially higher figure.
- 6 In children, the current major need is for effective control over discretionary sources of supplementary fluoride, to avoid excessive intake in some individuals. Avoidance of high individual intake of fluoride in childhood can best be achieved by control of discretionary sources of fluoride. This includes: the introduction of controls directed at reducing the ingestion of discretionary fluoride in fluoridated toothpaste; reductions in the fluoride concentration of infant formula powders; and discouraging the inappropriate use of fluoride tablets and drops.
- 7 If, in the light of future health surveillance, there were any future need for a community-wide reduction in long-term exposure to fluoride in adults, this would be best achieved by reduction in the concentration of fluoride in drinking water.

- 8 There is a general and urgent need to upgrade substantially our monitoring dental health to include older children and adults, and to monitor the levels of fluoride exposure and the occurrence of dental fluorosis in Australia.

10.13 While recording the weight which it has given to the NHMRC interim report, and with the same caveat given by the Working Group, the Committee also wishes to give its own overview of some of the points about the efficacy of water fluoridation which emerged during its own inquiry.

10.14 One of the fundamental questions under debate is whether water fluoridation is an effective measure in preventing dental caries. As has been indicated earlier, absolute proof is impossible. Epidemiology is a science which establishes links between causes and effects. Establishing such a link is a matter of training, experience and judgement.

10.15 Valid epidemiological deduction is a far cry from claiming, as did one submission, that because the United States teenage suicide rate had increased over the past 30 years, a period coinciding with the increase in water fluoridation, fluoride was to blame for the suicide rate. It is the business of epidemiology to eliminate falsely attributed causal relationships, partly by identifying other influences which might cause the effect and isolating one from the other.

#### **Brisbane – the unfluoridated State capital**

10.16 Much has been made of statistics about dental caries reduction in Brisbane, the only unfluoridated capital city in Australia. It is therefore of particular interest as a form of "control" against which to measure the effectiveness of fluoride in other State capitals.

10.17 Dr L M Carr, for many years Dental Services Adviser with the Commonwealth Department of Health, wrote several articles on the prevalence of dental caries in Australian children. In an Australia-wide comparison published in 1988 "Dental health of children in Australia, 1977–85"<sup>1</sup>, Dr Carr incorporated a table (see Appendix 4) which provided a State by State comparison of dental caries experience in children. This table showed apparently insignificant differences between Queensland, where only 6 percent of people had access to fluoridated water, and the ACT with 100 percent, Western Australia 86 percent, New South Wales 82 percent, the Northern Territory 78 percent, Tasmania 76 percent, South Australia 73 percent and Victoria 71 percent.<sup>2</sup>

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<sup>1</sup> Carr, L M, "Dental health of children in Australia, 1977–1985", *Australian Dental Journal*, 1988, 33(3), pp 205–11.

<sup>2</sup> Carr, L M, "Dental health of children in Australia, 1977–1985", *op cit*. For the table, see Appendix 4.



10.18 The debate over this table demonstrates the difficulty in drawing conclusions from such data. Interpretation of the results has been hotly disputed. Opponents of fluoridation claim that the Queensland figure proves that water fluoridation is not the primary cause of reduced dental caries. Its proponents, including Dr Carr, do not agree:

Such a comparison between dental caries indices in Queensland and other States does not take into account issues such as differences in basic dental health trends, the use of preventive measures other than fluoridation of water, the movement of people to Queensland from fluoridated areas in other States, and the use of soft drinks and food products which were processed in fluoridated areas and sent to Queensland. The extensive and successful School Dental Service in Queensland emphasises topical fluoride applications as part of the dental care programme, and also recommends fluoride supplements. While the extent of the use of these supplements is not known, McEniery and Davies reported that in Brisbane 21 percent of children consumed fluoride tablets regularly.<sup>3</sup>

10.19 Dr Diesendorf, in particular, has disputed this analysis, holding strongly to the view that the case for fluoridation is seriously undermined by these results.

10.20 He claims, for example, that the majority of soft drinks are not imported across the border but are reconstituted in Brisbane, using local non-fluoridated water.<sup>4</sup> This claim is interesting because it differs from the findings of a research project undertaken in two cities in Canada where children kept "drink diaries" and it was found that a substantial source of fluoride was shown to be available in the non-fluoridated community from beverages other than water, primarily from carbonated beverages commercially prepared with fluoridated water. This researcher recommends that available beverages and actual consumption should be considered in the prescription of fluoride supplementation for children with minimal fluoride in their drinking water.<sup>5</sup>

10.21 Professors Brown (United States) and Craig (Sydney), dispute Diesendorf's objections. In a letter to the Social Policy Committee, Professor John Brown, a Queensland dental expert now working in Kansas, alleges that Diesendorf overlooks the regular topical fluoride applications made by the School Dental Service in Queensland as an alternate source of fluoride. Topical fluoride treatment is widespread in Queensland.

10.22 Until now, the Queensland Government has adopted the policy that water fluoridation is a local authority matter (thus, for example, Brisbane is not fluoridated while Townsville is).

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<sup>3</sup> Carr, L M, "Dental health of children in Australia, 1977-1985", *op cit*, p 205.

<sup>4</sup> Diesendorf, M, **A Summary of Scientific Evidence that the Benefit of Water Fluoridation have been greatly exaggerated**, unpublished paper, July 1989.

<sup>5</sup> Clovis, J and Hargreaves, J A, "Fluoride Intake from Beverage Consumption", *Community Dental Oral Epidemiology*, 1988, 16(1), pp 11-15.

10.23 The significant mobility of the population also makes between-State comparisons difficult. The example of the Gold Coast illustrates this problem. The Gold Coast water supply was fluoridated 1966. Thirteen years later, in 1979, the Gold Coast Council, under pressure from anti-fluoride groups, decided to cease fluoridation. A post-fluoridation study of the Gold Coast would be of great interest, but the mobility of the population makes it virtually impossible. The Committee was told of schools which had 50 percent turnover of students in one year. It would be hard to elicit any valid information from a transient population with access to multiple fluoride sources.

10.24 The Committee was told that natural caries levels tend to be lower the closer an area is to the equator. It is therefore necessary, when measuring the effects of fluoridation, to consider the **rate of decline** rather than simply compare caries prevalence. In a submission to the Brisbane City Council, arguing for fluoridation, the ADA uses this argument:

There has been a general decline in the incidence of dental caries (decay) in Australia and elsewhere in the last generation. Figures published in "Dental Health of Children in Australia 1977-1986" from the Commonwealth Department of Health, 1987, indicate that of all Australian states Queensland has the poorest rate of decline. Furthermore, the 1986 figures indicate that the amount of tooth decay of Queensland's children aged 4-9 years was some 70 percent higher than the Australian average. Queensland also has the least amount of fluoridation.<sup>6</sup>

10.25 Writing of New Zealand, R Harvey Brown dismisses widespread diet change as a significant cause of caries reduction. He points out that there appears to be an increase in advertising aimed directly at children. Much of this advertising is for potentially cariogenic snacks and sweets.<sup>7</sup> Because of the lack of evidence of any reduction in sugar consumption, this author also rejects the suggestion that bacteriological change might have taken place, because such a change would have to be associated with sugar reduction.

10.26 Harvey Brown also suggests that epidemiologically, the effect of fluoride in reducing tooth decay can be deduced through (a) the strength of the association between apparent cause and effect; and (b) the consistency of the association in a large number of studies.

10.27 In 1988, it was agreed that there would be an Australia-wide oral health survey, conducted by individual States using common research protocols. Although some individual State results were available to the Committee during the course of its inquiry, the Committee was disappointed that despite assurances in hearings that the complete survey would be available, the overall comparison had still not been completed by the conclusion of this report.

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<sup>6</sup> The Australian Dental Association (Queensland Branch), **Water fluoridation: a submission to the Brisbane City Council**, 1989, p 1. Brisbane is Australia's only unfluoridated capital city.

<sup>7</sup> Harvey Brown, R, "Fluoride and the prevention of dental caries. Part 1: The role of fluoride in the decline of caries", **New Zealand Dental Journal**, October 1988, p 103.

10.28 The results of the Tasmanian Oral Health Survey were available to the Committee. These results indicate that before the age of 30, a smaller proportion of teeth in Tasmanians show the effects of dental caries compared to those of other States, while after this age the reverse is true.<sup>8</sup> This is a startling reversal of the comparative status of Tasmanian teeth since the evidence recorded by Justice Crisp. It is hard not to draw the conclusion that fluoridation of much of Tasmania's water supply, together with the efficacy of the School Dental Service, must have played the major part in this change.

10.29 What evidence to accept and what to reject, when proponents and opponents of fluoride are locked into battles over the validity of research findings, was obviously a difficulty for the Committee. For example, opponents of fluoridation argue that scientists do not know how fluoride acts on the teeth. A biochemist, Professor Irving, gave a clear account of exactly how it did.<sup>9</sup>

10.30 It is possible to criticise many of the studies of fluoridation, as Diesendorf has done, and argue about whether there have been adequate controls, the merits of longitudinal studies (self-control studies), blind studies and double blind studies. But human beings are not rats and the perfect study is therefore impossible to undertake. The consistency of the existing findings is, nonetheless, hard to ignore.

10.31 The Committee concludes that:

**On the balance of the evidence before it, the Committee accepts that fluoride is an effective agent in reducing the level of dental caries.**

### **Safety – optimum level**

10.32 A Swedish parliamentary committee (the Fluoride Commission) described the safety of fluoride as follows:

Like many other substances used in preventive health care, eg vitamin D, iodine and iron, fluoride can have adverse effects when administered in excessive quantities and efforts have therefore been made to establish the daily fluoride intake required for effective caries prevention without harmful side effects. In areas with a temperate climate a fluoride level of 1–1.2 mg per litre has proved to be the most suitable level.

10.33 Fluoride exists naturally at different concentrations in water, and water fluoridation seeks to raise (or lower) the concentration to the level at which it is most effective in preventing caries without reaching a toxic level.

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<sup>8</sup> National Oral Health Survey 1987–1988 – Tasmania, p 28.

<sup>9</sup> See Chapter 4.

10.34 The European Economic Community Directive on Drinking Water lists a number of toxic substances providing parameters for their concentration in drinking water.<sup>10</sup> These substances include arsenic, beryllium, cadmium, cyanides, chromium, mercury, nickel, lead, antimony, selenium, vanadium, pesticides and related products, and polycyclic aromatic hydrocarbons. Only vanadium carries no maximum admissible concentration.

10.35 Apart from vanadium, all these substances, though toxic, are naturally present in drinking water at various concentrations.

10.36 Fluoride, on the other hand, is listed under "Substances undesirable in excessive amounts" (with the proviso that "Certain of these substances may even be toxic when present in very substantial quantities"). These substances include nitrates, nitrites, ammonium, hydrogen sulphide, phenols, boron, iron, manganese, zinc, phosphorus and so on.

10.37 There are many substances which, if ingested in excessive amounts, do physical harm but which, when ingested in reasonable amounts, are beneficial. These substances do not exist in the same concentrations in all natural water supplies, nor does fluoride.

10.38 It has been estimated<sup>11</sup> that the lowest toxic dose for even a 9 lb baby would be the amount contained in 26 gallons of fluoridated water at 1 ppm. The Committee notes the caution that was expressed in respect of babies who may be formula rather than breast fed. Obviously they ingest more fluoride.

10.39 The equivalent amount for an adult<sup>12</sup> would be more than 450 gallons consumed at one time. The approximate scale of toxicity of fluoride in adults is given at:

Acute fatal poisoning	2,500 mg
Acute non-fatal symptoms	125 mg
Chronic poisoning	more than 20 mg (daily)

10.40 One submission referred to the use of the term "optimal levels" as a form of scientific dogma which was in fact fallacious. It argued that it should not be accepted that because fluoride was a substance found in natural water supplies there was some "optimal level" to which public supplies should be adjusted.

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10 "Council Directive of 15 July 1980 relating to the quality of water intended for human consumption", **Official Journal of the European Communities**, No L 229/11, 30.8.80.

11 British Dental Association, **Fluoridation of Water Supplies**, January 1976.

12 British Dental Association, **Fluoridation of Water Supplies**, op cit.

10.41 However, if fluoride is accepted as beneficial to teeth at certain levels but harmful to bones at a higher ingestion level, it seems reasonable to try to establish an optimum level. For example, in the Ethiopian Rift Valley, would one argue that the fluoride level be maintained at its natural level or should attempts be made to reduce it? If attempts are made to reduce it, what level should it be reduced to?

#### **Fluoride and dental fluorosis**

10.42 It is well established that the more fluoride ingested the greater the likelihood for dental fluorosis to appear. It is also clear that the incidence of dental fluorosis provides an indication of the overall level of ingested fluoride.

10.43 The Victorian Committee of Inquiry reported that:

Endemic dental fluorosis does not occur in those communities where drinking water supplies contain less than 0.5 ppm fluoride. At concentrations of fluoride above 0.8 ppm the extent and degree of mottling is influenced by the climatic conditions of the region concerned and the effect of higher ambient temperatures on the daily quantity of water consumed. Various other geographical factors may play their part and, in communities with drinking water supplies containing between 0.8–1.2 ppm F, up to 12 percent of residents may show mild mottling of teeth due to fluoride. At such fluoride concentrations the mottling is "very mild" and can be seen only in good fluorescent light. It is not unsightly and is generally not noticeable to most people. With fluoride concentrations greater than 2.0–2.5 ppm, more than 30–35 percent of persons constantly exposed during tooth formation are affected by increasing degrees of dental fluorosis in permanent teeth. The deciduous teeth are rarely affected at the latter concentrations.<sup>13</sup>

10.44 The cosmetic aspects of this problem have to be weighed against the demonstrated reduction in the incidence of dental caries. This reduction in dental caries means that children no longer have to suffer the pain and unsightliness of numerous fillings, and the population no longer expects its young adults to lose all their teeth.

10.45 While this may have led to an increase in the number of practising dentists, it should be seen as a positive rather than a suspect result of fluoridation. However, different claims about numbers of dentists are made by different participants. One (unverified) figure quoted to the Committee was that in Europe there was now one dentist for every 10,000 in the population as against 1:2,000 several years ago. However, the dental profession, previously having a great deal of work to do on children but little on the largely edentulate adult population, can now expect to treat adults. This could mean, say, sixty years of additional treatment for a significant proportion of individuals. So

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<sup>13</sup> Report of the Committee of Inquiry into the Fluoridation of Victorian Water Supplies for 1979–80, op cit, p 56.

knowing the proportion of dentists per head of population means little without knowing the pattern of visits of the patients. The nature of this treatment will have changed, with less concentration on caries and fillings. In addition, people increasingly undertake orthodontic treatment because this is seen as a worthwhile lifetime investment. Whatever the statistics on dentists numbers, it seems totally illogical to consider dentists' motives as suspect because of such a remarkable advance in dental health.

**10.46 In Fluoridation in Canberra: Part I. Prefluoridation data: dental caries and mottled enamel**<sup>14</sup> Dr Carr concentrated specifically on Canberra before water fluoridation. This study indicated that 42.2 percent of seven-year-old children and 53.4 percent of twelve-year-old children had mottled tooth enamel before fluoride was introduced.

**10.47** Justice Crisp, in the Tasmanian Royal Commission Report, noted that defects in developing enamel similar to dental fluorosis but due to wholly unrelated causes are common:

It is convenient to refer to them as idiopathic defects to distinguish them from fluorotic. They may be due to a variety of causes, such as vitamin deficiency, trauma, febrile illnesses of childhood and other matters. In recent years the administration during infancy and childhood of the antibiotic tetracycline has been recognised as a potent cause.<sup>15</sup>

**10.48** However, an increase in dental fluorosis was specifically identified in evidence to the Committee. Professor Douglas agreed that if the incidence of dental fluorosis was increasing this should not be ignored:

There are legitimate questions about the magnitude of the independent effect of water fluoridation and the size of the dose of fluoride which the population, especially certain groups including infants and renal patients, are now receiving. Evidence from overseas communities suggests that dental fluorosis is increasing and this is our most sensitive indicator of the likelihood that we could be moving closer to a toxic level.

**10.49** A similar point was made by Justice Crisp. This will be discussed later in relation to skeletal fluorosis.

**10.50** The Committee recalls evidence from a parent who reported that her bottle fed child had fluorosis while no fluorosis was evident in her breast fed child.

**10.51** So while it is legitimate to argue that the cosmetic disfigurement associated with fluorosis is far outweighed by the benefits of keeping one's teeth, often caries free, through life, significant increases in dental fluorosis can also be seen as an indicator that fluoride intake is reaching too high a level.

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<sup>14</sup> Carr, L M, "Fluoridation in Canberra: Part I. Prefluoridation data: dental caries and mottled enamel", *Australian Dental Journal*, August 1966, pp 248-257.

<sup>15</sup> *Report of the Royal Commissioner into the Fluoridation of Public Water Supplies*, Hobart, 1968, p 83.

## **Fluoride as a health hazard**

10.52 A large number of ailments and allergies have been attributed to fluoride. These have already been discussed in previous sections. The Committee's assessment of these claims is given below.

### **Fluoride ingestion and skeletal fluorosis**

10.53 The Victorian Committee of Inquiry reported that:

Subclinical osteofluorosis has been detected by X-rays in a few people in Oklahoma and Texas where drinking waters contain from 4-8 ppm fluoride, and in 10-15 percent of adults studied in areas served by drinking waters containing 8 ppm fluoride. All such persons were completely symptom-free. Symptomatic endemic skeletal fluorosis has never been reported in North America, Great Britain or Australia. Except in tropical countries no symptomatic case of skeletal fluorosis has been attributed to drinking water with less than 4 ppm fluoride. In these countries the condition may be exacerbated by ingesting fluoride in dust, sediments and foodstuffs grown in soils high in fluoride.<sup>16</sup>

10.54 A study of endemic fluorosis in the Ethiopian Rift Valley was reported in 1987. Cases of skeletal fluorosis appeared among workers in some sugar estates, where a linear relationship was observed between the development of crippling fluorosis, fluoride concentration of drinking water, and period of exposure to it. Cases of skeletal fluorosis appeared among workers who had been consuming water with a fluoride content of more than 8 ppm for over ten years.<sup>17</sup>

10.55 This does not, in the Committee's opinion, constitute a case against fluoridation. There are a great many substances which are essential in small amounts but dangerous, or even lethal, in large ones. It does constitute a case for establishing optimum levels and either fluoridating or de-fluoridating in the attempt to achieve them.

10.56 Justice Crisp suggested that the occurrence of dental fluorosis could be used as a warning of potential skeletal fluorosis:

It is ... completely clear that such a warning would be grossly apparent at a level of fluoride exposure much lower and years before symptoms of skeletal fluorosis could be expected in the same community. It therefore, as a sign of over-exposure, constitutes a community warning of great importance, particularly as it lends itself to official surveillance through the

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<sup>16</sup> Report of the Committee of Inquiry into the Fluoridation of Victorian Water Supplies for 1979-80, op cit, pp 50-51.

<sup>17</sup> Haimanot, R T, Fekadu, A and Bushra, B, "Endemic Fluorosis in the Ethiopian Rift Valley", *Tropical Geographical Medicine*, July 1987, 39(3), pp 209-17.

school by the agency of the School Dental Service and also because ... the levels of fluoride exposure likely to produce such degrees of dental fluorosis are known with reasonable certainty. In other words, if there is no objectionable dental fluorosis there is no reason to fear that skeletal fluorosis will ever be found in the same community.<sup>18</sup>

10.57 But the Committee noted conclusion no 3 of the NHMRC Working Group's second interim report, that:

While it is conceivable that some isolated cases of skeletal fluorosis may be occurring in individuals, with either a high long-term intake or a particular metabolic susceptibility, no cases have been reported in Australia.<sup>19</sup>

### **Allergic reactions and fluoride**

10.58 A wealth of allergies have been attributed to fluoride. These have already been described in Chapter 6.

10.59 Professor Stephen, writing of the fluoridation experience in the United Kingdom, commented that:

Some of the complaints raised by anti-fluoridationists in Kilmarnock included the fact that both water and tea tasted different, goldfish and canary death rates rose, the human death rate rose and the suicide rate increased, to say nothing of the allergies experienced both from washing in, and the drinking of fluoridated water! Any cup of tea, however, even if made with water from an extremely low fluoride area, contains substantial quantities of fluoride which is naturally present in the tealeaf and allergies to contact with sea water (all of which contains 1.2-1.3 ppm fluoride) are unknown!<sup>20</sup>

10.60 It has also been reported that a research experiment which attempted to produce an allergic response to fluoride in rats failed to do so.<sup>21</sup>

10.61 Professor D N Martin, then Professor of Preventive Dentistry at the University of Sydney, described to the Tasmanian Royal Commission an extensive program of dietary supplementation by fluoride tablets conducted under the supervision of the Dental Department of the University of Sydney since 1945.

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18 Report of the Royal Commissioner into the Fluoridation of Public Water Supplies for 1979-80, op cit, p 83.

19 National Health and Medical Research Council Working Group on the Effectiveness of Water Fluoridation, Interim Report, November 1990.

20 Stephen, K W, "Fluoridation Experience in the United Kingdom", The Journal of The Royal Society of Health, Vol 104, No 4, August 1985, p 116.

21 Blohm, G and Nilzen, A, Report to the Swedish Board of Health and Social Affairs, 1971.



10.62 In 1968 2,000 children were participating in the program:

In this study, conducted over twenty-two years there have been no reports of allergy to fluoride, either in tablet form or in solution, which have been substantiated. Three which did present with symptoms suggestive of fluoride toxicity presented the same symptoms when the fluoride was removed and a placebo substituted. A psychosomatic origin was demonstrated in each case.<sup>22</sup>

10.63 Some individual submissions received by the Committee described allergies or ill effects attributed to fluoride. The causal relationship was not clearly established, however, and the Committee felt that it was necessary to seek advice from an allergy specialist about these claims.

10.64 Professor Robert Clancy, Professor of Pathology at the Newcastle Medical School, was invited to give evidence to the Committee in order to assist it in assessing the relationship between these disorders and fluoride ingestion.

10.65 Professor Clancy described symptoms which patients frequently suffered, and which they also frequently attributed to such things as sugar, gluten in wheat, petrol fumes or fluoridated water. These symptoms included dizziness, rashes, depression or fatigue. Often such patients are quite certain of the causal relationship and feel better when they exclude whatever cause they have identified. Professor Clancy pointed out, however, that it had been proved that 30 percent of people who tried anything under these circumstances would improve.

10.66 Professor Clancy discussed exclusion diet testing (of over 400 substances) which had been undertaken over several years at Prince Alfred Hospital in Sydney. Because fluoride had not been considered a likely cause of diet-related problems it had not been included in these tests. Indeed it is impossible to carry out total deprivation tests on man, because nearly all foods contain some fluoride.<sup>23</sup>

10.67 The word "allergy", he suggested, was also used too loosely. According to Professor Clancy "allergy" means a specific type of body reaction which depends upon the body's own capacity to detect that substance as being foreign and reacting against it. When people have a symptom and identify it with a substance they then deduce that they are "allergic" to it. But more frequently than not these are not allergy symptoms but rather symptoms which may be due to a toxic effect of a substance or an idiosyncratic effect where people's biochemistry differ.

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<sup>22</sup> Report of the Royal Commissioner into the Fluoridation of Public Water Supplies, op cit, p 117.

<sup>23</sup> The British Dental Association, *Fluoridation of Water Supplies*, 1976, p 11.

10.68 Essentially there are three different mechanisms which can account for people having symptoms in relation to something from outside. First, there is the allergic reaction which is the body's active response manifest in certain disease processes (classically in those operating at surfaces either of the lungs, the gut or the skin). Second, there are idiosyncratic reactions of a biochemical, metabolic nature due to variations within a population or a toxicity effect due to too much of something that is going to affect everybody. Third, there are psychological causes (for example, where someone allergic to roses will react to seeing a picture of a rose).

10.69 Several reports on water fluoridation have drawn attention to the fact that tea has a high natural fluoride level. For example, the Tasmanian Royal Commissioner reported that tea:

is unique in its capacity to concentrate fluoride and on infusion much of it will be released in ionic form and will therefore be assimilable. For this reason it has been of much interest to British, New Zealand, Australian, South African and Japanese researchers. In its dried leaf form it may range in fluoride content as high as 400 ppm but the Indian and Ceylon brands are much lower than the Chinese. The amount extracted in the infusion will be proportional to the amount of tea used and the time spent in brewing and whether the pot is "topped up".<sup>24</sup>

10.70 While Justice Crisp discusses tea largely to argue that even tea drinkers in water-fluoridated areas would not consume toxic doses of fluoride, it is significant also that the same allergy claims are not made of tea as are of fluoridated water.

10.71 Clearly the symptoms identified to the Committee cause or have caused considerable distress to the sufferers. The evidence however has to be clear before attributing problems to fluoride.

### **Fluoride and Down's Syndrome**

10.72 Some submissions suggested that there was a link between water fluoridation and Down's Syndrome. This claim was examined by the Victorian Committee of Inquiry, which drew attention to a study of 1,387,027 children across areas where the water was fluoridated and those with a low natural fluoride level. The authors concluded:

These data show no association between water fluoridation and the incidence of congenital malformations. Furthermore, this population-based study, with data relating to 1,387,027 births, is the third that has specifically found no correlation between Down's syndrome and fluoridation.<sup>25</sup>

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<sup>24</sup> Report of the Royal Commissioner into the Fluoridation of Public Water Supplies, op cit, p 123.

<sup>25</sup> Report of the Committee of Inquiry into the Fluoridation of Victorian Water Supplies 1979-80, op cit, p 113.

## **Fluoride and risks of thyroid malfunction**

10.73 The Victorian Report considered the topic so irrelevant that it barely considered the claim that fluoride might lead to thyroid malfunction. Justice Crisp, however, did consider the claim, primarily because Tasmania had a history of endemic goitre. After an extensive review of the medical literature, Justice Crisp concluded that:

On the evidence taken and on the literature to which I have been referred or to which I have myself referred in an endeavour to elucidate the technicalities in which this subject abounds I can only report that I can find no reason for suspecting fluoridation at 1 ppm will affect the size or function of the thyroid gland.<sup>26</sup>

## **Fluoride and kidney dialysis**

10.74 The Victorian Inquiry reported that a causal role for fluoride in producing renal pathology (as is sometimes claimed) had not been established. Nor was there evidence that the incidence or mortality of any renal disorder was increased by fluoride in water at a concentration of 1 ppm.

10.75 There was, however, evidence that patients maintained on long-term haemodialysis using fluoridated water for a period of years could experience an unacceptable frequency and degree of osteomalacia. The report cites a joint working party established in 1979 by the Australasian Society of Nephrology and the Australian Kidney Foundation Dialysis and Transplant Committee which considered the subject of "water for dialysis". The report recommended a level of 0.2 ppm fluoride for dialysis, with the following rationale:

It is acknowledged that this is an arbitrary limit erring on the side of safety. There is not convincing evidence, even when the water for dialysis is not specially treated to reduce the fluoride levels, that the fluoride which accumulates in the body (and there is little debate about that) is harmful in any way ... There is increasing interest in purifying the water of long-term dialysis patients for reasons other than fluoride. In this process, fluoride levels will be reduced to approximately 0.2 parts per million.<sup>27</sup>

10.76 Professor Douglas, in his evidence, also referred to potential problems with the dose of fluoride which renal patients might currently be subjected to.

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<sup>26</sup> Report of the Royal Commissioner into the Fluoridation of Public Water Supplies, Hobart, 1968, op cit, p 155.

<sup>27</sup> Cited in Report of the Committee into the Fluoridation of the Victorian Water Supply for 1979-80, op cit, p 133.

## **Fluoride and cancer**

10.77 The question of whether fluoride is carcinogenic has been raised and refuted and raised again over many years. The debate has focused in particular on an American study published in 1975 by Dr Yiamouyiannis which claimed to demonstrate an increasing cancer death rate in ten cities with fluoridated water compared with ten cities with non-fluoridated water.<sup>28</sup> In 1977 Dr Yiamouyiannis and a co-researcher, Dr Burk, published a further paper claiming to demonstrate this link between cancer and fluoride.<sup>29</sup>

10.78 This research has since been subjected to close scrutiny and has been dismissed by other scientists who have questioned statistical methodology employed. For example the Victorian Committee of Inquiry into Fluoridation had the findings assessed, independently of one another, by two scientists.<sup>30</sup> Their assessments were:

There is no real evidence supplied by Drs Yiamouyiannis and Burk which would convince a trained statistician that a positive case had been made that the prophylactic addition of fluorides to water causes an increase in cancer death rates. (Professor H O Lancaster)

In the light of my own comments on the appropriateness of the statistical analysis by Yiamouyiannis and Burk, and other critical appraisals of the works of these authors I have to state that a positive association between fluoridation and increased cancer incidence has not been established. (Professor J S Maritz)

10.79 In the United Kingdom a Working Party was established to investigate the possibility of a cancer/fluoride link. Its terms of reference were:

to appraise the published and otherwise available data and conclusions on cancer incidence and mortality amongst populations where drinking water is either artificially fluoridated or contains high levels of fluoride from natural sources.

10.80 The Working Party, which reported in January 1985, comprised nine scientists with expertise in epidemiology, cancer research and medical statistics. In the course of its inquiry it assessed 110 scientific papers.

10.81 The Working Party considered the claim by Drs Yiamouyiannis and Burk that their methods of analysis should be preferred to the standard methods universally used by epidemiologists and medical statisticians. The Working Party rejected the claim for the following reasons:

A major weakness in the method was the failure to make comparisons

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28 Yiamouyiannis, J, "A definite link between fluoridation and cancer death rate", **National Health Federation**, March 25, 1975.

29 Yiamouyiannis, J and Burk, D, "Fluoridation and cancer age dependence of cancer mortality related to artificial fluoridation", **Fluoride**, 10, 102, 1977.

30 **Report of the Committee of Inquiry into the Fluoridation of the Victorian Water Supply for 1979-80**, op cit, p 118.

between cancer death rates in different populations as fair as possible with regard to the demographic structure of the populations that were compared – in other words to compare like with like as far as possible.

. The researchers made mistakes and inconsistencies in the handling of data.

. The researchers failed to conduct acceptable tests of statistical significance.<sup>31</sup>

10.82 A more recent study of the possible carcinogenic properties of fluoride has been undertaken in the United States, by the National Toxicology Program through an experiment with rats. Both the NHMRC Working Group and the Social Policy Committee have awaited an evaluation of the results of this experiment.

10.83 The preliminary results of this research were brought to the Committee's attention in April 1990. The NHMRC Working Group also became aware of this research. The Working Group extended its inquiry to include an assessment of the study and another subsequently-reported animal experimental study. In its second interim report it concluded that there was no evidence that fluoride is a risk factor for cancer in humans:

None of the properly-conducted epidemiological studies support such a contention, either in relation to all cancers combined or in relation to cancer at specific sites, including bone. To date, the only indication of such a risk is the finding that the occurrence of osteogenic sarcomas (that is, bone neoplasms) in male rats was equivocally related to the ingestion of high intakes of fluoride at doses causing damage to teeth and bones. This relationship was not observed in female rats or in mice of either sex. Furthermore, the occurrence of neoplasms was not corroborated in another recently-published rodent study. However, the Working Group recognises that the deposition of fluoride in bone provides a reason for monitoring the future bone cancer rates in human populations in relation to their fluoride exposure.<sup>32</sup>

**The Committee notes the Working Group's conclusion that**

**there is no evidence that fluoride is a risk factor for cancer in humans. .... However the Working Group recognises that the deposition of fluoride in bone provides a reason for monitoring the future bone cancer rates in human populations in relation to their fluoride exposure.<sup>33</sup>**

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<sup>31</sup> The British Fluoridation Society, *A Summary of the Knox Report and How it Refutes the Alleged Fluoridation-Cancer Link*, March 1985.

<sup>32</sup> National Health and Medical Research Council Working Group on the Effectiveness of Water Fluoridation, *Interim Report*, November 1990, p 8.

<sup>33</sup> National Health and Medical Research Council Working Group on the Effectiveness of Water Fluoridation, *op cit*, p 8.

## **Availability of fluoride other than in water**

10.84 It was clear from the responses the Committee received from embassies, high commissions and consulates that in many countries which responded, whether or not the water supplies were fluoridated, steps had been taken to make fluoride available in some form or other. These included both topical (to the tooth surface) and systemic (ingested) applications.

### **Sources other than water: Topical Fluoride Application**

#### **Toothpaste**

10.85 Fluoride toothpastes are readily available. In fact it is difficult to buy unfluoridated toothpaste in Canberra and elsewhere in Australia. Most unfluoridated toothpastes are considerably more expensive than the fluoridated range. The Committee believes that many people are unaware that unfluoridated toothpaste is available. While it is difficult to find unfluoridated toothpaste it is usually stocked by health food stores and some pharmacies. The Committee notes that there is an inequity in the choice of toothpaste. Those on low incomes are denied a ready source of supply of unfluoridated toothpaste within their price range.

10.86 Toothpastes containing 1000mg/kg or less of fluoride ion are excepted from Schedule 2 of the National Health and Medical Research Council's Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) and can therefore be sold in general stores. Such toothpastes are not subject to the labelling requirements as specified for Schedule 2 items, however the amount of fluoride contained in toothpastes is usually listed in small print on the container eg *Active Ingredient 0.76% Sodiummonofluorophosphate*.

10.87 Fluoride toothpastes are one of the commonest means of providing topical fluoride on a regular basis. There has been a concern for some time about young children ingesting excessive amounts of supplementary fluoride. Swallowing toothpaste is common among young children and the Committee urges that more be done to educate the public of the dangers of this practice through local dental and general health campaigns. The Committee also notes that the practice of adding flavours and colour to fluoridated toothpaste may encourage children to swallow it and should therefore be discouraged.

10.88 The concentration of fluoride in toothpastes, it was put to the Committee, was not monitored by the Commonwealth Government and it was argued that this was an area where there should be greater control.

10.89 One of the arguments against relying solely on fluoridated toothpastes was that its access for socially disadvantaged groups in particular may be limited by economic or other circumstances.

**10.90 The Committee recommends that:**

- . **the ACT Government initiate proposals through its membership on various interstate councils and make direct representations to toothpaste manufacturers to:**
  - . **make unfluoridated toothpaste readily available at prices comparable with fluoridated toothpaste; and**
  - . **cease practices that make fluoridated toothpaste unduly enticing and palatable to children (eg the addition of colourings (other than white) and flavourings).**
- . **Application by dentist (fissure sealants, gels)**

10.91 Dentists may also apply fluoride in the form of topical gels and varnishes to "at risk" patients. Again, there is some danger of highly concentrated fluoride being ingested at a toxic level. This treatment also fails to reach those people who do not visit dentists.

. **Mouthrinses**

10.92 Fluoridated mouthrinses are another form of topical application and except for those containing 15mg/kg or less of fluoride ion are only available from pharmacies. However because young children tend to swallow mouthrinses they are not considered suitable for children under six.

10.93 School mouthrinsing programs are a measure which Governments may introduce as an alternative to water fluoridation. Sweden, for example, has introduced a school mouthrinsing program (either once a week or fortnightly). This has the advantage of reaching all children of school age.

**Sources, other than water: Ingested fluoride**

. **Tablets**

10.94 Generally fluoride tablets are only available from pharmacies, or where there is no pharmacy service available, from persons licensed to sell Schedule 2 poisons.

10.95 In the ACT fluoride tablets are only available from pharmacies. In Queensland, to ensure that they are available, some local authorities are authorised to distribute them. However, in 1988 the Department of Health survey showed tablet use as low as 13.4 percent in 5-9 year old Queensland children.<sup>34</sup>

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<sup>34</sup> The Australian Dental Association (Queensland Branch), *op cit*, p 2.

10.96 There are also problems with the safety of fluoride tablets. It has been reported in a study of acute fluoride poisoning after ingestion of sodium fluoride tablets that between 1978 and 1983 at least 20 children with fluoride poisoning were admitted to two major children's hospitals in Brisbane.<sup>35</sup>

10.97 The standard of packaging and appropriate dosage marking, as well as the ease of overdose, have also been criticised. A survey of these supplements in Western Australia showed that all products provided age-dose schedules which would give fluoride supplementation at levels great than the NHMRC guidelines. In one case cited, infants following the schedule would receive four times the recommended dose in the first two years of life. This overdose would be certain to cause significant dental fluorosis.<sup>36</sup> There is a need to educate the community (particularly parents of young children) about the dangers of using fluoride supplements.

10.98 A survey undertaken of fluoride supplements in Australia concluded that there was a generalised disregard on the part of the ethical pharmaceutical industry for the risk of dental fluorosis, and that there was a need for a voluntary, or legally enforced, code of conduct for manufacturers of fluoride supplements. While the NHMRC had issued guidelines on dosage, these were not monitored.<sup>37</sup>

10.99 It has been reported that:

Whenever a public health scheme has been commenced in which fluoride supplements have been provided free of charge or at low cost, the uptake by mothers has been so low, in spite of wide publicity, that it has been abandoned within several months. Even highly motivated professional people have found it difficult to keep up the daily routine of providing fluoride supplements during the period of tooth development.<sup>38</sup>

## **Salt**

10.100 In Switzerland only one Canton (Basle) fluoridates its water. However, fluoridated salt (250 mg of fluoride to every kg of salt) is sold. Approximately 80 percent of all salt sold in Switzerland is fluoridated.

10.101 The Swedish response indicated that of all foods with fluoride supplements, bar water, salt appeared to be the most effective.

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<sup>35</sup> Monsour, P A et al, "Acute Fluoride Poisoning After Ingestion of Sodium Fluoride Tablets", *Medical Journal of Australia*, 1984, 141, pp 503-505.

<sup>36</sup> Riordan, P J, "Guidelines for the Use of Dietary Fluoride Supplements in Australia", *Australian Dental Journal*, 1989, 34(4), pp 359-362.

<sup>37</sup> Riordan, P J, "Guidelines for the use of dietary fluoride supplements in Australia", *Australian Dental Journal*, 34(4), 1989, pp 359-62.

<sup>38</sup> The British Fluoridation Society, *Making Decisions on Water Fluoridation*, April 1985.



10.102 Justice Crisp agreed. Having discussed the problems associated with it, he concluded that:

While all these uncertainties remain, I feel ... that it cannot be recommended, but, if water fluoridation, as the proven and most successful single measure in this field of public health, be not acceptable, then fluoridated salt would, I suggest, be the next best and a worthwhile method of achieving some success to the same end.<sup>39</sup>

10.103 However, it has been pointed out that:

Toxicologically, it is highly debatable whether this method should ever be recommended as it is impossible to control the individual intake of salt. In addition an increase in salt intake should not be encouraged for general health reasons.<sup>40</sup>

### **Sugar**

10.104 Finland is exploring the fluoridation of sugar for use in candy (sweets).

### **Milk**

10.105 Justice Crisp rejected milk as a vehicle for administering fluoride for a number of reasons, the principal of which being the administrative difficulties especially the analytical determination of fluoride content:

This with milk is a tedious and difficult business as the relatively straightforward colorimetric methods used for the primary analysis of water are not suitable for milk which requires evaporation, ashing, distillation and titration. Moreover it would, I am informed, take approximately 24 hours to complete the analysis of each sample.<sup>41</sup>

### **Other**

10.106 Other foods such as flour and bread have been suggested as suitable vehicles for fluoridation.

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<sup>39</sup> Report of the Royal Commissioner into the Fluoridation of Public Water Supplies, op cit, p 219.

<sup>40</sup> Ekstrand J, Fejerskov, O and Silverstone, L M (eds), "Rational use of fluorides in caries prevention and treatment", *Fluoride in Dentistry*, Munksgaard, Copenhagen, 1988, p 287.

<sup>41</sup> Report of the Royal Commissioner into the Fluoridation of Public Water Supplies, op cit, p 220.

## **Availability of unfluoridated water**

10.107 Residents of Canberra and the City of Queanbeyan who do not wish to drink fluoridated water must install a water purifier in their homes. There are several types of water purifiers available. According to a survey done by *Choice* magazine in 1989 only reverse osmosis and ion exchange water purifiers and distillation units removed all of the water fluoride. Some activated carbon water purifiers removed some of the fluoride. *Choice* also reported that all water purifiers require some effort, expense and regular maintenance.<sup>42</sup>

10.108 The cost of installing a water purifier varies according to the type and model. For example a reverse osmosis tap unit is currently available in Canberra for about \$400 and the under sink unit with storage tank for about \$1100. An ion exchange tap unit can be purchased for about \$150 to \$200 and an under sink unit for approximately \$500. These units require servicing from time to time at minor cost.

## **Socio-economic differences**

10.109 The one conclusion which both opponents and proponents of fluoridation agreed upon was that dental caries rates, whether in fluoridated or non-fluoridated areas, are much higher amongst low socio-economic groups than amongst more affluent communities. Results of the Tasmanian section of the National Oral Health Survey showed that 70 percent of the caries was present in 30 percent of the population.

10.110 However, opposing stances are taken on the implications of this. Proponents argue that it means that water should be fluoridated because this helped protect the teeth of those whose oral hygiene was inadequate. Opponents argued that it was better to leave fluoride out of the water supply but target lower socio-economic groups with better oral health education and school dental services.

10.111 The Committee noted that the availability of unfluoridated toothpaste at comparable prices to fluoridated toothpaste is especially important for the lower socio-economic groups if they are to have a realistic choice of toothpaste. The cost of water purifiers severely restricts the lower socio-economic groups in having access to unfluoridated water, if that is their choice.

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<sup>42</sup> "Water Purifiers", *Choice*, May 1989.

## **Water fluoridation**

10.112 Since water fluoridation was first introduced in Australia more than 25 years ago there have been other factors which may have contributed to the improvements in dental health. Dietary changes, such as reduced sugar intake have been considered and researched. In a review of the literature on diet and dental caries for the NHMRC Working Group on the Effectiveness of Water Fluoridation Dr B T Homan concluded:

Trends from a number of countries DO NOT indicate a reduction in sugar consumption – of a magnitude or more importantly in frequency of ingestion– that could be expected to influence the prevalence of dental caries.<sup>43</sup>

10.113 The availability and effectiveness of discretionary fluoride supplements such as fluoride toothpaste, and tablets has also been examined. Fluoride toothpastes have been accepted as reducing dental caries. When used in areas with fluoridated water supplies they have an additive effect. The NHMRC Working Group reported:

Subsequent studies conducted since the 1960s have confirmed that toothpastes with a fluoride concentration of 1000 ppm (ie the prevailing commercial concentration), when used regularly, confer additional protective effect beyond that attributable to fluoridated water.<sup>44</sup>

10.114 The use of fluoride tablets has not been as successful a public health measure in the reduction of dental caries in Australia, as demonstrated by the Queensland experience.

10.115 Despite some communities rejecting water fluoridation, there is a strong weight of evidence supporting it as the most effective, safe and efficient means of providing fluoride to the community at the optimum level.

**10.116 The Committee recommends that:**

- . **the ACT Government continue adding fluoride to the water supply.**

## **The optimum level**

10.117 In examining the question of the optimum level of fluoride for the Canberra water supply the Committee drew on evidence presented in submissions and at public hearings as well as the research studies currently available.

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<sup>43</sup> Homan, B T, **Effectiveness of Water Fluoridation: Diet–Dental Caries** (Diesendorf's claim re cheese/tooth decay), unpublished paper, 1990.

<sup>44</sup> National Health and Medical Research Council Working Group on the Effectiveness of Water Fluoridation, **Interim Report**, November 1990, p 8.

10.118 In its interim report the NHMRC Working Group concluded

There is no evidence of adverse health effects attributable to fluoride in communities exposed to a combination of fluoridated water (1ppm) and discretionary sources of fluoride. The increased total fluoride exposure in recent decades has been associated with some increase in the occurrence of dental fluorosis – predominantly in those individual children with a history of high ingestion of fluoride, mostly from discretionary sources.<sup>45</sup>

10.119 In initially determining the level of fluoride to be added to water supplies it was concluded by Dean et al<sup>46</sup> that in temperate climates 1ppm represented the optimum level beyond which no advantage would be gained in the prevention of dental caries and which was low enough to result in no serious side effects. While the passage of time has demonstrated that fluoride in water is safe and effective at this level it is not necessarily the level that is established irrevocably.

10.120 Because there is now such a diversity of sources of fluoride, both naturally and artificially in food and through topical applications it was suggested to the Committee that it may be sensible to reduce the level of fluoride added to the water to ensure that the total intake of fluoride was not greater than required.

10.121 A study conducted by Ms Alison Hill and Professor Robert Douglas of the ANU National Centre for Epidemiology and Population Health concludes that based on the current scientific knowledge, the benefits of water fluoridation outweigh any demonstrable risk. The study however argues for more research to be done and for consideration to be given to the possibility of lowering the level of artificial fluoridation. In their conclusion Hill and Douglas state:

Australians have probably benefited profoundly from the public health policy of fluoridating water supplies. The situation has now changed with the proliferation of sources of fluoride, and the growing evidence that the most important protective effect resides in topical application of the fluoride ion to teeth. Widespread availability of topical applications makes it likely that the total load of fluoride to which Australians are exposed has increased in recent years, and that increasing amounts of fluoride are accumulating in Australian skeletons, but these matters have not been systematically studied. Studies of the costs, possible risks and benefits of continuing this dose of fluoride should be undertaken. In the meantime we favour reduction of the dose."<sup>47</sup>

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<sup>45</sup> National Health and Medical Research Council Working Group on the Effectiveness of Water Fluoridation, *op cit*, p 11.

<sup>46</sup> Dean H T, Arnold F A and Elvove E "Domestic Water and Dental Caries. V. Additional Studies of the Relation of Fluoride Domestic Waters to Dental Caries Experience in 4,425 White Children, Aged 12-14 Years, of 13 Cities in 4 States", *Public Health Report*, (Wash), 57:pp 1155-1179, 1942.

<sup>47</sup> Hill, Alison M and Douglas, Robert M, *Fluoridation of public water supplies and public health: an old controversy revisited*. Working Paper Number 17. National Centre for Epidemiology and Population Health. Canberra, 1990.

10.122 In evaluating the risk-benefit of water fluoridation at 1ppm the NHMRC Working Group recognised that there is a need for long term follow up studies on populations experiencing total fluoride intakes at contemporary levels.

10.123 Of particular concern are children. In its review of the evidence on the effectiveness of water fluoridation the NHMRC Working Group found that

The major source of high individual intakes of ingested fluoride in infancy is via bottle feeding in those instances when the infant formula powder has a high fluoride content. In such cases, the formula powder and the added fluoridated drinking water appear to contribute approximately equal amounts of fluoride.

The major sources of high individual intakes of ingested fluoride in children aged 1-6 years are the inappropriate use of fluoride tablets or drops and the swallowing of fluoridated toothpaste.<sup>48</sup>

The Committee has made recommendations at 10.90 on the use of fluoridated toothpaste by children.

10.124 The NHMRC provided results of studies (see Appendix 6) which demonstrate that reducing the fluoride level in water will only marginally reduce the overall intake of fluoride among two-year-old children.

10.125 The Committee sought research studies which addressed the effect on dental health of reducing the level of fluoride in the water supply. To date this issue has not been researched either in Australia or overseas, however the NHMRC Working Group drew the following conclusions based on an interpolation of data.

In attempting to estimate the consequences of reducing the concentration of fluoride in drinking water below 1ppm the Working Group concluded that such a reduction would inevitably result in an increase in the occurrence of dental caries. If one uses as a best estimate of the magnitude of any such increase an interpolation of the data describing increases in childhood caries in communities in which water fluoridation has been terminated, and, further, assumes that the historically documented curvilinear relationship between natural water fluoride concentration and community dental caries rates is applicable, the predicted increase for a reduction in fluoride concentration from 1ppm to 0.5 ppm (chosen here for illustrative purposes only) would be of the order of 10-15% in the short to medium term (i.e. within 5-10 years). However the Working Group is aware of the constraints to adopting this approach - most notably the lack of direct data

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<sup>48</sup> National Health and Medical Research Council Working Group on the Effectiveness of Water Fluoridation, *Interim Report*, November 1990, p 9.

on the change in caries rates consequent upon changes in water fluoride concentration within this range (0.5–1.0ppm). Therefore, it is acknowledged that the actual change could range from a very small figure to – in the case of certain groups that have a higher caries rate, including older adults – a substantially higher figure.<sup>49</sup>

10.126 According to the Child Health Dental Survey of the Australian School Dental Service, in 1987 the DIMFT index (a measure of tooth decay approximately equal to DMFT) in 12 year– old children in Canberra was 1.43. If the NHMRC higher estimate proved to be true a 15% increase in the DIMFT index would result in an increase to 1.64 after a period of 5 to 10 years. Expressed in another way this would equate approximately to 215 more affected teeth per thousand 12 year–old children after a period of 5 to 10 years.

10.127 Some researchers believe that the level of deterioration in dental health would be insignificant if the fluoride level was reduced to 0.5 ppm. However until research is conducted on this issue Australians like the rest of the world can only speculate on the effects of such a measure. With the acknowledged effects of other sources of fluoride, the comparatively high socio economic position of the population and the quality of dental services in the ACT, the Committee believes that a reduction of fluoride concentration to 0.5 ppm would be unlikely to have a significant impact on dental health.

10.128 The extensive scientific research provides no evidence of adverse health effects attributable to a combination of fluoridated water at 1ppm and discretionary sources of fluoride. However the Committee believes that it is responsible and sensible practice to keep the amount of any additive to the water supply at the lowest level that will achieve maximum effect. As already stated there is a dearth of research on the effect of reducing the level of fluoride in the water supply. There is always uncertainty about scientific truth and public health costs and benefits until the data exists. On current indications the Committee is of the view that any negative effects on dental health would be minimal given the total level of fluoride now ingested and applied.

**10.129 The Committee recommends that:**

- . the concentration of fluoride in the ACT water supply be reduced to 0.5 parts per million.**

### **Monitoring and Research**

10.130 The issue of fluoride supplementation has become more and more complex. Although so much research has focused on different facets of fluoridation, there is a need for more Australian research and research into the effects of a reduction in the level of fluoride in the water supply.

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<sup>49</sup> National Health and Medical Research Council Working Group on the Effectiveness of Water Fluoridation, *Interim Report*, November 1990, pp 11, 12.

10.131 The NHMRC Working Group acknowledged the need for more Australian research and concluded:

There is a general and urgent need to upgrade substantially our monitoring of dental health to include older children and adults, and to monitor the levels of fluoride exposure and the occurrence of dental fluorosis in Australia.<sup>50</sup>

10.132 The Working Group made the following recommendations in relation to research and monitoring:

Develop monitoring mechanisms to document total fluoride intakes by adults with a view to estimating levels of deposition in bone, bearing in mind that water fluoridation at around 1 ppm appears, on present evidence, to be the main single source of fluoride intake in adults.

Increase immediately the support for dental public health research and evaluation in Australia. It is necessary to establish a much more detailed and higher-quality data base for the purpose of monitoring trends in dental health (including dental fluorosis) in Australia, and, specifically, for the future evaluation of the effectiveness of water fluoridation, both in children and adults.<sup>51</sup>

10.133 The ACT is well placed to be a centre of further research in this area. There are academic institutions and researchers of the highest calibre who could carry out the work and a well established network of school dental clinics.

10.134 Upon the adoption of the recommendations of this report to reduce the level of fluoride in the water supply to 0.5 ppm it will be essential for funds to be available to monitor the effects of this measure over a 6 to 10 year period. The Committee strongly believes that not to do so would be totally irresponsible.

10.135 With the strong emphasis given to the need for monitoring and research by the NHMRC the Committee has the confident expectation that funds would be made available for this purpose. The NHMRC has recently called for applications for 1992 for funds for research in special areas including public health. Applications close on 12 March 1991. The ACT Government would need to act quickly if it wished to secure funds from this source.

**10.136 The Committee recommends that:**

- **The ACT Government urgently seeks NHMRC funding to establish a major independent study on the effects on dental health of a reduced level of fluoride in the ACT water supply.**

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<sup>50</sup> National Health and Medical Research Council, *op cit*, p 12.

<sup>51</sup> National Health and Medical Council, *op cit*, p 13.

**10.137** The Committee acknowledges that there are other issues which require further research including:

- . the levels of intake of fluoride from all sources;
- . the incidence of skeletal fluorosis in Australia; and
- . the possible allergic or toxic reactions to fluoride and other adverse health effects.

**10.138** The Committee strongly supports the cooperation between the Commonwealth and State governments and the NHMRC in conducting the National Oral Health Survey. The establishment of a protocol and the efforts to exclude examiner bias go a long way to allaying any criticism of faulty methodology.

**10.139** It is clearly important to continue to monitor the state of the nation's teeth and the Oral Health Survey monitors this in the most accurate and authoritative way. Repeated on a period basis it will provide an invaluable overview of the nation's dental health and the opportunity to draw valid conclusions from its data.





## 11 THE ISSUE OF MASS MEDICATION AND INDIVIDUAL LIBERTY

11.1 The Committee recognises the difficulties in dealing with this aspect of the terms of reference. Is the fluoridation of public water supplies a form of mass medication? Whether it may or may not be so described, is the adding of a substance to public water supplies an infringement of civil liberties?

### **Mass medication**

11.2 The question of whether fluoridation of the water supply is mass medication has been extensively debated over many years and no consensus has been reached. The Committee received evidence from many individuals and organisations which addressed this question. There are at least two differing viewpoints. Some see the practice clearly as mass medication and unacceptable while others see it simply as adding nutriment to the water as a preventive measure.

11.3 Those objecting to fluoridation on the grounds that it is mass medication argued *inter alia* that:

- . medical dictionaries define "medication" to be "impregnation with a medicine", and a medicine is "any drug or remedy", including a preventive medicine;
- . fluoridation is compulsory medication in that everyone is compelled to drink fluoridated water;
- . administration of fluorides is morally wrong because it has not been proven safe beyond doubt;
- . fluoridation constitutes experimentation on human beings without their consent;
- . it interferes with medication in the home;
- . a person's dental health is their own affair;
- . dental caries is not contagious, so there is no legal authority to invoke the police power of the health department to force fluoridation on the people.

11.4 The question of mass medication was also considered by Lord Avebury in 1984. Lord Avebury was at the time President of the United Kingdom Fluoridation Society and Chairman of the House of Commons Parliamentary Human Rights Committee. From 1963 to 1970 he had been Chairman of the Parliamentary Civil Liberties Committee. He wrote:

Fluoride is of course a natural constituent of water supplies – as indeed it is of many foods. The adjustment of the quantity to an optimum level cannot be compared with the addition to the water supply of a substance not found there ordinarily. Nor can it be described as "mass medication", a term frequently used by the opponents, since it is not a means of curing a disease. A substance which has the effect of maintaining medical or dental health is more in the nature of a food or nutriment than a medicine.<sup>1</sup>

11.5 This opinion of the fluoridation of water may be seen in somewhat the same light as the addition of other substances for public health purposes. Whether the term "medication" is used is a matter of individual choice, depending on the understanding of "medication" to be palliative, preventive or curative. Whether fluoride may be so described is a matter of dispute.

### Civil liberties

11.6 A crucial question for the Committee is that of civil liberties, that is to say, the implied conflict between the complete freedom of the individual, and the right of the community to insist that individuals should accept general laws and actions taken for the overall benefit of the community.

11.7 Some argue that nothing should be done to interfere with the "state of nature". There should be no additives to natural foods, no pesticides to be used in agriculture, no compulsory public health measures, no chlorine or fluoride in the water supply. Some individuals might even argue that such measures are contrary to their basic political, religious and social beliefs.

11.8 In the evidence received those who argued that fluoridation is an infringement of individual (human) rights argued, *inter alia*, that fluoridation:

insofar as it might be seen to be interfering with freedom of religion is unconstitutional;

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<sup>1</sup> Avebury, Lord, "Fluoridation and Individual Freedom", *British Dental Journal*, vol 156, 21 April 1984, p 277.

- . promotes or furthers moves to "socialised medicine";
- . has been undertaken without the consent of the people;
- . is a step in the direction of socialism;
- . deprives people of the right to take personal care of one's body;
- . does not adhere to the ten standards set up by the Nuremberg War Crimes Tribunal for experimentation on the lives of human beings;
- . is a measure to extend the omnipotence of BIG BROTHER Government.

11.9 The Committee notes that fluoride was first introduced into the ACT water supply arbitrarily and without direct consultation with the community. (refer chapter 3, 3.26)

11.10 Mr Justice Crisp considered the objections of those who believed that compulsory fluoridation interfered with the freedom of the individual. He did not dismiss the issues lightly:

The conflict between the individual's right to live his life as he pleases and the demands of a civilised orderly and healthy society is more apparent than real, because society in its own interests as a group has an interest in the preservation of a high degree of individual liberty. But it does presuppose a balance. The problem is not one of black or white but to choose the correct shade of grey.<sup>2</sup>

11.11 Indeed, Justice Crisp, to emphasise the fact that this problem has never been simple to resolve, cited Heracleitus:

The major problem of human society is to combine that degree of liberty without which law is tyranny with that degree of law without which liberty becomes licence.<sup>3</sup>

11.12 Justice Crisp agreed that fluoridation of communal water supplies had inescapable consequences for all members of the community concerned. He suggested, however, that as children were the primary beneficiaries those who objected on the basis of personal freedom were faced by the difficulty of establishing who had the right in relation to the children's good: the parents or society. Justice Crisp drew attention to the fact that:

in the interests of children as a class, society has long recognised and accepts without reservation as right and proper a considerable limitation on the right of parents to do what they like in regard to their children's health, education and welfare and this is so whether they are acting conscientiously or otherwise ....

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<sup>2</sup> Report of the Royal Commissioner into the Fluoridation of Public Water Supplies, op cit, p 193.

<sup>3</sup> Report of the Royal Commissioner into the Fluoridation of Public Water Supplies, op cit, p 193.

The fact that children of tender years are the primary object of benefit is, I would suggest, a consideration of great, in fact of preponderating weight. Such children as a class are incapable of group initiative in matters relating to their health and welfare. The evidence as to the prevalence and incidence of juvenile caries in this State makes it clear that reliance on parental responsibility is not an answer to the problem that it raises. It also suggests strongly that it is those children in particular who are least likely to have a high degree of parental care and competence directed to their health and welfare who would be most in need of the benefits that fluoridation can afford.<sup>4</sup>

11.13 While these philosophical issues cannot be decided conclusively either way by proof, rather than by judgement, nonetheless the Committee respects the view of a civil libertarian on this matter. Lord Avebury concluded:

The individual liberty arguments against fluoridation are invalid, as can be judged from the fact that the issue has never been taken up by the National Council for Civil Liberties. No consumer has the right to dictate the chemical composition of the water supply, a recipe for anarchy. What is at stake is not the erosion of liberty but, in the words of a former Minister of Health, "the erosion of millions of teeth and the resultant suffering and misery of thousands of children which fluoridation would go far to prevent".<sup>5</sup>

11.14 The Committee recognises that some individuals will wish to take personal measures, such as filtering devices to exclude fluoride from their own personal water supplies. That is their civil right and, and a proper way to insist on carrying out their individual views on the matter. Given that possibility of individual filtering, the Committee rejects the view that water fluoridation is a serious impediment to civil liberties.

### **Balancing risk against benefit**

11.15 The NHMRC Working Group second interim report, in November 1990, considered the way in which any risk associated with water fluoridation should be assessed against its benefits.

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<sup>4</sup> Report of the Royal Commissioner into the Fluoridation of Public Water Supplies, op cit, p 194.

<sup>5</sup> Avebury, Lord, op cit, p 277.

11.16 The Working Group concluded that risk–benefit evaluation of water fluoridation at around 1 ppm must consider the following:

- a Its protective effect against dental caries, in both children and adults, within the contemporary Australian setting.
- b The knowledge that dental caries significantly affects oral health and carries a small but finite risk of various other health consequences, including pain, infection, and various dietary, nutritional, social and psychological problems.
- c The risk of dental fluorosis in those individual young children whose total intake of fluoride is high. In those children, fluoridated water is a (mostly minor) contributory sources of fluoride intake.
- d The absence of any other demonstrated adverse health consequences of fluoridated water in humans. (However, the absence of long–term follow–up studies in populations experiencing total fluoride intakes at contemporary levels, and thus presumably experiencing prolonged deposition in bones, underscores a need for ongoing monitoring.)
- e Its capacity to achieve population–wide coverage, which is likely to be of particular benefit for socially disadvantaged sections of the community.<sup>6</sup>

11.17 The Committee upholds civil liberties, and believes that the civil liberties of those opposed to fluoridation are upheld not only by the measures that can be taken to remove fluoride from the water, but more significantly also by the political process which continues to encourage open debate about and scientific analysis of the value and reliability of fluoridation. The very existence of this Committee is itself an upholding of those rights.

11.18 The Committee is divided on whether or not the fluoridation of public water supplies infringes civil liberties. The Committee recognises that many people do believe that their civil liberties are infringed.

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<sup>6</sup> National Health and Medical Research Council Working Group on the Effectiveness of Water Fluoridation, *Interim Report*, November 1990, p 10.



## **12 OTHER MATTERS RELATING TO THE ISSUE OF FLUORIDATION IN THE ACT**

### **Consequences of ceasing water fluoridation in the ACT**

12.1 Under an agreement with the City of Queanbeyan, ACT Electricity and Water (ACTEW) supplies the city with water. Queanbeyan has been supplied with water from the ACT system for many years and the latest agreement was signed in 1961 before Canberra's water supply was fluoridated.

12.2 ACTEW bills the City of Queanbeyan monthly for the supply of water. (refer to 8.21 and 8.22 )

12.3 The ACT Government's decision on water fluoridation, whichever way it goes, will have an impact on the residents of the City of Queanbeyan.

12.4 The Committee was advised that if fluoridation of the ACT water supply ceased the City of Queanbeyan could include equipment in their reticulation system to add fluoride if it so desired. ACTEW was uncertain whether or not fluoride could be removed from the Queanbeyan water supply without also removing it from the Canberra supply as essentially the two cities have a common supply. Mr Glen Walker appearing before the Committee cited Gosford as an example of a city where fluoride has been removed from a common water supply for several other cities.

12.5 While Queanbeyan City Council did not wish to appear before the Social Policy Committee, it conveyed the following Council resolutions:

that the ACT Legislative Assembly be asked to conduct a Referendum before any changes are made to fluoridation of the Queanbeyan/Canberra Water Supply;

that the Assembly be advised that the Council would wish to give the people of Queanbeyan the same opportunity to express their wishes at a referendum on the fluoridation question and that the Council would continue to liaise with the ACT Legislative Assembly on matters relating to fluoridation.

12.6 A consequence of ceasing the addition of fluoride to the Canberra water supply would be a decrease in the cost of water treatment.



## Referendum

12.7 The Committee considered the question, put to it in several submissions, of whether a referendum would be a suitable means of arriving at an appropriate policy position of water fluoridation. This is not the first time this suggestion has been made in relation to fluoride:

An important feature of the experience with community water fluoridation in Canada and the USA has been the resort to popular referenda to decide the issue. In the 1960s, fluoridation was introduced in many places after referenda, but in recent years the opponents of fluoridation have become better organised and have more often than not succeeded in defeating proposals to introduce this measure. In 1980, 41 referenda on fluoridation were held in the USA. According the US Centers for Disease Control, only eight of these referenda resulted in the acceptance of fluoridation, and in 33 communities proposals for fluoridation were defeated.

The reasons for rejecting a proved benefit to health when it is submitted to a popular vote have been the subject of many studies by social scientists. In essence, the phenomenon of the public's voting against its own interest is explained by a number of factors: (1) ignorance and confusion on the part of the public about the dental health benefits of fluoridation; (2) ambivalence of the public towards science and its by-products, with greater reservations about scientific findings concerning the human body than about those that are external to the individual, eg space exploration; (3) misrepresentation of the scientific and technical information involved, enabling the opposition to distort the issues and frighten the public. It has been pointed out that opponents of fluoridation need only sow a seed of doubt to ensure a "no" vote, whereas supporters need to prove beyond all question that fluoridation is safe and desirable in order to obtain a "yes" vote.<sup>1</sup>

12.8 Mr Justice Crisp considered referenda in the course of the Royal Commission into fluoridation in Tasmania and reached the following conclusion:

Fluoridation is a complex and technical matter. The labours of this Commission I hope will bear witness to this. It was admitted even by those who supported a referendum that such a step would necessarily involve an appeal to an uninformed electorate in the sense that many of the issues would be beyond the ability of voters to comprehend. There was no unanimity as to whether it would be decided by compulsory or optional vote; whether it should be confined to adults or extended to minors; whether a vote should be the privilege of those who would bear the financial burden, whether as ratepayers or perhaps as taxpayers or whether it should be extended to the electorate generally and above all there was not

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<sup>1</sup> Murray, J J (ed), *op cit*, p 67.

any satisfactory answer to the argument that the interests of those most vitally interested in the result, viz. children up to fourteen years of age, would be the most poorly represented. I think there is no profit to be gained from pursuing such matters. In my opinion they reflect merely the unsatisfactory quality of a public referendum as the forum of choice in a technical and difficult matter of public health.<sup>2</sup>

12.9 Summarising his chapter "By Whom Decision Made – Parliament – Local Government – Referendum", the Commissioner wrote:

The decision, whether or not fluoridation, as a measure of public health designed to protect the dental health of the young, should be put into force in this State, should not be left to local authorities. It is a matter for the decision of Parliament. A referendum as a means of arriving at this decision is not only without constitutional warrant but is highly unsuitable as well. It follows, consistently with the view I have expressed, that to refer the matter to a forum both technically incompetent and constitutionally incapable would constitute an abrogation of Parliament's responsibility.<sup>3</sup>

12.10 The Committee discussed methods of seeking input from the ACT community on various issues. The Committee notes with interest the methods used by the Gold Coast City Council in gauging community opinion. Officials from the Council described two methods used, Ratepayer Questionnaires and Statistical Sampling. Ratepayer Questionnaires have been conducted on a yearly basis since 1983 (with the exception of 1989), and have an estimated 18–20 % response rate. A wide variety of subjects have been covered, and questionnaires are sent out with rates notices. Statistical Sampling involves the polling of selected households in the city to gauge opinion on issues relating to Corporate Planning and services provided by the Council, and occurs every two years. Both methods are conducted "in house" by the Council. The ACT Government may wish to consider using both of these methods in seeking the opinions of the ACT community on issues such as fluoridation.

12.11 The Committee is of the view that water fluoridation can be justified as a matter of public health and therefore the decision to fluoridate is one for the legislative body. The Committee does not believe that a referendum on water fluoridation is necessary at present and does not recommend a referendum to this Assembly. The position may be different for future Assemblies. In reaching this view the Committee was cognizant of the fact that such a decision would also affect the residents of the City of Queanbeyan who are not represented in the ACT Legislative Assembly.

Bill Wood  
Presiding Member  
30 January 1991

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<sup>2</sup> Report of the Royal Commissioner into the Fluoridation of Public Water Supplies, op cit, p 212–213.

<sup>3</sup> Report of the Royal Commissioner into the Fluoridation of Public Water Supplies, op cit, p 213.



## **PART III**

### **RECOMMENDATIONS**

**The Committee recommends that:**

- . the ACT Government initiate proposals through its membership on various interstate councils and make direct representations to toothpaste manufacturers to:**
  - . make unfluoridated toothpaste readily available at prices comparable with fluoridated toothpaste; and**
  - . cease practices that make fluoridated toothpaste unduly enticing and palatable to children ( eg the addition of colourings (other than white) and flavourings).**

**Paragraph 10.90**

- . the ACT Government continue adding fluoride to the water supply.**

**Paragraph 10.116**

- . the concentration of fluoride in the ACT water supply be reduced to 0.5 parts per million.**

**Paragraph 10.129**

- . The ACT Government urgently seeks NHMRC funding to establish a major independent study on the effects on dental health of a reduced level of fluoride in the ACT water supply.**

**Paragraph 10.136**



**LIST OF SUBMISSIONS**

**Submissions from national associations**

Australian Dental Association  
Freedom from Fluoridation Federation of Australia (8 submissions)

**Submissions from the Australian Capital Territory**

ACT Dental Hygienists' Association  
ACT Electricity and Water  
S Andrello  
Australian Dental Association – ACT Division  
Australian Medical Association – ACT Branch  
L J Ball  
Dr J W Bennett  
Mr I Berick  
C Besant  
Dr Carmelo Bonanno  
Les Butterworth  
Ms A Carpenter  
Dr L M Carr  
Mrs B Cornhill  
Mrs T Cox  
Mr Michael P Day  
Department of Health  
G De Silva  
I De Silva  
Mrs D Devir  
Mrs G Dickson  
Dr M Diesendorf (4 submissions)  
Dietitians' Association of Australia, Canberra Branch  
J Evans  
Ms Ruth Fearnside  
Ms Marguerite Gloster  
Mrs Anne Greig  
Mr G & Mrs M B Hajdu  
Mrs Carmen Hamilton  
Ms Maureen Harney  
Ms A Hill  
Mr and Mrs J B Hindmarsh  
Mrs W J Jay

**Submissions from the Australian Capital Territory (Continued ...)**

Mr Noel Kelly  
Mrs Dorothy Kent  
Dr Bill Kerrigan  
Mrs J Knife  
Mrs F Lawson  
J Lawson  
Mr Charles Maclean  
Mr Donald A McDowall DC  
Ms Christine McKegg  
Ms Rowena McKeon  
J McNeill  
Mrs B Meyer  
Ms P Miethke  
Mr B M Mor and Ms J L Werner  
Ms Nancy Morgan  
Mr L J Murley  
Mr G Petersilka  
R Pfeiffer  
Ms Gina Pinkas  
Ms Beverley Prince  
A Quinn  
T Quinn  
G & M Quixley  
Mr R Redmond  
Mrs E Reynolds  
Mr Ian Riggs  
Birthe Ross  
Ms M Rouse  
Mr & Mrs R Saxton  
Mr Greg Scott  
E Simon  
Soroptomists International of Canberra  
Dr G C Southwell  
Mr J C Stannard  
Mr Peter Strazdins  
G Styles  
J Sullivan  
Ms Louise Sullivan  
Ms Jacqueline Talip  
Mrs Helen Teagle  
Dr A K Tebecis  
Ms Lianne Thomas  
Mr Adam Trapp  
Ms H Turyn  
Kamala Udakandage  
Nissanka Udakandage  
Unknown  
G Vollmer  
G K Whittaker  
Mrs Z Williams

### **Submissions from New South Wales**

Australasian Health and Healing – Journal of Alternative Medicine  
City of Queanbeyan Council  
Mrs Roma Fisher  
Mr Roger French  
Mrs B Gauci  
Hastings Anti-Fluoridation Association  
Mr A S Hill  
Australian Well-Being Magazine  
Mr P M Malone  
Mr Geoffrey Morgan-Smith  
Nambucca Valley Association  
Safe Water Association of New South Wales  
Mrs R Slazenger (Queanbeyan)  
Mrs E Smythe  
Mr C J Thompson  
Ms W Varney  
Mr and Mrs Whitworth (Queanbeyan)

### **Submissions from Queensland**

Hon D N Everingham  
Mrs Joanne Lee  
Mr C A Phillips (2 submissions)  
Dr L P Ryan  
T G Huygens Tholen  
Mr M Wallace-Mitchell (2 submissions)

### **Submissions from Victoria**

Mrs N R Albrecht  
N C Archibald  
Ballarat Anti-Fluoridation Association  
Mrs B J Caddell  
H Clapp  
C Cray-Robinson  
Mr C J Darroch  
Mr H Dickinson  
Miss L Esler  
Geelong Association Against Compulsory Fluoridation  
Dr William W Guthrie (3 submissions)  
Ms Louise Hicks  
J Jenkins  
M Jenkins  
Mrs R Leopoldseder



**Submissions from Victoria (Continued ...)**

Mr K S McLean (2 submissions)  
Mrs K McKinnon  
N Patterson  
Mrs Pamela Sirkel  
Dr P R N Sutton (2 submissions)  
Mr G Smith  
M Smith  
Mrs A Watson  
Mrs B Wilks

**Submissions from the United States of America:**

Professor J P Brown  
Professor A W Burgstahler  
Ms L Escobar  
Mr R F Fahey  
Ms S Graves  
Ms P N Jacobs  
Isabel Jansen  
Mr D C Kennedy  
Professor Lennart Krook  
Dr J R Lee  
Mr W Miller (2 submissions)  
Mountainview Medical Associates, Nyack, New York  
New Jersey Citizens Opposing Forced Fluoridation  
New York State Coalition Opposed to Fluoridation  
Planning and Conservation League, Berkeley, California  
Population Renewal Office, Kansas City  
Safe Water Coalition of Washington State  
Dr M B Schachter  
Dr D E Winkler

**Submissions from the United Kingdom:**

Mr Clavell Blount  
Mr D J Edmonson

**Submissions from New Zealand:**

Dr J Colquhoun (3 submissions)  
Concerned Residents of Waimairi District

**Submission from Sweden:**

Dr J Sallstrom

**Submission from South Africa:**

Dr Frank Bertrand

**Submissions from Canada:**

Dr Pierre Morin  
John Remington Graham

**Submission from The Netherlands:**

Dr Hans Moolenburgh



## APPENDIX 2

### LIST OF PEOPLE APPEARING BEFORE THE COMMITTEE AT PUBLIC HEARINGS

Dr C Bonanno	Chairman of the ACT and Southern Tablelands Division of the Australian Dental Association
Dr M Bhuller	Chief Dental Officer School Dental Service, ACT Department of Health
Ms L Cable	
Dr L M Carr	formerly Head of the Dental Health Branch, Commonwealth Department of Health
Professor R Clancy	Professor Pathology Medical School, University of Newcastle
Dr J A Colquhoun	Honorary Research Fellow University of Auckland, New Zealand
Ms J B Currie	Soroptomists International, Canberra
Dr M O Diesendorf	
Dr J Donovan	Australian Medical Association, ACT Branch
Professor R M Douglas	Director National Centre for Epidemiology and Population Health, Australian National University
Dr H Fleming	Secretary of the Australian Dental Association, ACT and Southern Tablelands Division and President of the ACT Dental Group
Dr J Fricker	Deputy Chairman of the ACT and Southern Tablelands Division of the Australian Dental Association
Ms C Hamilton	
Ms E Harley	Executive Director Community Health Services ACT Department of Health
Ms A M Hill	
Ms J Lemon	

**Ms L McDowell**

**Dr B Mor**

**Mr A G Petersilka**

**Dr M Pidcock**

**Australian Medical Association, ACT Branch**

**Mr O Ratford**

**Ms P Riggs**

**Ms R M T Slazenger**

**Dr G E Smith**

**Dr G C Southwell**

**Ms F Thompson**

**Mr G S R Walker**

**Chairman Freedom from Fluoridation Federation of  
Australia and  
Chairman, Anti-fluoridation Association of Victoria**

## FLUORINE CONTENT OF FOODS AS REPORTED IN THE LITERATURE\*

Food	Fluorine, parts per million	Food	Fluorine, parts per million
Fluorine reported in food as consumed			
Milk .....	0.07-0.22	Pork chop .....	1.00
Egg white .....	0.00-0.60	Frankfurters .....	1.70
Egg yolk .....	0.40-2.00	Round steak .....	1.30
Butter .....	1.50	Oysters .....	1.50
Cheese .....	1.60	Herring (smoked) .....	3.50
Beef .....	<0.20	Canned shrimp .....	4.40
Liver .....	1.50-1.60	Canned sardines .....	7.30-12.50
Veal .....	0.20	Canned salmon .....	8.50-9.00
Mutton .....	<0.20	Fresh fish .....	1.60-7.00
Chicken .....	1.40	Canned mackerel .....	26.89+
Pork .....	<0.20		
Fluorine reported in dry substance of food			
Rice .....	<1.00	Honey .....	1.00
Corn .....	<1.00	Cocoa .....	0.50-2.00
Corn (canned) .....	<0.20	Milk chocolate .....	0.50-2.00
Oats .....	1.30	Chocolate (plain) .....	0.50
Crushed oats .....	<0.20	Tea (various brands) .....	30.00-60.00
Dried beans .....	0.20	Cabbage .....	0.31-0.50
Whole buckwheat .....	1.70	Lettuce .....	0.60-0.80
Wheat bran .....	<1.00	Spinach .....	1.00
Whole wheat flour .....	1.30	Tomatoes .....	0.60-0.90
Biscuit flour .....	0.00	Turnips .....	<0.20
Flour .....	1.10-1.20	Carrots .....	<0.20
White bread .....	1.00	Potato (white) .....	<0.20
Ginger biscuits .....	2.00	Potato (sweet) .....	<0.20
Rye bread .....	5.30	Apples .....	0.80
Gelatin .....	0.00	Pineapple (canned) .....	0.00
Dextrose .....	0.50	Orange .....	0.22

\* Table provided to the Committee by Professor M Irving, University of Canberra



# APPENDIX 4

## MEAN DIMF INDICES FOR CHILDREN IN STATES AND TERRITORIES, 1985

Age	Mean DIMF index							
	NSW	Vic	Qld	SA	WA	Tas	NT	ACT
6	0.08	0.11	0.13	0.12	0.10	0.09	0.10	0.11
7	0.27	0.42	0.40	0.40	0.32	0.23	0.31	0.31
8	0.44	0.76	0.68	0.70	0.70	0.38	0.50	0.51
9	0.66	1.09	0.99	1.10	1.16	0.64	0.78	0.77
10	0.84	1.52	1.31	1.47	1.55	0.90	1.03	1.04
11	1.20	2.13	1.77	1.85	2.01	1.35	1.39	1.39
12	1.53	2.72	2.29	2.31	2.43	1.83	1.91	1.71
13	2.13	3.26	3.00	2.95	3.00	2.54	1.86	2.44
All ages	0.89	1.50	1.32	1.36	1.40	0.99	0.98	1.03

Table from: Carr, L M, "Dental health of children in Australia, 1977-1985", **Australian Dental Journal**, 1988, 33(3), pp 205-211.





## NATURALLY FLUORIDATED WATER SUPPLIES IN AUSTRALIA

0.5 ppm and above

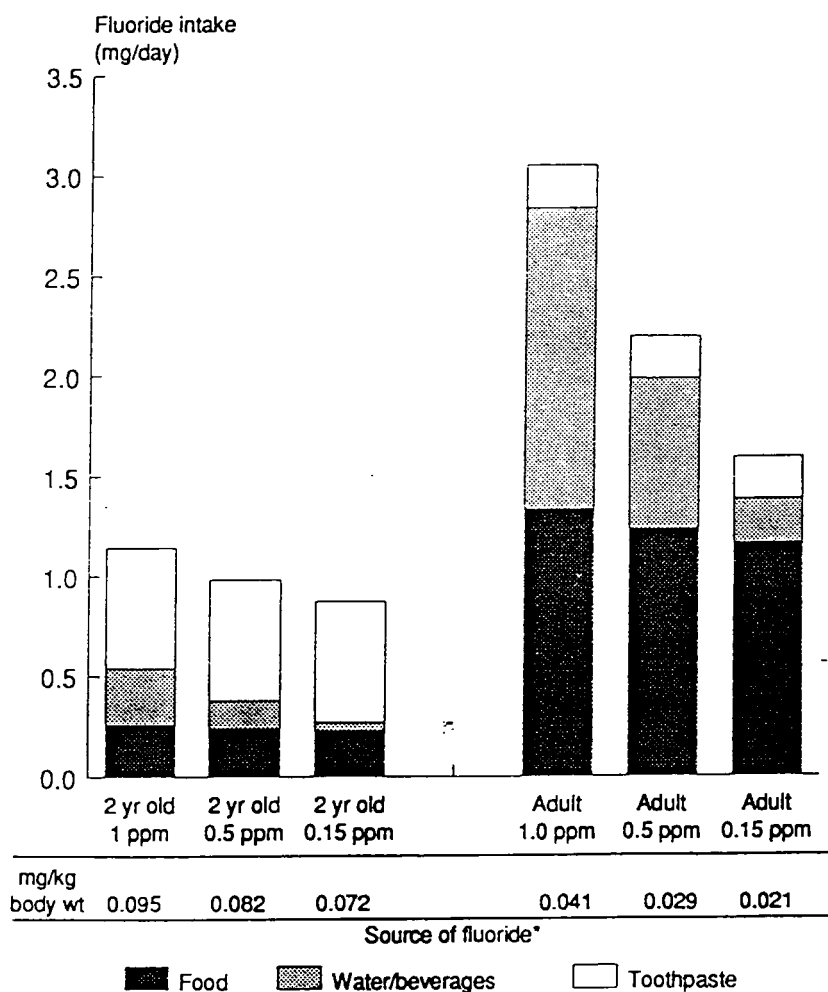
TABLE SHOWING NUMBERS OF PERSONS USING NATURALLY  
FLUORIDATED WATER – JUNE 1984\*

State or Territory	Population at June 1984	Population using naturally Fluoridated water	
	Number (est.)	Number (est.)	% (est.)
NSW	5 407 900	10 800	0.2
VIC	4 078 600	16 200	0.4
QLD	2 518 900	22 600	0.4
SA	1 353 300	42 000	3.1
WA	1 387 000	31 300	2.3
TAS	435 100	—	—
NT	138 600	12 700	9.2
ACT	245 100	—	—
AUSTRALIA	15 564 500	135 600	0.9

\* Commonwealth Department of Health, **Fluoridation of Water in Australia 1984**, AGPS Canberra 1985, p 24.



Figure 7. Sources of fluoride intake in 2 year old children and adults\*



\* 15 per cent of fluoride content of prepared food derived from reticulated water  
 Water/beverages include prepared beverages (for example, soft drinks) which are  
 assumed to have the same fluoride concentration as reticulated water  
 Based on WHO (1970); Singer et al (1978); Baghurst et al (1987)



## AUSTRALIAN CAPITAL TERRITORY

## Inquiry into Fluoridation

1989 - 1991

## Dissenting Report

by Dennis R. Stevenson, MLA.

## Introduction

It is my view that a careful analysis of the evidence presented to the ACT Legislative Assembly Committee of Inquiry (see: Footnote 4.) reveals that artificial fluoridation has serious adverse health effects, and should cease.

The aim of this *Dissenting Report* is to outline the story of artificial fluoridation as presented to the ACT Government Inquiry Committee; and invite the reader to form his or her own opinion. I state that I am an anti-fluoridationist and accordingly, while I have tried to present the facts in an unbiased way, some readers may detect bias no matter how hard I have tried. I accept full responsibility and seek only the indulgence of the open-minded reader.

Dr Philip Sutton, a leading Australian dental scientist, explains how, with regard to fluoridation of community water supplies, such a decision can be made by any reasonable person. Dr Sutton submitted:

*"Fortunately it is not necessary to understand more than a small proportion of the known facts in order to make a rational decision whether to accept or reject this process as a public health measure."*

**Submission** [please see Footnote 5: below], 21-2-90, p 3.

- Footnote 1.** In order to make this Dissenting Report easily understood by as many people as possible, from all walks of life and all ages (students included), I have given many definitions throughout the text. May I suggest that it is most important to use a dictionary for any words that need to be defined, where I have not done so?
2. Where the parenthesis are squared within quotations; thus [ ], the comment within is my own, and is not attributable to any other person.
  3. Throughout this Report, quotations are indented, given in *italics*, and also placed within quotation marks.
  4. Hereinafter called, the ACT Inquiry, as is the Victorian Government Inquiry into fluoridation, called the Victorian Inquiry.
  5. **Submission** hereafter means a submission made to the 1989-1991 ACT Inquiry. It may have been either written or verbal. The latter being transcribed into print. All submissions and Committee minutes are public documents and are readily available for reading.

## No One Should Be Harmed

Before the introduction of artificial fluoridation to Canberra in 1964, Dr W. Gibbs, member for Bowman, Queensland, said in the Commonwealth Parliament: (*Hansard*, 16-4-64, p 1143.):

*"It is my deeply rooted belief that no measure should be adopted in the name of public health unless there is complete certainty that that measure is completely innocuous [harmless]. There could be nothing comparative about this. There must be no possibility of damage even to one living human being. If I can make a prima facie case that damage could occur, that someone could be harmed, that the harmlessness of fluoridation of the water supply is not proven, then fluoridation should never have been introduced to Canberra, nor any other place in Australia."*

## A Supreme Court Verdict

*"The trial brought into my Court experts on the subject of fluoridation, and I meticulously considered the objective evidence. In my view, the evidence is quite convincing that the addition of sodium fluoride to the public water supply at one part per million is extremely deleterious to the human body, and, a review of the evidence will disclose that there was no convincing evidence to the contrary."*

John P Flaherty, Justice, Supreme Court of Pennsylvania, U.S.A., *Decree*, Pittsburgh, 78.

## Do we have Health Rights?

A submission to the ACT Government Inquiry included the book ***Your Health Rights***, by the Australian Consumers' Association, endorsed by Dr Neal Blewett, then Federal Minister for Community Services and Health. It answers the question, *What are our health rights?*:

*"Doctors are experts but they are not infallible ... doctors may disagree with each other over the best treatment for particular problems. The final decision is ours ...*

*We need not ... submit to their treatments unless we so choose. It is up to us to stand up for what we regard as our rights ... it is our right to live our lives free from unwanted bodily interference.*

*Your Health Rights*, 1988, pp 15-17.

*"The Association of American Physicians and Surgeons (Inc.) ... condemns the addition of any substance to a public water supply for the purpose of effecting the bodily or mental function of the consumer."*

Statement, 12-4-58, Pub. *Science Newsletter*, 17-1-59.

## **Physician Discovers Facts on Fluoridation**

Surprisingly, important facts about fluoridation have been withheld from many doctors and scientists. This was highlighted by the Medical Adviser to the *House of Commons All Party Committee on Freedom of Information*, Dr Edward C. Hamlyn, MB. ChB., who made the following testimony:

*"Since first hearing recommendations by medical authorities that fluoride should be added to those public water supplies alleged to be deficient in fluoride in order to reduce tooth decay in children, I had always assumed that such authorities could be relied upon. I was far too busy to get involved in the fluoridation controversy and readily accepted what the "experts" said. I also accepted the view that people who were against fluoridation were cranks and I never bothered to listen to what they had to say, or read what they wrote.*

*... my curiosity to discover the truth soon led me to realise that my medical teaching had been quite incorrect. All the data I had been given on fluoridation by the medical authorities was basically untrue. The data had in it sufficient truth to make it credible, but was so slanted and curved as to lead one to a conclusion which was entirely false."*

*The Press*, Scotland, August 25th, 1978.

Dr Hamlyn, like most of us, had been told that artificial fluoridation was "safe and effective" and could not cause ill health.

At present, you may reject any possibility that fluoridation is harmful; is an environmental pollutant; is ineffective and destructive of our rights. If so, within this Report, you might discover a different story. A story presented by many leading scientists, doctors and researchers from around the world.

The 1989-91 Australian Capital Territory Government Inquiry into artificial fluoridation received the information given in this Dissenting Report. While the information may have had a different importance for some members, I believe that it puts the real case against artificial fluoridation and is the reason the majority of people, (as shown in the Referendums section of this dissenting Report), are against compulsory fluoridation. (similarly, the two previous Government Inquiries in Australia before it, the Tasmanian Royal Commission report of 1968, and the Victorian Government Inquiry report into Fluoridation of 1980, received, but did not include similar information).

## **Dentists Warn Against Fluoridation**

In 1944, the *Journal of the American Dental Association* warned:

*"We do know the use of drinking water containing as little as 1.2 to 3.0 parts per million of fluorine will cause such developmental disturbances in bones as osteosclerosis [abnormal hardening and increasing density of bone], spondylosis [degenerative change in the vertebrae] and osteopetrosis [a form of osteosclerosis occurring mostly in children], as well as goiter [an enlargement of the thyroid gland], and we cannot afford to run the risk of producing such serious systemic disturbances*



*in applying what is at present a doubtful procedure intended to prevent development of dental disfigurements among children."*

Editorial: Effect of Fluorine on Dental Caries, *J.A.D.A.*, Vol 31, pp 1360-1363.

These doubts presented in 1944 have still not been conclusively reconciled 47 years later.

### **Fluoride Facts Well Documented**

The facts demonstrating the undesirability of adding fluoride chemicals to public drinking water have been well-documented for many years in scientifically advanced countries, especially in Europe. There, fluoridation has been all but completely rejected, due mainly to its health dangers and on advice from scientists.

Today, opponents of artificial fluoridation include eleven Nobel Laureates (details given on p xxx ), numerous professors in many disciplines, and thousands of scientists, doctors and dentists. They are supported and strengthened by many concerned lay groups who have troubled themselves to question the conventional wisdom and who have opposed the artificial fluoridation of water supplies, for a variety of reasons, including medical, environmental, moral, legal, economic and political.

Strangely, little publicity has been given to these facts either in the popular media or scientific literature in Australia. **As a result, Australia now remains one of the few fluoridated countries in the world.**

In 1972, the Federal Health Minister, Dr Everingham asked his Department's Director General for clear scientific evidence to refute the contentions of a number of leading scientists, concerning the health dangers of artificial fluoridation. Dr Everingham, after nearly three years, received none. He concluded:

*"... authorities in Australia, USA, the World Health Organization and elsewhere are engaged in inaccuracies which I can explain only as probable face-saving reactions, conscious or unconscious, of a sort quite common in orthodox professions and bureaucracies."*

The Hon. D.N. Everingham, *Submission*, 7-11-90.

### **Is there a Case Against Fluoridation?**

The case *for* artificial fluoridation is well covered in the many chapters of the *ACT Inquiry into Fluoridation* official Report. I present this *Dissenting Report* because I believe that the full case against fluoridation has been largely omitted, and because of my conviction that it is necessary to hear both sides of the debate so that any subsequent decisions are informed ones.

The collection, collation and interpretation of a great deal of information about fluorides and artificial fluoridation has long ago been accomplished. In Australia, the difficulty is in the *dissemination*. Letting the people know, has

not been easy. Most professional associations [connected with fluoridation in some way] in Australia, government inquiries, and much of the media seem to present mostly the case *for* fluoridation, not the case against.

There are five major arguments in the case against artificial fluoridation. The evidence for each of these arguments is mentioned in this Report.

### **Section 1 - Adverse Health Effects**

Artificial Fluoridation of water supplies has never been conclusively proven to be safe. On the contrary, serious reactions and sickness have been medically documented which resulted from drinking water at 1 ppm fluoride (which is a rate, not a dose).

### **Section 2 - Compulsion**

In effect, artificial water fluoridation is compulsory mass-medication with an extremely toxic chemical. This is undemocratic and violates the individual's freedom of choice in medical treatment. (caring for one's own body, or our childrens' bodies).

### **Section 3 - Ineffectiveness of fluoridation**

Over 95% of the world's population drink water which is *not* artificially fluoridated. The major world-wide improvement in children's teeth in developed countries over the last few decades might not be attributed to fluoridation at all, as this improvement in the teeth of children is a global phenomenon. It has occurred equally in non-fluoridated as well as artificially fluoridated areas, and was occurring before fluoridation began. Some unreasonable proponents of fluoridation are uncomfortable when confronted with this unpalatable news, but it is nonetheless fact and is a simple matter to check.

### **Section 4 - Environmental Pollution**

If industrial fluoride waste emissions are accepted as being major environmental pollutants of air, water, land and now our animal and vegetable foods; then it follows that artificial water fluoridation merely increases this existing pollution and human intake levels.

### **Section 5 - Tooth Decay Not Caused by Fluoride Deficiency**

Fluoride is not an essential element. Dental caries might not be caused by a lack of it. The main cause of tooth decay seems to be the ingestion of too much sugar and refined carbohydrates.

Fluoride is artificial, and possibly in itself, a harmful remedy.

## Is Artificial Fluoridation Guaranteed?

The responsibility for proving that fluoridation is safe, that it reduces caries and is not a mass medication - all of which has been claimed for over 40 years - should rest logically with the supporters of artificial fluoridation who have persisted in these claims.

A study of the world-wide fluoridation literature submitted to the ACT Inquiry, reveals that such claims are misleading and possibly unethical. Such claims in fact may conceal serious health dangers.

If only **one** of these claims, *let alone two, three, four or all five* are shown to be false, then the addition of fluoride chemicals to public drinking water should cease. This was well stated by Dr Philip Sutton:

*"In a sense, it can be compared to a three-legged table - if any one of the three supports collapses the table falls and, in the case of fluoridation, it must be rejected - as it has been in Continental Western Europe."*

**Submission** to ACT Government Inquiry 21-2-90, p 5.

Those who have suffered ill-health are not the only victims of water fluoridation - truth has also been a casualty in the debate. The foremost journal for chemists and engineers, the ***U.S. Chemical and Engineering News*** (C&EN), in a special issue on fluoridation reported:

*"From the beginning, the movement to fluoridate water was conducted more like a political campaign than a scientific enterprise."*

Fluoridation of Water, C&EN, 1-8-88, p 29.

It is not without thought that I have cited certain statements in this Dissenting Report, which may seem to cast doubts about the activities of certain groups.

I wish to make it clear that I believe that the great majority of us try to be honest and usually wish others well. Most of us show concern for other people and are ready to give a helping-hand when needed.

The point I wish to make is that there are other people however, who have different intentions. They comprise a tiny minority which is totally out of proportion to the damage they cause in society. I have seen in my life, that one or two people in an organisation can create tremendous problems and upset. When traced back, it may be seen that the damage began with the spreading of false and derogatory reports which hold people up to ridicule. Almost without exception, the targets are the very people who have the interests of the community most in mind and in fact are often being of the greatest service.

The technique is used as a means of control. This occurs because we cannot make decisions that will benefit our own survival and that of our community if we receive false information. Jesus said, "The truth shall set you free". It is true in reverse that, "Falsehoods reduce our freedom".

Perhaps we could be a little more wary of those who bring no positive news.

## SECTION 1: ADVERSE HEALTH EFFECTS

A Past President of the **American Medical Association**, Dr Charles G. Heyd, M.D., made the following statement:

*"The plain fact that fluorine is an insidious poison, harmful, toxic and cumulative in its effects, even when ingested in minimal amounts, will remain unchanged no matter how many times it will be repeated in print that fluoridation of [the] water supply is 'safe'."*

**When Doctors Disagree**, Warnings by Physicians, Dentists and Scientists Around the World On the Known Dangers and Possible Hazards Of Fluoridation, 13th Print, June, 1967. Pub. Greater N.Y. C'tee Opposed to Fl, Inc.

Compare this with what the ACT Inquiry chooses to quote from a submission by the ACT Dental Group (para 5.16):

*"Unsubstantiated claims of adverse effects of fluorides in the control of dental caries have ... been made for almost fifty years."*

### **When Experts Disagree, Who Do We Believe?**

When experts disagree, who do we believe? Are the claims of adverse health effects unsubstantiated or not?

### **Adverse Reactions Proven**

In 1960, in a study which claimed to prove that fluoride causes adverse health effects, Drs R. Feltman and G. Kosel, gave tablets containing fluoride to pregnant women and children. They reported in ***The Journal of Dental Medicine***:

*"One percent of our cases reacted adversely to the fluoride. By the use of placebos [a pill, treatment, etc. that contains no active ingredient], it was definitely established that the fluoride and not the binder, was the causative agent. These reactions, occurring in gravid [pregnant] women and in children of all ages in the study group, affected the dermatological, gastrointestinal and neurological systems. Eczema [skin inflammation and formation of scales and pimples], atopic [characterised by a form of allergy] dermatitis, urticaria [itchy red skin eruptions], epigastric [to do with region immediately above the stomach] distress, emesis [vomiting] and headaches have all occurred with the use of fluoride and disappeared upon the use of placebo tablets, only to return when the tablet was, unknowingly to the patient, given again."*

The fluoride tablets used in the study contained 1 milligram of fluoride. That is the same amount obtained from drinking a litre (one litre is about seven glasses) of artificially fluoridated water (one part per million), in other words, the 'recommended daily dose'.

This 14 years of study was published in the *Journal of Dental Medicine*, 1961. The study involved a large test population, using controlled doses (equalling the current daily dose recommended by the National Health & Medical Research Council in Australia - N.H. & M.R.C.). It was sponsored by Abbott Laboratories, a commercial pharmaceutical organisation, and formed the basis of a warning about fluoride tablets distributed by that Laboratory. It produced consistent observations over a period of 14 years.

Evaluating the usefulness of the study, Dr M. Diesendorf (much has been made of the fact that Dr Diesendorf is a Phd, a mathematician with statistical expertise and not a medical graduate. Of course he is not a medical graduate, and he has never pretended to be one. But it is precisely for his skill in observing errors and mistakes by people who profess to be offering conclusions substantiated by statistically-based research, that we should heed him) stated:

*"Although the reports of Feltman and Kosel lack quantitative detail, their citation is justified by the blind nature of the study, the large study population, the fact that controlled doses were delivered and the consistency of the observations over fourteen years of study."*

*Community Health Studies*, Vol 4, No 3, 1980, p 225.

### **Ill-Health Threat for Thousands**

One percent of people reacting adversely to fluoride may not sound alarming to some. But in Canberra, 1% of the population is about 2,700 people. To me, that is alarming. In Australia as a whole, it amounts to some 170,000 people, assuming the population was not ingesting fluoride from other sources as well, as this would increase that number. This is a huge number of people suffering needless ill-health. And this is at the "recommended dose" of fluoride each day.

This [Feltman & Kosel] study gives quite conclusive proof of adverse health effects caused by fluoridation. It was submitted to the Government Inquiries in Australia; in Tasmania in 1968, in Victoria in 1979, and in the Australian Capital Territory in 1990. The evidence it carried was ignored by the Victorian and ACT Inquiries. The Tasmanian Inquiry mentioned it but in my view gave misleading information in doing so. The study has never been refuted. Just ignored, or misquoted.

To state that artificial fluoridation has been constantly monitored over 90 years and has shown **"no adverse effects to general health"** as did the Australian Dental Association (ACT and Southern Tablelands Division) ACT Dental Group, in their submission, [Drs Bonanno, Fricker and Fleming, submission, undated and pages not numbered] is questionable. Firstly, safety is not proven, and secondly, the opposite (i.e. adverse health effects) has been demonstrated to be sometimes the case.

A safe and effective medicine should presumably only be given to those who need it, when they need it, and in the right amount.

### **All Drugs Have Health Risks**

Lander, author of the book, *Defective Medicine* explains the general risks of medication:

*"Any drug therapy, however relatively safe the medication ..., involves some measure of risk. And collective risk increases over time with the increase in the number of people being medicated ..."*

As quoted in *Medicine on Trial*, Prentice Hall Press, (88), p 152.

When the entire population is being medicated via the community drinking water, as is the case in the ACT, the general risk is, one would think, self evident.

Proponents of artificial fluoridation would seem to believe that one milligram of fluoride taken daily, either in tablet form or ingested in one litre of fluoridated water, enters the body, circulates in the bloodstream and somehow finds its way to the teeth. They ignore any evidence that fluoride can have a cumulatively adverse effect on bones and that it can and does accumulate in the heart, the brain, kidneys, parathyroid gland, and other cells and tissues of the body. Alternatively, they would seem to accept without question (as many dentists apparently do) that, on swallowing a glass of artificially fluoridated water, the fluoride magically detaches itself from the water, does not enter the stomach or pass into the bloodstream, but remains in the mouth of the person and busies itself solely with hardening the enamel of the teeth, so as to produce the kind of lovely smile shown to us on television toothpaste advertisements. (see, *Fluoride Accumulates in Soft Tissue*.)

*"Fluorides are violent poisons to all living tissue because of their precipitation of calcium. They cause fall of blood pressure, respiratory failure, and general paralysis. Continuous ingestion of non-fatal doses causes permanent inhibition of growth."*

Dr Ludwik Gross, Renowned Cancer Research Scientist, in *N.Y. Times*, 3-6-57.

### **Are Claims that Soft Tissues Don't Accumulate Fluoride, Correct?**

It is, I believe common ground, that fluoride has a strong affinity with calcium (in bone) and that it accordingly accumulates in the skeleton. But fluoride may accumulate in the soft tissue as well. I must point out on their behalf - because it is an important difference in the arguments - that this is denied by proponents. Presumably, to admit this, would be to acknowledge that fluoride can have major effects on the body and that little research has ever been done to answer the following vital questions:

1. *How does fluoride work in the human body?*
2. *What effect does it have on all our bodily organs?*
3. *What effects does it have on the whole body, in conjunction with other chemicals?*

The Victorian Inquiry Committee failed to handle these vital issues by either incorrectly reporting the facts, or ignoring the questions. For example, on the question of the fluoride build up in soft tissue, they state (para 7.22, p 42-43):

*"Soft tissues do not accumulate fluoride regardless of the level of absorbed fluoride or the duration of exposure."*

But this statement may in fact not align with some of the available evidence.

*"... Recorded data of the occurrence of fluoride in soft tissue goes back to 1869, when Horsford reported the presence of fluoride in brain tissue. In 1913 Gautier and Claussman found fluoride in the skin of a new-born girl ranging from 1-13 ppm, but in a 70 year old man the range was 146-164 ppm.*

*In 1938, Evans and Phillips examined for fluoride, portions of thyroids from 40 hypothyroidism patients. They found widely varying amounts of fluoride ranging from 1.5 to 95 ppm in the extirpated [end parts] portions of the glands.*

*A summary of the range of fluoride [F] concentrations found in the various tissues of the body, based on a number of more recent findings is given in the following table:*

Tissue	F Concentration ppm	Tissue	F Concentration ppm
Aorta	0.3 to 125	Lung	0.2 to 23
Brain	0.2 to 43	Muscle	2 to 4
Fat	3 to 4	Nails	52
Gall Bladder	3.9	Nerve (sciatic)	16
Hair	14 to 30	Pancreas	0.2 to 38
Heart	0.4 to 24	Skin	5 to 164
Intestines	2 to 8	Placenta	0.1 to 8
Kidney	0.4 to 38	Spleen	0.2 to 18
Liver	0.1 to 23	Stomach	2.9 to 7
Thyroid	0.5 to 95		

*Poison on Tap.*, p 258.

### Fluoride Builds Up in The Body

Dr Jonathan Forman, M.D., world-renowned specialist in allergy, Professor-Emeritus of Ohio State University, former editor of the Ohio State Medical Journal, editor of Clinical Physiology, in a statement on behalf of the *Medical-Dental Committee on Evaluation of Fluoridation*, stated;

*"It is now known that such vital organs as the kidneys, thyroid, aorta (main heart artery), liver, lungs and others can be the sites of an*

*unusually high fluoride build-up. No matter how small the amount of fluoride in the diet, a part of it tends to accumulate in the body, When the water supply is fluoridated, the intake of the individual is considerably increased and the accumulation in the body increases accordingly. There is no clear-cut pattern as to the degree of retention among individuals. Further, it accumulates in certain organs in an unpredictable way. Some individuals may store up to 100 times more fluoride in certain tissue than others. This has given rise to concern over fluorides possible role in chronic disease. Fluoride is an enzyme poison and medical authorities recognize that disturbances of the enzyme system are a cause of disease."*

**When Doctors Disagree**, June, 1967.

If correct, then these findings are not consistent with claims that fluoride cannot accumulate in soft tissues.

### **Fluoride Has Never Undergone Standard Drug Safety Testing**

When fluoridation began in the United States in 1945, there were no legal requirements for testing new drugs. Though we now have fluoridation in the ACT, it is surprising that it has *never* been subjected, anywhere in the world, to the sort of thorough testing that nowadays is mandatory before *any* new drug is permitted on the market.

### **Guidelines on Drugs**

The World Health Organisation (W.H.O.) in 1967 and 1968 set up a number of working parties to establish guide-lines for the thorough testing of new drugs and therapeutic substances. They stated:

*"It is not always recognised that it is unethical to introduce into general use a drug that has been inadequately tested. The ethical problem is not solely one of human experimentation; it is also one of refraining from human experimentation.*

*The urgent need for more concern with this aspect was harshly brought to the attention of the world by the clinical experience with thalidomide.*

*Besides the problem of new drugs, there is a need to re-evaluate many established or commonly used drugs.*

[The W.H.O.] Report No. 482 states that the following categories of existing drugs should be **HIGH PRIORITIES** for updated testing:

*Compounds that are chemically, pharmacologically and biologically related to known or suspected mutagens [an agent that causes mutation (change) in an organism].*

*Drugs that are often used over a period of years, particularly in children and young adults.*



*Drugs that are prescribed for a large proportion of the people.*

*Drugs that are used for general prophylaxis [disease prevention].*

*The World Health Organisation defines a drug as:*

*'Any substance used to alter or influence a physiological system for the benefit of the recipient.'*

*Fluoride is artificially added to drinking water claiming it improves the structure of teeth in the recipient, and by definition, it is a drug."*

Walker G.S.R., *Poison on Tap*, 1982, p 88.

Remarkably, fluoride fits every one of these four categories for priority testing. Despite this, the required testing has never been done.

### **Fluoride toxicity**

Sodium silico-fluoride, the particular fluoride chemical that is added to the drinking water of the Australian Capital Territory (ACT), is one of the most toxic poisons known to exist.

Dr C.A. Brusch, B.S., M.D., Director, Cambridge Medical Centre, Mass., indicated the toxicity of fluoride:

*"Artificial, or inorganic, sodium fluoride is a highly toxic, protoplasmic poison, 15 times stronger than arsenic."*

*Pharmacists' U.S. Dispensatory*, 24th Edition, pp 1,456-57. (*When Doctors Disagree*, Pub. June, 1967.)

The World Health Organization's International Agency for Research on Cancer stated:

*"The major uses of sodium silicofluoride have been reported to be ... as an insecticide, fungicide, bactericide and rodenticide;" 'Sodium silicofluoride is widely used as a fluoridating agent for municipal drinking-water in both the U.S. and western Europe'. 'The Commission of the European Communities (1978) requires that sodium silicofluoride be labelled as toxic by inhalation, in contact with the skin or if swallowed.' [my emphasis]*

I.A.R.C. Monograph on the Evaluation of the Carcinogenic Risk of Chemicals to Humans, 27-4-82, p 250.

The scientific world's leading publication which identifies chemicals is the **Merck Index - An Encyclopedia of Chemicals, Drugs [etc]**. It records sodium silicofluoride as an:

*"insect exterminator and poison for rodents;"*

**The Merck Index**, Eleventh Edition, 1989, p 1362.

That this particular fluoride is used as a rodenticide (rat poison), insecticide, fungicide and bactericide is an indication of its toxicity. Perhaps for this reason, proponents of artificial fluoridation often attempt to conceal the fact that fluoride is used mainly as a killing agent.

The claim that the chemical used in fluoridation is different from that used as a rat or insect poison is commonly made by proponents of fluoridation.

When evidence of the above kind is presented, proponents often admit the toxicity, but will counter by claiming that in very, very small amounts, fluoride is perfectly harmless and that anything can cause harm if enough of it is ingested. Whilst on the surface, this seems like a reasonable or logical approach, it is hardly a rational one. A deeper probe might reveal that such an attitude can be downright dangerous. That is because it is the continuous daily intake of minute amounts of fluoride in drinking water which is of concern.

#### **Gives No Warning - Not like Chlorination**

Dr Ludwick Gross, M.D., F.R.C.P., Renowned Cancer Research Scientist, stated:

*"The proponents of fluoridation stress the fact that not only fluorine but many other materials introduced into the body including salt, water and food, are potentially harmful when ingested in too large quantities. Such statements do not take into account the fact, however, that fluorine is actually a poison which could be ingested without giving any warning to our senses. Our taste or smell would not warn us of the imminent danger. If added in too large a quantity, chlorine would warn our senses, irritating the mucous membranes of eyes, nose and throat. Furthermore, chlorine evaporates. Fluorine, on the other hand, is tasteless."*

**When Doctors Disagree**, June, 1967. Pub. Greater N.Y. C'tee Opposed to Fl, Inc.

#### **Discoverer of Cigarette-Lung-disease Relationship Condemns Fluoridation**

Dr Waldbott, M.D., F.A.C.P., F.A.A.A., F.A.C.A., F.A.C.C.P., a Fellow and former vice-President of the American College of Allergists and Fellow of the American College of Physicians, was the founder and chief of allergy clinics in four Detroit Hospitals and is the author of a number of scientific books and papers.

Dr Waldbott was the first person to record a death from allergic reaction to penicillin and it was he who alerted the medical profession to its dangers.

He discovered the relationship between smoking and the lung-disease, chronic emphysema, a relationship which is now generally recognised.

Dr Waldbott explained the difference between acute poisoning and chronic poisoning. He stated:

*"It is true, a few glasses of fluoridated water are not likely to produce sudden poisoning although, as will be seen, there are exceptions among allergic people who suffer temporary harm even from this small amount. They are the same unfortunate people who may develop an allergic attack from minute amounts of a drug harmless to others, such as a single aspirin tablet. These are cases of acute (sudden) poisoning. In water fluoridation we are concerned with chronic poisoning from continuous daily intake of minute amounts in drinking water ..."*

Waldbott G.L., *A Struggle With Titans*, Carlton Press, 1965, p 80.

### **Acute versus chronic toxicity**

It is the latter type - *many small doses over a long period of time* - which is the major cause for my concern about artificial fluoridation.

The statement by the ACT Inquiry and the British Dental Association that an adult would need to drink 450 gallons of water (para 10.39) at one sitting, and a baby, 26 gallons (10.38), to have a problem with fluoride, confuses people regarding the two main types of fluoride toxicity - acute and chronic.

Anyone suggesting that acute toxicity from fluoridation can only arise (except for cases of allergy, sensitivity, or accidents with fluoride supplements or at public water works) by say, drinking 450 gallons at one sitting (ACT Inquiry para 10.39), may very well be incorrect. A similar claim would be that one would need to smoke 10,400 cigarettes at one sitting in order for smoking to cause ill-health.

To my knowledge, no one has yet claimed that you can get lung cancer from simply smoking one cigarette. But smoking cigarettes over a long period of time, might increase the probability of cancer and other serious health problems, some of which might not show up for many years.

Some who benefit from the sale of cigarettes, suggest that cigarette smoking is not a health risk. These include multi-national companies, suppliers, advertisers, and some doctors and medical researchers, some of whom receive grants or other financial benefits from cigarette companies. But at least smoking isn't compulsory.

Such "450 gallon" claims are quite misleading. They do not serve to educate those in the community who may genuinely enquire about fluoridation.

### **Natural Fluoride Dangers**

The International Society for Fluoride Research held a Congress in Oxford College, England, on 9th April, 1973. The Congress was attended by eminent scientists from countries throughout the world. Dr Hans Moolenburgh of the Netherlands recounts his experience of the Congress:

*"Professor Jolly, from the Punjab, India, told his story of the natural fluoridation in his part of the world. 'Natural fluoridation', according to the fluoride lobby, was the thing they wanted to imitate in our 'under-fluoridated' water supplies. Far from a story of complete safety and healthy teeth, Jolly told a tale of woe, a tale of bone defects and neurological [nervous system] disturbances in most people over thirty in whole villages, where the natural concentration of fluoride in the water was only slightly higher than the 1 ppm recommended by the fluoridation lobby.*

*These people had flown in from all parts of the world, the U.S.A., Canada, India, France, Israel, and all of them spoke of the dangers of this one strange element fluorine.*

*The more I listened to them, the more amazed I became about the mass of evidence against this element ... . In our food occur those essential elements which build us up and keep us alive, like oxygen, hydrogen, calcium, potassium and many more. Fluorine looked like the black sheep of this family. Far from being an essential element, it looked like an element which had been included in Creation to restrict the abundance of life, to shorten the span of life. It was an element of death, not of life."*

Moolenburgh H., author, *Fluoride: The Freedom Fight*, Mainstream Pub., 1987, pp 100-101.

### **Natural versus Artificial Fluoride**

*"Chemistry distinguishes between two major groups of compounds, organic and inorganic. In organic compounds, the fluorine atom forms a tight bond with the carbon atom. The more strongly the two atoms are linked together, the more inert and, as a rule, the less poisonous the molecule. In many toxic organic compounds, therefore, fluorine contributes less to the toxicity of the compound than does the remainder of the molecule.*

*For this reason toxicologists have devoted most of their research to the behavior of inorganic fluorides, especially sodium fluoride (NaF) in which fluorine is loosely linked as a negative (F-) ion with sodium (Na+) ... .*

*In water fluoridation we are only concerned with inorganic compounds."*

Waldbott G.L., *A Struggle with Titans*, Carlton Press, 1965, p 80.

### **Calcium and Magnesium**

*"In the natural state, fluoride-containing waters usually contain relatively large amounts of calcium and magnesium. In contrast, the industrial waste used for artificial fluoridation does not contain either calcium or magnesium such as nature provides.*

*By world standards, Melbourne [Australia] has exceptionally "soft" water with very little calcium and magnesium. The average calcium content of Melbourne water supply is 3.8 ppm and magnesium 1.5 ppm. Compare these with naturally fluoridated water supplies and you discover places like West Hartlepool in England with 100 ppm calcium and 150 ppm magnesium. This is the usual type of water where natural fluoride is found, so those who claim no difference must answer the question as to what happens to the large quantity of calcium and magnesium ingested with the fluoridated water.*

*In the body, fluoride and calcium act as antagonists; in nature, calcium acts as a natural "antidote" to an excess of fluoride.*

*All the evidence collected to date suggests that the fluoride ion, without its natural competitor, the calcium ion, will be much more active in the body, and that dental fluorosis and the other problems associated with an excess fluoride intake, will be exacerbated [made worse]."*

**Poison on Tap**, p 82.

### **Effects of Trace Elements**

The following letter to the New South Wales Health Commission was submitted to the Victorian Committee of Inquiry by an Australian Doctor of Medicine, from Wollongong, New South Wales, well known for his research into the effects of trace elements and their interactions in the body.

At the time, the doctor asked that his name not be published. The Victorian Inquiry Committee received the letter, but made no mention of it in their report. Nor did they conduct any investigation into the important matters it raised or warn the Government about them.

The Doctor wrote:

*"It should be clearly understood that fluoridation of water supplies commenced before the authorities really understood what was likely to happen at the cell molecular level by introducing fluoride.*

*There was also no firm knowledge then ... [and] little knowledge now, of what the interaction may be between fluoride and other trace minerals.*

*It was not known at the time fluoride was commenced, nor is it known now [1979], what the effect of fluoride may have on cellular enzyme systems. [see current research under Enzyme section in this Dissenting Report].*

*In the last 10 years there has been a considerable swing to the development of a study of biological and cell membrane systems and their relationship to molecular medicine.*

*All this is very closely associated with the development of medicine at what might be termed the true preventive level.*

*It is not so very long ago, for instance, that selenium which functions biologically in concentrations of 0.01 ppm was regarded as a carcinogenic agent.*

*More recently, it appears to have been clearly established that far from being a carcinogenic agent, selenium may be anticarcinogenic, and that the level of intake may have significant bearing on the incidence of carcinoma of the breast.*

*We have recently been made aware that certain trace elements may interfere and affect the absorption of selenium.*

*If you are in a position to establish clearly that fluoride has no effect on absorption of other trace minerals, is not associated with any mineral interaction, and does not have any affect at the cell molecular level, obviously it is difficult to establish that fluoridation should not continue.*

*However, in this respect I have enclosed excerpts from a book, "The Molecular Biology of Cell Membranes, 1967", which is acknowledged world wide as an excellent volume, written, incidentally, by an Australian, Peter J. Quinn.*

*As you are probably aware, the role of c.AMP [part of the cell and enzyme system]. is not yet clearly defined, though Prof. Sutherland has been working on it for many years.*

*I have just enclosed this excerpt to show you that fluoride in experimental work does have some affect on this extremely important transducer of hormonal action.*

*... I do know, however, that it has been recognised that interference with systems must be regarded with increasing alarm.*

*This helps to illustrate the point that irrespective of how non-toxic fluoride may be in the concentration used, it does affect important biological and membrane systems at extremely low levels of concentration.*

*In view of this, I think it would be a brave man who would say that fluoride is innocuous, in the concentrations used."*

*Poison on Tap, p 11.*

### **The Newburgh-Kingston Study**

*In this study in New York, which was one of the two original experiments to investigate the effect of artificially fluoridated water on residents, circumstantial evidence gave cause for concern:*

*"After ten years of artificial fluoridation the incidence of cortical bone defects in Newburgh was 13.5%, but it was only 7.5% in unfluoridated Kingston - a statistically significant difference."*

*Poison on Tap, p 109.*

## **U.S. Select Committee on Fluoridation**

As early as the 1952 U.S. House of Representatives Inquiry, it was recognised in official inquiries into water fluoridation that magnesium could play an important role.

*"... recent reports of laboratory research indicate that the effect of fluorides on dental decay may possibly be influenced considerably by the absence or presence of magnesium in the water.*

*Poison on Tap*, p 154.

## **FLUORIDE DOSE - PRESCRIPTION OR POT-LUCK?**

Sir Stanton Hicks, noted Australian Professor of Pharmacology and Physiology, stated:

*"I submit that medication of a whole populace variable in individual response, regardless of individual age, state of teeth, of general health, rate of consumption of water, and so on, is quite unscientific and unethical, and that passive acceptance of the right of a government or municipal authority to implement such medication through its water supply is to sacrifice a fundamental principle of medical practice."*

Hicks, C. S. (1956), *Medical Journal of Australia*, 2: pp 156-157.

How much fluoride does any individual receive? We simply don't know. Certainly, the rate of 1 ppm fluoride added to the water bears little relationship to the dose. The total dose you ingest depends firstly on your thirst, and then on how much fluoride you receive from the many other nowadays common sources.

There has never been a study in Australia to discover how much fluoride is in the food chain, or in the atmosphere. Total ingestion of fluoride can only be guessed at.

What we do know is that it's probably a lot more than 1 ppm.

The old claim that our major fluoride intake is from the water supply, is no longer valid. It is the total intake that matters, and the fluoride pollution from aluminium smelters, fertiliser factories, petrol refineries, plastic producers, chemical factories, steel mills, glass manufacturers, brick works and so on, ought to be considered, together with an ever increasing list of polluters adding fluoride to our environment.

In some areas, even the rain has a relatively high (0.5 - 1 ppm) fluoride content obtained from air pollution, as reported by Dr Waldbott:

*"When it rains, the water takes up minute amounts of fluoride from the atmosphere, usually less than 0.02 ppm. This figure too, varies widely. From an air polluted area in Germany, analysis of rainwater showed up to 3.4 ppm. [Friese W., The Significance of Fluoride Content of Drinking Water,*

Pharm. Zentralbl. 94:337, 1955.] In a fluoride-contaminated area in Blount County, Tennessee, 0.02 ppm was reported; near a phosphate fertilizer plant in Florida, as much as 22.1 ppm.

Waldbott G.L., M.D., *A Struggle With Titans*, 1965, p 86.

Tests on rainwater have also been conducted by the Anti-Fluoridation Association of Victoria, under the control of association Chairman, scientist, Glen S.R. Walker. F.I.M.F., E.M.E.C.S., M.A.E.S., and have shown fluoride content up to 1 ppm.

On September 18, 1943, the *Journal of the American Medical Association* reported:

*"Distribution of the element fluorine is so widespread throughout nature that a small intake of the element is practically unavoidable. Fluorides are general protoplasmic [living matter] poisons, probably because of their capacity to modify the metabolism [the process of turning food into energy and tissue] of cells by changing the permeability [allowing liquid to pass through] of the cell membrane and by inhibiting certain enzyme [a substance produced within living cells, that influences a chemical reaction without being changed itself. Enzymes help break down food so it can be digested] systems. The exact mechanism of such actions is obscure. The sources of fluorine intoxication are drinking water containing 1 part per million or more of fluorine, fluorine compounds used as insecticidal sprays for fruits and vegetables ... and the mining and conversion of phosphate rock to superphosphate, which is used as fertilizer. The fluorine content of phosphate rock is about 4 per cent. During conversion to superphosphate, about 25 per cent of the fluorine present is volatilized [changed into vapor] and represents a pouring into the atmosphere of approximately 25,000 tons of pure fluorine annually [from 120,000 tons in 1970, estimated by Morin - submission - to be double that in 1980]. Another source of fluorine intoxication is from the fluorides used in the smelting of many metals, such as steel and aluminum, and in the production of glass, enamel and brick."*

#### **Toxic dose.**

*"With a toxic dose that is only 'more than twice the optimum dose of fluoride' (1973-74 edition of Accepted Dental Therapeutics, Council on Dental Therapeutics of the American Dental Association, p 238), thoughtful physicians are concerned about the safety of a health measure which distributes fluorides in public drinking waters as a means of partially reducing dental caries. Variations in dosage to the individual, due to differences in drinking habits and water needs, as well as individual variation in host resistance make this mass-distributed, fixed concentration, a most inexact and risky means of prescribing a 'medication' for an individual."*

Dr Herbert Ratner, Public Health Director of Oak Park, Illinois. *The People's Doctor* Newsletter, Vol 2, No 9, p 3.



Dr Waldbott explained how fluoride can accumulate in the body:

*"Ordinarily in large cities there is up to 0.025 parts per million of fluorine in the air<sup>85</sup> \*. At this concentration a person would inhale into his system about 1/2 milligram of fluoride a day. In the City of Baltimore where a fertilizer factory was located, health authorities recorded 0.08 parts per million.*

*On the surface this appears to be an extremely small amount. We must realize, however, that such amounts, sometimes much more, sometimes less, enter our system through the nose, sinuses [the bone cavity in the skull, lined with mucous membranes, that connect with the nasal cavity] and lungs day in and day out. Fluoride gradually accumulates because only a part of it is eliminated from the system. This was illustrated in a study by Herman in the Journal of Urology.<sup>53</sup> In New York City where the water supply contains only a trace of fluoride (0.1ppm) relatively large amounts of fluoride were found in kidneys, bladder and skin of persons with kidney stones.*

*The officially reported figures on fluoride in the air releases by the Kettering Laboratory<sup>85</sup> are "averages." At certain seasons, especially in midsummer, fluoride values may be much higher in certain locations and under certain conditions. Furthermore, most available information upon which these figures are based came from scientists working with grants provided by the involved industry. When a committee of independent citizens and scientists studies air contamination, their results are usually different<sup>86</sup> ..."*

Waldbott G.L., *A Struggle with Titans*, Carlton Press, 1965, pp 64-65.

\* References 53 and 85 are in original document.

### **Proof of Toxicity**

*"Gilbert's disease is a ... constitutional disorder in which bilirubin [the reddish-yellow pigment normally found in bile] is not sufficiently cleared from the blood stream by the liver due to an inherited deficiency of a single hepatic [liver cell] enzyme ... resulting in chronic [long-lasting] mild jaundice [caused by too much bile in the blood. ... is a symptom of some diseases and ailments]. I have tested five such cases in their response to the avoidance of water fluoridation and, in all five, their jaundice cleared. In one case, alternating periods of fluoridated and unfluoridated water clearly showed that the jaundice developed when the patient imbibed fluoridated water and cleared on the unfluoridated water. ('Gilbert's syndrome and fluoridation.' *Fluoride*, July, 1983). Later tests with daily doses of 1 mg fluoride (the 'recommended daily dose') confirmed that it was indeed the fluoride that resulted in the appearance of the jaundice. This finding has never been refuted and it is clear evidence that 1 mg of fluoride a day [the 'recommended' dose] can be toxic."*

*... If a particular compound is found to be toxic, it is common policy to limit the intake of that compound to 1/100th of the dose that is known to produce the toxic effect. When fluoride is given in doses of 30mg/day to*

*osteoporotic (bones become weak and brittle) women, an increase in fracture rate is observed within 2-3 years. This is now fact. The acceptable daily dose, therefore, should be 0.3 mg/day. In fluoridated areas, the common daily intake is over 3 mg/day.*

Dr John Lee - Submission, 14-1-90, pp 4-5.

### **Uncontrolled fluoride dose.**

In their submissions to the ACT Government Inquiry, the Australian Medical Association (A.M.A.), the Australian Dental Association (A.D.A.), and the National Health and Medical Research Council (N.H. & M.R.C.), once more gave their unfailing and long-standing support to the practice of artificial fluoridation. But would they give approval to the following practices in dispensing a drug?

- a. The patient is not consulted or examined before receiving the drug.
- b. The medical history, individual susceptibility, chronic illness or possible allergic or other reaction of the patient is not determined.
- c. The strength of the dose is not related to the age, weight or size of the patient.
- d. The patient is not informed of possible adverse side-effects caused by the drug.
- e. In the case under consideration (i.e. adding fluoride to the water supply) the state of the patient's teeth (or existence, in some cases) isn't considered.
- f. There is no check on the total intake of the drug which the patient may already be ingesting from other sources - though the World Health Organisation strongly advises a 'total intake study' before the introduction of fluoridation.
- g. The drug has not undergone testing procedures that are now legally required to ensure the safety of *any* new drug before it's use.
- h. The dose of the drug is determined by how much tap water the patient drinks (i.e. *the patient's thirst*), and not by a competent physician on a case by case basis.
- i. The drug is administered compulsorily (even against the will of the patient).
- j. The majority of patients treated are over 12 years of age. Accordingly, their teeth have developed and can have no benefit from the treatment (notwithstanding unsubstantiated claims that teeth are 'remineralised' by the fluoride in the water 'washing over the teeth').

Does it require a medical or a law degree to realise that it might be a dangerous practice to add a highly toxic chemical to the drinking water of an entire community for a claimed benefit that is, according to most proponents, is limited to children under 12 years of age?

Extensive evidence presented to the ACT Inquiry clearly established that many adverse health effects occur in communities fluoridated at the 'recommended' rate of 1 ppm. Health dangers were shown to greatly increase with the ingestion of still higher levels of fluoride from other sources.

People in Australia commonly ingest fluoride from many sources other than drinking water.

Water, food and air are three major sources of fluorides. The contribution of each may vary from person to person depending on weather and climatic conditions. The last point is particularly important.

### ***"Fluoride in the air"***

*Fluoride emissions into the atmosphere are as a rule related to certain types of industrial activities. In the United States, in 1970, annual fluoride emissions into the atmosphere by industry were estimated at some 120,000 tons. It is believed that this figure has doubled during the 1971 - 1980 period despite the fact that 90 percent of all emissions are intercepted at source by various [pollution control] devices.*

### ***Fluoride intake from water***

*Following an exhaustive review of literature on the subject, Groth estimated that adults consume between one and five litres of water daily while children drink from 200 to 500 ml. He pointed out that heavy tea drinkers may ingest between 2 and 3 mg/day of fluorides from this source also. In beer drinkers, the fluoride quantities ingested vary greatly from one individual to another and can exceed 6 mg per day. (\*19)*

### ***Fluoride intake from food***

*As a rule, all foods contain a certain amount of fluoride. (12) For example, beets contain 17.70 ppm dry base, celery 6.29 ppm, spinach 1.11 ppm, salmon 19.3 ppm, etc.*

*Fluoride pesticides, phosphate fertilizers and water used for irrigation and washing, all increase the above fluoride quantities.*

*A study carried out in Japan in 1967 revealed that the fluoride content of vegetables had increased considerably between 1958 and 1965. This rise was attributed to the use of phosphate fertilizers containing ... fluorides. They reported that the fluoride content of chinese cabbage had increased from 0.87 to 2.01 ppm, cucumber 0.34 to 5.04 ppm, spinach 1.97 to 13.31 ppm and green tea 88.75 to 599.50 ppm.*

*Martin (21) showed that when foods are cooked in water containing 1 ppm (part per million) of fluoride, their fluoride content is increased three to five times. This demonstrated the multiplier effect of water fluoridation.*

*The results obtained by Marier and Rose (19) complement the work of Hodge and Smith (22) on fluoride intakes from food and water. Their work enables one to predict that an adult exposed to water containing 1 ppm of fluoride will consume on the average between 2 and 5 mg of fluoride from food only. (20)"*

Bundock, Graham and Morin, 'Fluorides, water fluoridation and environmental quality', *Science and Public Policy (Journal)*, June, 1982, p 133.

\* Refs 12, 19, 20, 21, & 22 are given in the original paper (*Submission*).

### **Fluorides from Many Sources**

It would seem clear that the individual dose of fluoride depends not only on the concentration in the water, but also on how much water (*and tea, beer, soft drink, reconstituted fruit juice, etc., all of which also contain fluoride*) people drink, and on how much food they eat that is either grown in a fluoride-laden environment, or processed with fluoridated water. To this we must add the following sources:

*"In heavily fluoridated countries such as Australia, it is not uncommon for children to receive fluoride not only directly and indirectly from the water supply and from natural sources, but also from atmospheric pollution, fluoride tablets, toothpaste, mouthrinses and gels (about 1 per cent fluoride). In our experience, when medical and dental authorities campaign for the fluoridation of a town water supply in Australia, they make no serious attempt to assess the total fluoride intake which citizens may already be receiving."*

Diesendorf M., Sutton P., Fluoride: New Grounds for Concern, *The Ecologist*, Vol 10, No 6, 1986, p 239.

### **Some Drink Ten to Twenty Times as Much Water**

Concern for this health threat was also expressed by South African Emeritus Professor of Pharmacology, D.G. Steyn:

*"From the medical point of view the most dangerous aspect of drinking artificially fluoridated water is the fact that some individuals may, and will, drink 10 to 20 times more water than others, with a grave risk of being poisoned."*

Douw G. Steyn, Emeritus Professor of Pharmacology, B.Sc., Dr Med. Vet. (Vienna), D.V.Sc., (Pta), D.V.Sc., (Vienna), h.c., D.V.S., (Pta) h.c., *Paper*, National Symposium on Water Fluoridation arranged by the South African Department of Health, 3-10-79, Pretoria, S.A.

## W.H.O. Recommends Total Intake Study Before Artificial Fluoridation

At the World Health Assembly held in the United States on 23rd July, 1969, a World Health Organisation Resolution on Fluoridation and Dental Health was adopted. In part it stated:

*"Recommends member States [countries] to examine the possibility of introducing, and where possible introduce, fluoridation of those community water supplies where the fluoride intake from water and other sources for the given population is below the optimal levels." [my emphasis]*

*Poison on Tap*, p 89.

To discover how much fluoride is being ingested from "other sources", a thorough study would need to be done. Millions of Australians have been compelled to ingest fluoride in their drinking water for up to 25 years.

To me it seems common sense that there should be a *total fluoride intake* study of artificially fluoridated areas in Australia. It must be said, in fairness that this matter has been previously brought up in official Inquiries and has been brought to the attention of the public who are compelled to drink the fluoridated water. At these times, the N.H. & M.R.C. and the A.D.A. have been consistent in showing concern for just how much fluoride people are ingesting and have also recommended that such a study or studies should be undertaken.

They have been making recommendations of this type, from time to time, for decades.

Not a single such study has in fact ever been attempted in Australia.

## CANCER

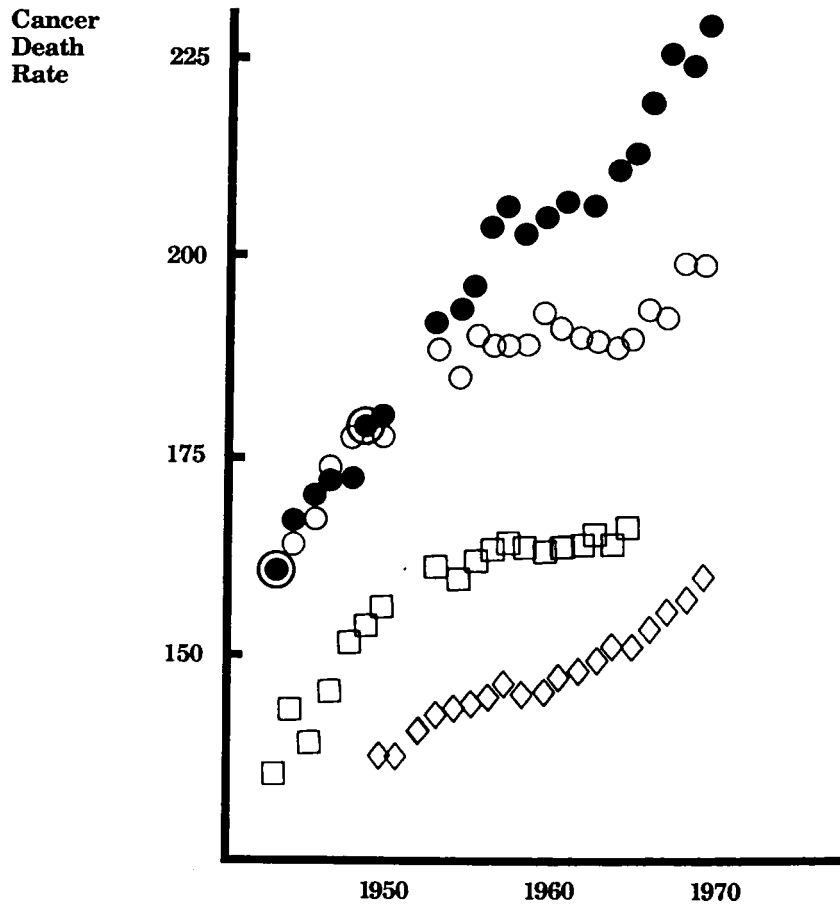
*"Everything causes cancer? Perhaps. Conceivably, even a single electron at the other side of the universe. The real question is, how likely is any one particular cause? In point of fact, fluoride causes more human cancer death, and causes it faster, than any other chemical."*

Dr Dean Burk, Chief Chemist, co-founder of United States National Cancer Institute.  
*Fluoride the Aging factor*, 1986, p 63.

In 1975, Drs Dean Burk and John Yiamouyiannis published studies (*Proceedings of the Pennsylvania Acad. of Sciences*, Vol 61, No 2, 1987.) showing an increase in cancer death rates could be observed among human populations after fluoridation of their water supplies.

The following details of this study are drawn from Dr Yiamouyiannis' book, *"Fluoride - the Aging Factor"* unless otherwise attributed.

They compared the cancer death rate of the ten largest *fluoridated* cities with the cancer death rate of the ten largest *nonfluoridated* cities that had comparable cancer death rates from 1940 to 1950, a period of time during which neither group of cities was fluoridated.



The vertical axis represents cancer death rate in terms of deaths per 100,000 population. The horizontal axis represents years from 1944 through 1970. The solid dots represent the year-by-year average cancer death rates of the ten largest cities fluoridated before 1957. The open circles represent the year-by-year average cancer death rates of the 10 largest nonfluoridated cities with comparable cancer death rates during the prefluoridation period (1940-1950) which had not fluoridated before 1969. The open squares represent the year-by-year average cancer death rates of the 10 largest cities not fluoridated before 1957. The open diamonds represent the year-by-year average cancer death rates of the United States. Fluoridation of the cities represented by solid dots began between 1952 and 1956. The data were obtained from standard government sources of vital statistics and census figures. (Data, other than national data, were not available for 1951 and 1952.) Since some of the cities in the nonfluoridated group represented by open squares were fluoridated in 1965, data for these cities as representative of nonfluoridated cities was only recorded through 1964.

### **Fluoridated Cities**

Chicago  
Philadelphia  
Baltimore  
Cleveland  
Washington  
Milwaukee  
St. Louis  
San Francisco  
Pittsburgh  
Buffalo

### **Nonfluoridated Cities**

Los Angeles  
Boston  
New Orleans  
Seattle  
Cincinnati  
Atlanta  
Kansas City  
Columbus  
Newark  
Portland

The graph shows that cancer deaths were the same in the twenty cities before fluoridation from 1940 to 1950. After ten cities were artificially fluoridated, one sees that there are many more cancer deaths in the fluoridated cities than there are in the unfluoridated cities. Proponents of fluoridation would claim that despite such observations, it should not necessarily be concluded that there is a connection between the presence of fluoride in water and the incidence of cancer. In this they may be correct. It is historically lamentable to many persons on both sides of this debate that precision and meticulous attention to the basic assumptions are often lacking in the arguments.

### **Data withheld by Authorities**

Dr Yiamouyiannis was frequently hindered in his attempts to obtain this and other data from the United States authorities. Unfortunately, he was not allowed access to data which he needed to carry out his research to determine if there was a health risk from fluoridation. One such example concerned a request for cancer mortality rates. On 3rd May, 1977, Dr James A. Peters, Director of the Division of Cancer Cause and Prevention of the National Cancer Institute (NCI), replied to the request by Dr Yiamouyiannis. He informed Dr Yiamouyiannis that the requested data was "*not readily available at NCI*". It was later admitted before the 1977 U.S. Congressional Hearing on Fluoride, that, at the very time he denied it, Dr Peters had the requested information before him.

### **The 'Age-sex-race' controversy**

In 1976, the Burk and Yiamouyiannis figures were checked and confirmed by the U.S. National Cancer Institute. However, some officials in the NCI claimed that the increases in cancer deaths were due to changes in the age, sex, and racial composition of these cities, and that Burk and Yiamouyiannis hadn't taken these factors into account.

Certainly, they were important factors and needed to be taken into account; without this the study would lose its value.

My own view of the nature of the fight against the compulsory ingestion of the fluoride drug is basically one of State authority versus citizens' rights, many community groups opposed to fluoridation have been formed and have become

Nambucca Valley Association which, in their submission, gave details of studies done by Burk and Yiamouyiannis and another by Mohamed:

*"Dr Burk and Dr Yiamouyiannis present one of the largest and most sophisticated epidemiological studies in modern science, covering the cancer-fluoridation experience, derived from official government statistics, of 18 million Americans over 30 years [duration]. There were controls for known and unknown variables including geographic and environmental factors, double-blind design to avoid bias, and an objective and manageable index (vis cancer deaths) for the time trend studies, together with adjustments for age, race and sex by direct and indirect methods.*

*It is revealed that at least 10,000 more persons die of cancer each year in the U.S.A. due to fluoride ingestion. [my emphasis]*

*Professor Ali Mohamed, of the University of Missouri, a noted cytogeneticist [a specialist in the branch of biology dealing with the relation of cells to heredity and variation], did a series of experiments which showed the capacity of fluoride, even at low concentrations, to induce or accelerate genetic damage, tumors and cancer in experimental animals, plants and insects under controlled laboratory conditions."*

The Nambucca Valley Association - *Submission*, 25-2-90.

### **Claims that Cancer Research Not Valid**

*"Both these scientists (Burk & Yiamouyiannis) were slandered in what can only be seen as an attempt to discredit their work.*

*Professor L. Kinlen, Regus Professor of Medicine, Oxford University said, 'they [Burk and Yiamouyiannis] failed to take into account differences in age, race and sex, and used misleading and unwise calculations and experiments.'*

*What Kinlen didn't say was that one year earlier he attended [as a witness for proponents of fluoridation] the Pittsburgh [U.S.A.] Court case where it was proven that Burk and Yiamouyiannis HAD adjusted for age, race and sex. This was also evidenced [later] in three other important court cases [Illinois, Houston and Edinburgh, all in 1982] Kinlen admitted under cross-examination that his own research, used world-wide to show no harm from fluoride, actually showed a five per cent increase in cancer incidence in fluoridated areas."*

Stevenson D., Fl. Panacea or Poison?, *Simply Living*, (1988), Vol 3, No 6, p 105.

### **Evidence of Professor Kinlen**

The following excerpts are from the testimony of Professor Leo Kinlen of the Royal College of Physicians and Oxford University, given on 11th May, 1978, as quoted in *Poison on Tap* Discussing his paper "Cancer Incidence in Relation to Fluoride Level in Water Supplies" (p 10), Dr Kinlen testified on oath:



**“Question to Kinlen:** *And what was the finding or the ultimate result of that Study?*

**Answer by Kinlen:** *We could find no relationship between cancer incidence and fluoride level....*

**Question:** *No evidence. Could you testify as an expert epidemiologist based on your 1975 Study that your Reports showed an association between the fluoridation in water and cancer?*

**Answer:** *There was no association.*

**Question:** *Was there anything else significant about that particular 1975 Study?*

**Answer:** *No, it was entirely negative.*

Later on in the cross examination (p 35, *Court Transcript*), Attorney Graham asked Dr Kinlen:

*And so the figure that we derived from the left-hand column, representing the fluoridated areas is 1.03 and the figure that we derived from the right-hand column is reflecting the non-fluoridated areas 0.98.*

*And there is a difference of .05 between the two, or approximately five percentage points. Is that correct?*

**Answer by Kinlen:** *Yes.*

**Question:** *And does not that indicate then, that for the sites actually included in table 2, the fluoridated areas appeared to have five percent higher cancer incidence rates than the non-fluoridated areas?*

**Answer by Kinlen:** *Yes.”*

### **Courts Most Successful in Revealing Truth**

Opponents to artificial fluoridation have succeeded in many cases that were taken before the courts. In the 1977 Pennsylvania Supreme Court, an injunction was won to prevent fluoridation proceeding. In the 1983 Edinburgh Court, the case was won when it was ruled by Judge Jauncy that fluoridation was illegal in Scotland. In the 1982 Illinois (U.S.) Court case, it was won when the Judge ruled against fluoridation.

Details of the Pennsylvania and Edinburgh cases are given elsewhere in this Dissenting Report. In the Illinois case, Judge Ronald Niemann said:

*“We are taking a harder look at the toxic chemicals that we have allowed ... [to be] placed in our hands; like-wise a hard look is required at those toxins we take into our bodies. The Court is not satisfied, on the record in this case, that the state has taken a hard enough look at the long term*

*effects on humans of artificial fluoridation when added to the Public Water Supply."*

*The Australian Fluoridation News*, July-August, 1982, Vol 17, No 7, p 3.

The advantage of court hearings is the principle of an unbiased judiciary, independent from Government or other influence. The other main advantage, is that the witness, while under oath, can be asked quite detailed and pointed questions.

### **People's Safety Foremost**

In his summation of the scientific evidence presented to the Pennsylvania Court, Attorney John Graham said:

*"The great James Otis, whom we remember as the father of the constitutional guarantee against unreasonable searches and seizures, gave us also a remarkable maxim of equity of particular relevance in this case. The words attributed to him are "the safety of the people is the law of God."*

Part of the Attorney's summation with reference to Professor Leo Kinlen, reads as follows:

*"The next witness, in logical order, who sought to impeach [to cast doubt on] the work of Drs Burk and Yiamouyiannis, was Dr Leo Kinlen of Oxford University in England. ... Dr Kinlen acknowledged that his Table 1 was a static comparison, not involving artificial fluoridation, therefore making it impossible to determine what happened before and after the introduction of fluoride; moreover, he used much smaller population groups than those represented by the Basic Curve. ... Dr Kinlen was also forced to concede that his Table 11 showed a 5% excess of cancer incidence in fluoridated over non-fluoridated areas for the sites considered, a rate comparable to what Drs Burk and Yiamouyiannis found in their 1977 study. ... And while critical of Drs Burk and Yiamouyiannis for supposedly not adjusting properly for demographic variables, Dr Kinlen had to admit that his Table 111 ... compared crude cancer incidence rates, **not adjusted for age, race, and sex.**" [my emphasis]*

### **Dr Kinlen's 1975 Paper**

A few pertinent facts about Kinlen's paper:

*"In his paper dated 1975 he used cancer incidence, not cancer death figures.*

*No age adjustment was made.*

*His data was abstracted [summarized] between 1961 and 1968.*

*Birmingham [however] was fluoridated in 1964.*

*All his evidence, therefore, relates to a period of only four years.*

*No time-trend studies were done.*

*He has claimed there was no evidence of any increased cancer in fluoridated Birmingham, and yet under oath he admitted that the latency period [period elapsing between original infection and observed disease] of a person exposed to a cancer causing agent was "something like ten to twenty years normal" and "could be up to forty years".*

*Kinlen used a four year Study claiming that there was no detectable cancer increase in Birmingham, but the claims cannot be scientifically acceptable, and of course they made no impact on the Pittsburgh Court. In contrast, the Burk and Yiamouyiannis' Study covered the cancer-fluoridation experience of 18 million Americans over thirty years.*

*Dr Schneiderman and Dr Taves, both major defence witnesses, conceded that the figures used by Burk and Yiamouyiannis are correct. Hence the question is not whether their data (obtained from official reports) is accurate, that point is undisputed, but how the data should be interpreted. Was fluoridation a factor in causing these increased cancer deaths?"*

*Poison on Tap, pp 63-64.*

### **Occam's Razor**

When giving evidence on this data, which proponents had admitted was correct, Dr Burk said:

*"There is a principle in science known as Occam's Razor. Now he lived at the time of Chaucer in 1400, and this principle is almost as well known and important as Newton's Law of Gravity. It says that if you are trying to assess cause and effect, you must take the most probable cause as the first best judgement. Now if someone else thinks that there is some better cause, it is up to him not only to say what he thinks, but to show that it is. He's got to show that it's better than the first cause. So here we have in our opinion an almost self evident demonstration that fluoridation is causing a tremendous increase in cancer death rates [the fact that no one has been able to come up with an alternative suggestion has been confirmatory]."*

*Poison on Tap, p 64.*

*In the official transcript ... the experts opposing the Burk/Yiamouyiannis study attacked its methodology and conclusions. The judge listened to a careful and thorough refutation by the pro-fluoridation scientists and concluded that, "Point by point, every criticism defendants made of the [Burk & Yiamouyiannis] study was met and explained by the plaintiffs. Often, the point was turned around against defendants. In short, this court was compellingly convinced of the evidence in favor of plaintiffs."*

Mendelsohn R.S., *The People's Doctor* Newsletter, Vol 2, No 9, p 3.

In the Pittsburgh case [A more complete analysis of this case is listed under "Court Cases"], it is not surprising, in light of the evidence, that Judge John P. Flaherty, ordered a halt to the addition of fluoride to the water supply of 27 Pittsburgh suburbs.

*"In Australia, the A.M.A. and the A.D.A., the N.H. & M.R.C. and other consumer organisations persist with the statement that, "They [Burk and Yiamouyiannis] did not adjust their findings for age, race and sex."*

Stevenson D., *Simply Living*, pp 102-105.

### **Australian Medical Association Misleads Media**

In a Media Release of 26th June, 1979 by Dr Michael Henderson, D/Secretary General of the A.M.A., the Doctor wrote, in commenting about the cancer studies of Drs Burk and Yiamouyiannis:

*"Yiamouyiannis has failed to take proper account of existing differences in age, sex and race between the American cities he has studies. When these differences are taken into account, the apparent excess of cancer rates in fluoridated cities disappear."*

### **Australian Dental Association Misleads Victorian Inquiry**

In their submission to the Victorian Inquiry, Cancer and Fluoridation, the A.D.A. stated:

*"The general criticism was that Burk and Yiamouyiannis dealt basically in crude cancer statistics, and did not take into account many factors related to cancer mortality, such as age, sex, race, degree of industrialization, socio-economic status, geographic location."*

A.D.A., *Submission*, to Vic Inquiry, 1979.

### **National Health & Medical Research Council Misleads Victorian Inquiry**

In their submission to the Victorian Inquiry, the N.H. & M.R.C., stated:

*"By far the most important of the criticisms of Yiamouyiannis and Burk (1977) is of the inadequacies of the procedures ... and [they] did not allow at all for race and sex."*

N.H. & M.R.C., *Submission*, to Vic Inquiry, 1979.

I find it somewhat of a condemnation of our governments who support fluoridation, that the co-operation to continue and expand this practice, against what appears to be compelling evidence of adverse effects, runs so deep. It seems that some senior people in the A.M.A. and the A.D.A. have unfairly denigrated other scientists, and have failed to release studies by responsible scientists, suggesting that fluoridation increases the incidence of cancer. In spite of this no effective action has been taken by our parliamentary

representatives, the people most responsible to uphold the law and safeguard the health and rights of the population, to correct these quite serious concerns.

It seems that the great majority of health workers in Australia, who are sincere, dedicated and caring individuals, have been let down by the few.

### **10,000 Deaths in America Every Year**

After 20-25 years of fluoride experimentation on the U.S. population, artificial fluoridation was shown to be a possible major and direct cause of over 10,000 cancer deaths in America every year.

As a result of the evidence presented by Drs Burk and Yiamouyiannis who insist on the fluoride link to cancer, the United States Congress, in 1977, called a Congressional Inquiry into the fluoride-cancer link.

Thus began a remarkable series of events.

### **Fluoridation Claimed as Safe - But No Tests Done**

*'NCI's Frank Rauscher was quoted [at the Congressional Inquiry] as indicating that while the U.S. Public Health Service, of which NCI is a part, has endorsed fluoridation for over 25 years ... the NCI [National Cancer Institute] had never conducted any study concerning the carcinogenicity [ability to cause cancer] of fluoride'.*

*U.S. Congressional Committee into Fluoridation, P 13 (of the 580 page) Report, 1977.*

Under strong pressure from the Congressional Committee, the NCI *reluctantly* agreed to conduct an immediate fluoride-cancer animal study, though its Deputy Director, Guy Newell admitted:

*"... given less pressure we probably still would not do it."*

*U.S. Congressional Committee Report, 1977, p 244.*

### **How Cancer Trials are Conducted**

It should be noted that the standard scientific procedure for establishing the carcinogenicity of a chemical is done by administering the chemical to animals in higher than normal amounts. Because many studies have shown that fluoride is harmful, some proponents have attempted to disguise and downplay the importance of such results by claiming tests used "high levels of fluoride". This plays on the fact that most of us don't understand that this is the standard way for testing the carcinogenicity of drugs. An example of normal doses used was given by Dr Newell of the National Cancer Institute when he said:

*'We plan to use higher levels of fluoride. We plan to use 50 ppm in one dose and 25 ppm in another dose. We probably will use two species of animals like \*rats and mice.'*

**Transcript**, Congress., Inq. NCI & Fluoridation, 1977, p 244.

\* It is interesting to note that rats and mice are different species of animals.

The **U.S. Federal Register** gives the proposed rules for such studies:

*"Human epidemiology [dealing with the causes, spread and control of diseases] data are extremely limited in their ability to identify carcinogenic [cancer-causing] risks. Thus, animal experiments are conducted from which potential human risk is extrapolated [to take known facts and predict what is not yet known]. In the first volume of Drinking Water and Health, the NAS [National Academy of Sciences] Safe Drinking Water Committee provided principles to serve as guidance to EPA [U.S. Environmental Protection Agency] when assessing the irreversible effects.*

**Principle 1:** *Effects in animals, properly qualified, are applicable to man.*

**Principle 3:** *The exposure of experimental animals to toxic agents in high doses is a necessary and valid method of discovering possible carcinogenic hazards in man.*

**U.S. Federal Register**, Vol 48, No 194, 5-10-83, Proposed Rules.

If the chemical is shown to cause cancer, obviously it is banned. It is unfair to suggest that studies showing a fluoride-cancer connection are invalid because high levels of fluoride are used - when this is standard procedure.

The question could be asked of the NCI, the authority responsible for the testing, *"Given its long-time support for, and commitment to artificial fluoridation, could the National Cancer Institute, under the control of the U.S. Public Health Service (P.H.S.), firstly, conduct a fair trial and secondly, be relied upon to correctly report the results?"*

The author of **Poison on Tap**, Glen Walker gives his assessment (p 37):

*"Only last year, the U.S. National Cancer Institute, which has been endorsing fluoridation as safe for forty years, started tests to determine whether or not fluorides can cause cancer. No doubt they hope to prove in retrospect that their forty years endorsement of its safety was justified."*

### **Cancer Tests in 'Disarray'**

The NCI had made a commitment, in 1977, to immediately begin a three-year fluoride/cancer animal study and report the results to Congress. That study was not completed until 13 years later, in 1990! This was after statements in Congress that earlier attempts were in 'disarray'. In view of subsequent attempts to diminish fluoride dangers that were revealed in the study that was

reported, it has been said that one can surmise just what earlier attempted studies may have disclosed during the prior 13 years, and why they were thus, in disarray.

Though this delay of over a decade by the NCI was irresponsible, perhaps the comment by Glen Walker, Chairman of the Freedom from Fluoridation Federation of Australia, was correct when he wrote, "*The animals were lucky.*"

The actual cancer/fluoride/animal study that was finally reported, was undertaken on behalf of the Government and NCI by the National Toxicology Project (NTP).

The warning bells began to ring in August, 1989, when a memo from the office of Michael Cook, the chief drinking water official at the U.S. Environmental Protection Agency, concerning the NTP animal/fluoride/cancer study, noted:

*"Very preliminary data ... indicate that fluoride may be a carcinogen."*

'The Fluoride Debate: One More Time', *Science*, Vol 247, p 276.

If a U.S. government study were to show that fluoride might cause cancer, this would be devastating for the many who profit from artificial fluoridation. John Sullivan, deputy director of the American Water Works Association (AWWA), said:

*"If fluoride turns out to be a carcinogen, it will be the environmental story of the century."*

*Medical Tribune*, Vol 30, No 31, Thursday, 28-12-89.

Director Sullivan later added:

*"The toothpaste industry [using fluoride to enormously increase the sales of toothpaste] would go crazy."*

*Science*, 19-1-90, Vol 247.

### **Equivocal Evidence of Carcinogenic Activity**

In an announcement on 26th April, 1990, the results of these studies were said to show: '*equivocal evidence of carcinogenic activity*' (*Science* Vol 247, p 276). While it was admitted that cancers had developed in rats drinking fluoridated water, it was claimed that mice had remained cancer-free. No cancers occurred however, in either rats or mice drinking **unfluoridated** water. (Data from the 'National Toxicology Program Report on Sodium Fluoride Study'. NTP TR 393 NIH Publication No 90-2848, 26-3-90.)

The use of the term '*equivocal*' [uncertain] did nothing to allay the concerns of those scientists and others who do not support compulsory artificial fluoridation. They feel that any uncertainty about the safety of fluoride should

result in a suspension of fluoridation, with no continuation until, and unless, fluoridation can be shown to be absolutely safe.

As soon as the report findings were announced, an independent scientific Committee was appointed by the Department of Health and Human Services to investigate the NTP data of a cancer/fluoride link - and report in June, 1990.

To this date, that report has not been concluded. There will no doubt be many people who are eager to obtain this new evaluation.

U.S., Dept. Health & Human Services, Letter, 20-6-90.

### **Cancer Findings Suppressed**

Then a report in the leading medical journal, *The Lancet* on 22nd September, 1990 revealed the cover-up:

*"On the 28th August, 1990 Dr William L. Marcus, chief toxicologist for the U.S. Environmental Protection Agency's drinking water programme, claimed that the original findings of the NTP study showed the cancer hazard from fluoridated drinking water to be greater than the NTP was telling the public."*

*The Lancet*, Vol 336, p 737.

*"The reviewers were not given all the data" Marcus said ...*

Marcus [also] said the H.H.S. (Health and Human Services Department) NTP Program consistently downgraded researchers initial judgements about lesions [abnormal changes in the structure of an organ or tissue] and tumors seen in rodents given high doses of fluoride.

*[Marcus was vindicated when] Dr David Rall, director of the NTP, conceded ... that researchers had initially identified more tumors among the test rodents receiving more fluoride. But he said it was routine in such studies for reviewing scientists to downgrade such judgements later. [This is reminiscent of the Hastings, N.Z. study where examiners were instructed that caries (holes) that they had earlier recorded as caries, were no longer to be recorded as caries.] [my emphasis]*

*Mike Cook, head of the EPA's office of drinking water, agreed that 'fluoride is not [Marcus'] assignment right now.' Science & Health .*

Dr Marcus, in a memorandum to his Director, Margaret Stasikowski, of 24th Sept, 1990, courageously stated that he would continue to provide toxicity information on fluoride to the U.S. EPA, despite pressure not to. He added:

*"Your request that I no longer perform the service for which I am paid is unthinkable."*



*Robert Carton, a U.S. EPA environmental scientist ... accused his agency of 'torquing, twisting data ... for a political end point', because of the Federal government's commitment to drinking water fluoridation to reduce cavities."*

This was extraordinary in itself, but was closely followed by corroborating evidence from a leading European scientist, trained in statistics, Physicist R. Ziegelbecker from the Institute of Environmental Research, Graz, Austria. Ziegelbecker, who has had over 80 papers on fluoridation published in leading scientific journals, did an independent analysis of the NTP data and found *clear evidence of cancer in mice* as well as rats. (Ziegelbecker R., *'Fluoridation: Clear Evidence Of Carcinogenic Activity In Female Mice'*, 28-5-90. All Organs: Malignant Lymphoma and Histiocytic Sarcoma and also Malignant Tumors.)

This came as a further revelation, because the U.S. Assistant Secretary for Health, James O. Mason, a strong proponent of fluoridation, had earlier claimed just the opposite - that the NTP study had shown *'no evidence of carcinogenic activity'* in mice.

#### **Doctors Sue American Dental Association**

The suppression of vital evidence of the harmful effects of artificial fluoridation has had wide implications.

In September, 1990, 40 U.S. dentists instituted legal action in the United States District Court, Northern District of Ohio, against the American Dental Association. The dentists, all professional members, say their association breached its contract with them to provide accurate data on dental practices, including the addition of fluoride to drinking water and other serious health concerns arising from the use of dental amalgam.

This class action charges that the American Dental Association fraudulently misrepresented that fluoridation was safe when many studies have shown that artificial fluoridation causes cancer. It further charged that virtually all recent large-scale studies on fluoridation and tooth decay have shown that there has been no statistically significant reduction in decay rates of permanent teeth as a result of fluoridation and that the American Dental Association's claims to the contrary were false.

#### **Legal Action To Require Dental Association to Tell Truth About Fluoridation**

The lawsuit seeks unspecified monetary damages as well as an injunction stopping the Association from disseminating the same misinformation, and a Court order requiring the Association to admit and to correct its wrongdoings.

#### **Fluoride/Cancer Link Established Since 1965**

Submissions presented to the ACT Inquiry showed that evidence of a cancer/fluoride link has existed for decades, but has been ignored by health authorities in Australia and the U.S. As far back as 1965, studies by Professor

A. Taylor determined a connection between fluoridated drinking water at 1 ppm and a shortened life-span in test animals:

*"My contact with fluoridation came about as a result of cancer research. In one project, various chemicals were added to the drinking water of mice susceptible to cancer in order to check the possibility that some compounds might delay the onset of the disease or prevent it altogether. Among the chemicals used in this research was sodium fluoride. In the first two preliminary tests, the results obtained indicated that mice drinking fluoridated water tended to develop cancer at an earlier age as compared with control animals maintained on fluoride-free water. These earlier tests were followed by further investigations so that altogether twelve experiments involving 645 mice were used in this research. The data indicated that drinking water with as little as 1 ppm shortened the life span of mice an average of 9 per cent. This was true whether death was due to cancer or non-cancerous diseases (Dental Digest, Vol 60, p 170, 1954).*

*The only notice proponents of fluoridation gave to this work was to discredit it as much as possible. To this day, dental offices are supplied with material which is concerned only with the two preliminary tests involving about forty mice. The ten additional experiments [involving 991 mice in 55 tests. Proceedings of Soc. for Experimental Biology and Med., 1965] are ignored.*

*Recently, another series of investigations on the biological [of plant and animal life] effects of sodium fluoride have been carried out in my laboratory. In the course of these studies it has been discovered that very low levels of sodium fluoride accelerate the growth of cancer tissue as grown in mice or embryonated [containing an embryo] eggs."*

Taylor A., Fluoride - Cancer Research, *Saturday Review*, N.Y., 2-10-65.

In the science journal, *The Ecologist*, the results of a major study that showed DNA damage were reported:

*"In 1981, research by John Emsley and his team at King's College, London, reported in New Scientist of January, 22, 1981, revealed that they had found a mechanism at the molecular level whereby the allegedly 'chemical inert' fluoride ion could disrupt enzymes and DNA. It could thus be "responsible for the serious charges being laid at fluoride's door: genetic damage, birth defects, cancer and allergy".*

*Later, in 1981, two Soviet researchers provided independent support for the validity of John Emsley's findings. In the October issue of Fluoride, they reported fluoride interference with RNA (a close relation of DNA).*

*"In 1982, Japanese researchers at the Nippon Dental College, Tokyo, provided still more independent support for John Emsley's findings. In The Japan Times of August 24, they reported studies showing that fluoride, as used in topical [limited or applied to a certain spot or part of the body] applications to teeth, induced genetic damage and irregular synthesis [the formation of a complex substance by the union of various*

*elements] of DNA in mammalian cells. (Paper presented to the meeting of The Japanese Society for Cancer Research, on August 23, 1982.)"*

Grant D., Fluoride - The Poison in our Midst, *The Ecologist*, Vol 16, No 6, 1986, p 250.

In calling for a two-year moratorium (suspension) on fluoridation, the Michigan State government's Select Committee on Water Fluoridation, revealed concern over higher cancer deaths in the artificially fluoridated city of Grand Rapids, U.S.A. They reported to Parliament:

*"Another phase that requires study is that of mortality statistics in cities with fluoride in the water and those without. Ten year figures show higher rates in fluoridated Grand Rapids than in unfluoridated Flint. Grand Rapids figures are also much higher than the state average and show an unfavorable trend."*

State of Michigan, No 67, *Journal of House of Reps.*, 24-4-64. p 1582.

### **Research data Manipulated - Cancer Proof Concealed**

One can spend much time studying columns of figures without a full understanding of what they show. The following evidence given to the ACT Inquiry by Dr Colquhoun gives an in-depth explanation of a major study which has been used the world-over to support artificial fluoridation. It is one of many examples of how statistical studies have been manipulated to hide the health hazards of fluoridation. Dr Colquhoun, who had earlier been the leading proponent of fluoridation in New Zealand explains:

*"... I had a look at the paper by Erickson and this was one of the biggest studies of cancer rates ever done. And it was done, of course, to debunk Burk and Yiamouyiannis ... he looked at 46, I think it was, fluoridated and unfluoridated cities of America of similar size, and in big type at the beginning of the article it tells you that the study showed there was no difference [in cancer deaths].*

*But then if you read through the study and look at the data, which is what I did, I found he had three columns. He had a column of the differences of every disease, including cancer, in the fluoridated cities, [and] the unfluoridated cities. Every disease, which is called the raw data, was the first-off measurement ... The diseases were of higher prevalence in the fluoridated cities compared to the unfluoridated cities ... then he applied the standard tests.*

*That is, they [Erickson and fellow researchers] argued that because the fluoridated cities had more black people and the average age was older ... they applied tests to allow for age, sex and race ... because black people for some reason have more cancer than others ... so they weight the statistics to allow for that.*

*What weighting means is just, you multiply by some decided upon figure less than one ... and that reduces all the rates. ... Now, what Erickson did in his second column ... after he applied all these standard tests ... cancer deaths were still higher in the fluoridated cities than in*

***the unfluoridated ones*** - and this was using a much larger number of cities than all the other studies have done. [my emphasis]

So then you read the text and he says, "I therefore decided" and he has got a third column, you see, "I therefore decided to look at factors which may plausibly account for the higher cancer death rates." And he listed a whole lot, and the two he chose to weigh for were average length of time of education and density of population in each of the two cities. Now, in actual fact there is ***no study [that has] been published anywhere in the world that shows a correlation between cancer rate and length of education, and none in the world has shown a correlation between cancer and density of population.*** [my emphasis]

So therefore, he proceeded to weigh against a suitable figure less than one to multiply, and in his third column the higher cancer death rates had disappeared! Now, ask yourself. I doubt very much really whether black people do, because of any genetic [pre-disposition], have more death rates. ...

So really, it is a socio-economic thing. We also know that black people in America, [are] not only in the lower socio-economic group, they [also] live in places where there is a higher density of population, and they tend to have lower lengths of education. So what Erickson was doing was multiplying twice over for the same factor to make his cancer death rates disappear. I have now proceeded to go through all the cancer studies, and I am finding similar sorts of hokery-pokery, statistical manipulation to get the results you want to get."

Dr Colquhoun, *Submission*, 17-5-90, pp 451-453.

It would seem that the remark by Mark Twain, "There are lies, damn lies and statistics" could well relate to some of the studies of artificial fluoridation.

### **Proof of a cancer-fluoridation link**

The question that is raised as a result of increase in cancer in people living in areas where drinking water is artificially fluoridated is: "*Do fluorides act on the body, and if so, in what way do they act?*"?"

The following illustration of how the body works at a cellular level is drawn from '***Fluoride: the Aging Factor***' by Dr John Yiamouyiannis. Exact quotes from the book are in *italics*.

All animals, including humans, are made up of cells. Cells contain DNA, which is the body's master blueprint material that determines how the body is built. DNA specifies characteristics such as height, hair texture and colour, the number of fingers on each hand, blood type, and through certain processes, the susceptibility of the individual to various diseases.

There are a number of ways in which the body protects DNA. One is by the cell providing a group of enzymes called the *DNA repair system* which repairs DNA when it is damaged. As people age, their DNA repair enzyme system slows down and DNA damage can go unrepaired. This leads to cells being

damaged or dying. Damaged or dead cells may then put out products which in turn damage other cells, leading eventually to increasing cell death and the degenerative loss of various tissues and organs in a snowballing cycle of aging = damage = aging, etc.

### **Fluoride Inhibits DNA Repair Activity**

*"Serious consequences can also arise if the unrepaired DNA damage occurs in a cell which gives rise to a sperm or egg cell. In these cases, DNA damage in the defective egg or sperm cell will be replicated [copied] in every cell of the offspring's body and will lead to a birth defect. If the child with this birth defect survives to maturity and reproduces, this genetic deformity will be passed on from generation to generation. A decline in DNA repair activity with "age" is one of the reasons why the number of birth defects increases as maternal [of a mother] age increases.*

*Unrepaired damage of a segment of the DNA responsible for control of cell growth (brought about by a deficient DNA repair enzyme system) can lead to uncontrolled cell growth or tumors. Many tumors stop growing when they are contained by the cells around them. However, in some cases, tumor cells may release an enzyme, or may be induced by additional genetic damage to release an enzyme, which digests the surrounding cells. The result is an invasive or malignant tumor and is more commonly referred to as cancer.*

*A decline in DNA repair activity with "age" is one of the primary reasons why the incidence of cancer among older people is so much higher than the cancer incidence among younger people.*

*Dr Wolfgang Klein and co-workers at the Seibersdorf Research Centre in Austria reported that 1 part per million fluoride inhibits DNA repair enzyme activity [see: Enzyme section] by 50%. Since fluoride inhibits DNA repair enzyme activity, fluoride should also be expected to lead to an increase in genetic or chromosome damage.*

*This has indeed been found to occur in numerous studies showing that fluoride in water, even at the concentration of 1 ppm, can cause chromosome [chromosomes carry the genes which determine heredity] damage.*

*One of the most relevant of these studies are those of Dr Aly Mohamed, a geneticist at the University of Missouri. They show that 1 ppm fluoride in the drinking water of mice causes chromosomal damage. These studies also show that as the fluoride content of the water increases, the degree of chromosomal damage increases in both testes and bone marrow.*

*Since the testes cells observed by Dr Mohamed give rise to sperm cells which are passed on to future generations, genetic damage to these testes cells can lead to birth defects and other metabolic [to do with the process by which living things turn food and energy into living tissue] disorders which can be passed on from generation to generation.*

*Early studies regarding the ability of fluoride to cause chromosome damage were done on plants and insects and as a result drew little attention. However, since the basic structure, function, and repair of chromosomes is similar in plants, insects, and animals, substances like fluoride which cause genetic damage in plants and insects, will most likely cause genetic damage in animals - including man."*

The above facts are from Dr John Yiamouyiannis' book, ***Fluoride: The Aging Factor***.

### **Fluoride Causes Genetic Damage**

*"Substances like fluoride which cause genetic damage are called mutagenic substances and it is a well-accepted fact that substances which are mutagenic also tend to be carcinogenic, or cancer-producing. In fact, this is exactly what has been found with regard to fluoride.*

*Dr Takeki Tsutsui and co-workers of the Nippon Dental College in Japan showed that fluoride not only caused genetic damage but was also capable of transforming normal cells into cancer cells. The levels of fluoride used in this study were the same levels of fluoride that the U.S. National Cancer Institute suggested should be used to determine whether or not fluoridation of public water supplies causes cancer.*

*They found that cells treated with 34 and 45 parts per million fluoride [once again, an example of standard testing for possible carcinogenic drugs] produced cancer (fibrosarcoma) when injected under the skin of otherwise healthy adult hamsters. In contrast, they found that cells that were not treated with fluoride did not produce cancer."*

***Cancer Research Journal***, 44, 938/941, March, 84.

*"Dr Danuta Jachimczak and co-workers from the Pomeranian Medical Academy in Poland reported that as little as 0.6 part per million produces chromosomal damage in human white blood cells. This study has received support from ... Dr R. Lin and co-workers from the Kuming Institute of Zoology ..."*

***Genetica Polonica***, Vol 19, 1978.

It seems probable that fluoride may cause genetic damage.

The fact that fluoride has also been shown to cause cancer should not be surprising since it is generally accepted that cancer can and does result from genetic damage.

In any event, it is accepted by some that fluoride disrupts DNA repair enzyme activity, that fluoride causes genetic damage, and that fluoride causes cancer tumors.

## **Unethical Tactics in Fluoridation Campaign**

Many battles in the history of medicine have been epic affairs. But the most ruthless of all, those that have ruined individuals and destroyed careers, have been fought between physicians.

In the last Century the Hungarian physician, Dr Ignaz Semmelweiss, determined to his satisfaction that child-bed (puerperal) fever was transmitted to pregnant mothers on the germ-laden hands of attending physicians. He directed doctors working under him to wash their hands in an antiseptic solution of chlorinated lime before undertaking pelvic examinations. That simple (and otherwise harmless) procedure saved thousands of lives. Instead of being honoured, Semmelweiss was hounded into disgrace. Eventually he died in a state of mental illness. The fight itself continued, however, on its merits and was ultimately won by his supporters.

## **Tactics used Against Opponents of Fluoridation**

Instead of debating an issue on its merits, it is a common tactic by a few people in politics and the media to attempt to win an argument by calling their opponents derogatory (belittling) names. The implication is that if the message-carrier is of unsavoury character, then clearly the message itself simply must be wrong. This tactic tends to prevent people looking at the importance of *what* is being said, and instead, it diverts attention so as to focus on *who* is saying it.

## **N.Z. Dental Association Denigrates Dentist**

Dr Colquhoun said that the New Zealand Dental Association circulated criticisms of his work without his knowledge:

*" ... they were circulated without my knowledge or opportunity to respond ... and instead of criticising my research, they criticised me. [It was] headed "Doctor Colquhoun's credibility to be studied carefully before attaching any importance to his claim."*

While many people would recognise this tactic of 'name-calling' as a ploy mostly used by children who may feel unable to communicate adequately, its telling effect in the adult-world makes its use far more common than most of us realise. In fact, when done with widespread media support, it can seriously restrict open debate. The issues of racism and immigration are good examples. These are subjects about which many people find it difficult to remain objective and unemotional. Artificial fluoridation is one such subject.

## **Denigrating Opponents of Artificial Fluoridation**

The most usual method is '*denigration by association*'. This involves trying to label (associate) an opponent with something which is undesirable or held in a bad light. The usual tactic is to call the person a 'charlatan', 'right-wing extremist' or attempt to associate the person or group with a group which has previously been denigrated in the media - such as the League of Rights.

For arguments sake, though, let us look at what the League of Rights is quoted as saying by the ACT Inquiry (para 3.19) on the subject of fluoridation:

**Rights** - A free people have a RIGHT TO EXPECT THAT THEIR WATER SUPPLY remains PURE. Those wanting Fluoride can buy tablets.

**Force** - Nobody has the right to force others to consume that which they do not want.

**Poison** - Sodium Fluoride is a cumulative poison.

**Safety?** - Regular ingestion of Fluorides has NOT been proven harmless.

**Mass Medication** - is contrary to sound medical practice.

**Dosage** - Experience has shown that there is no guarantee that the "safe" dosage will not be exceeded.

**Economics** - Why flush the sewers, streets - water parks and gardens with fluoride when only about 0.25% is used for drinking?

In a subsequent ACT Inquiry quotation (para 3.21) from a League of Rights brochure in the 1950's. It states:

*"At first sight there may not appear to be any relationship between Communism and the fluoridation of public water supplies. But as Communist tactics support all policies which extend government control over the individual and weaken his sense of personal responsibility, it is not surprising that fluoridation has the endorsement of Communists."*

It was probably an unfortunate choice of quotation by the ACT Inquiry as it tends to link opponents of compulsory fluoridation, not only with the League of Rights, but with a rather dastardly communist plot as well. What a felicitous combination.

The clear facts, as evidenced by Australians voting on this issue (see - **Referendums on Fluoridation** section in this Dissenting Report), are that the large majority of people are against compulsory artificial fluoridation of water supplies. That this is so, even though most people have not seen the extensive evidence of the health and environmental dangers of fluoridation, is an indication of its lack of community support. One might claim without too much fear of contradiction that most people seem to feel that when governments start to make drug-taking compulsory, it's time to say "**no!**"



The record shows however, that in case after case, a few people within the A.M.A., A.D.A., N.H. & M.R.C., Health Departments and political parties have all used this tactic against scientists and doctors who have spoken up for freedom of choice in medication, or presented evidence suggesting that fluoridation may be ineffective, or a health and environmental danger.

### **Eminent Cancer Scientist Slandered**

Dr Dean Burk (now deceased) was one of the world's leading Biochemists with 50 years research in cancer. Dr Burk was Co-founder of the National Cancer Institute, U.S.A., and was 35 years with that Institute. Dr Burk received International Awards for his research on cancer. His classic paper, co-authored with Dr Lineweaver on 'Lineweaver - Burk Enzyme Kinetics', is cited more extensively than any other paper published in the history of Biochemistry. Dr Burk was a Member of the Board of Directors, Science Resources Foundation, and some 20 leading scientific organizations. A recipient of the Domagk prize for cancer research, he was decorated Knight Commander, Medical Order Bethlehem: Fellow A.A.A.S. Dr Burk wrote the texts: *Cancer*, (1945); *Approaches to Tumor Chemotherapy*, (1947); *Cell Chemistry*, (1953).

Dr Burk published a prodigious 200 scientific, medical papers on cancer alone.

Dr Burk was the Hon. President, German Society of Medical Tumorthrapy, as well as serving on several editorial boards. He was awarded the Wisdom Society *Award of Honor*, Los Angeles, was made a Knight of Mark Twain Society, Missouri, received the *Distinguished Service Award* in Biochemistry, Dictionary of Internat. Biography, England, and among others, the *Humanitarian Award*, International Association of Cancer Victims and Friends, Los Angeles.

***Marquis Who's Who in the World***, Vol 11 (1974-1975).

Dr Burk, in 1977, having recently retired from being head of the Cytochemistry (cell-chemistry) section of the U.S. National Cancer Institute, visited Australia. Dr Graeme R. Dunn, President of the Dental Health Education and Research Foundation, in an official letter of 11th June, 1979, said of Dr Burk (and Dr Yiamouyiannis):

*"The true story of these charlatans is beyond belief."*

Copy of Dunn letter, *Poison on Tap*, p 259.

Strong words. Others would say of course that what is beyond belief is the corruption of medical and scientific ethics, that allows men trained in science, many of whom have taken an oath to serve mankind, to alter research results and denigrate those who report what they in conscience believe is the truth about the horrendous consequences of the regular and compulsory ingestion, by entire populations, of one of the most toxic chemicals known to man. It is hardly surprising that the freshness of vivid and informative debate gives way to mud-slinging.

Dr B. Levant, speaking as the Chairman of the Australian Dental Association's Fluoridation Committee was reported in the Melbourne Age newspaper Monday, 29th August, 1977:

*"Dr Levant said Dr Burk was an eminent biochemist whose "profound qualifications" were not in the cancer field."*

This of a man who was a co-founder of the National Cancer Institute, where he worked for 35 years as a senior scientist!

Dr Burk, Dr Sutton and Professor Schatz (as detailed later) are by no means the only eminent scientists who would seem to have been personally vilified after they reported adverse reactions, or ineffectiveness of artificial fluoridation. The list is a long one, and includes Nobel Laureates.

### **Dentist sacked for revealing fluoride dangers**

In 1979, Dr Geoffrey Smith worked at Proserpine Hospital (Queensland) and also supervised the work of a School Dental Therapist in the local Primary School. Dental therapists were instructed to apply topical fluoride gels routinely to all their patients - *even when the child had 'mottled teeth'*, which some believe to be the first detectable sign of chronic fluoride poisoning. The argument is that mottled teeth do not necessarily mean that the patient is still ingesting poisonous amounts of fluoride, but it does indicate that during a critical stage of tooth development, too much fluoride was probably received.

Dr Smith stated:

*"The water in Proserpine was fluoridated, over-fluoridated according to W.H.O. recommendations, and, from the number of cases of dental fluorosis I saw, it was obvious that many children were receiving too much fluoride. I asked the Health Department in Brisbane to allow me discretion as to whether or not a child should get topical fluoride treatments.*

*Permission was denied; topical fluorides were policy it was explained and, there was nothing I or anyone else could do about it. [Such is the attempted encroachment of bureaucratic control over our lives.]*

*I began to collect data on the number of 'mottled teeth' at the school, and also the various sources of fluoride the children were ingesting. Within weeks, I was officially warned by the Queensland Health Department to halt the research. ... I didn't ... newspapers got wind of the "mottled teeth" ... and all hell broke loose.*

*Sir William Knox, Queensland's Minister for Health, sent two school dentists to Proserpine ... they refused to accept my findings and conducted their own investigation. Nevertheless, they confirmed my data and on November 1, 1979, Sir William made a statement to the Queensland Parliament ... [about the results of their investigation].*

*"I believe it warrants a strong health education program aimed at ensuring that parents do not over-fluoridate their children [said the Minister of Health]."*

*I might have guessed parents would get the blame!*

*For 20 years, health authorities around Australia had promoted fluoride on the basis of the more the better. Parents had been encouraged to give their children fluoride tablets and drops, even in fluoridated areas! A practice unknown in any other part of the world, even America. Now, and belatedly, came the admission that some children could be receiving too much fluoride.*

*Meanwhile, I had been fired. And, when a doctor friend phoned the Queensland Health Department a month later, to enquire about the "Proserpine incident", he was told that:*

*"Smith was a ratbag; there had been NO fluorosis at the Proserpine Primary School; and the affair was closed'."*

Smith G.E., Fluoride: The Frightening Facts, *Simply Living*, Vol 2, No 1, p 34.

### **Wrong Data Given about Dentist**

I can vouch for this approach by a representative of the Queensland Health Department. When the ACT Inquiry Committee visited Brisbane and took informal evidence from the Queensland School Dental Service, Department of Health, we were also given similar incorrect data about Dr Smith.

One can understand health professionals wanting to argue for fluoridation if they see it as an effective method of caries prevention. The problem arises however, when people in responsible positions pass on information as factual, when they haven't personally verified it to be so. In this way, well meaning doctors and dentists may inadvertently prevent valid concerns about artificial fluoridation being known.

When a Doctor is sacked for attempting to save children under his care and responsibility, from a perceived harm from poisoning, and no politician, or medical or scientific organisation comes to his defence, or the defence of the children concerned, the effectiveness of the Parliament, the A.D.A. and A.M.A. in assisting community welfare, is placed in question.

The U.S.A. Attorney John Graham, in the *Summation of Evidence* to the 1978 Pittsburgh Court Case on fluoridation, gave an excellent example of truth and science versus politics. He presented:

*"In 1976, the United States Public Health Service sought to promote a massive swine flu vaccination program. Dr Anthony Morris of the Food and Drug Administration protested that there was insufficient evidence of an impending epidemic, and that the safety of the vaccine was questionable. Nevertheless, the program proceeded and many persons were paralyzed; some died. Dr Morris was rewarded for warning the public about the harm by being summarily fired, and having his*

*laboratory dismantled. Shortly after, the government was forced to discontinue the swine flu program ..."*

### **Censorship Against Medical Doctor**

Dr R Mendelsohn editor of *The People's Doctor* wrote that he:

*"... was surprised at the outraged and violent reactions in response to what I considered a relatively innocuous piece which appeared ... in my syndicated column. Within days after that fluoridation article was published, my column was cancelled in two large cities.*

*The pro-fluoridation enthusiasts accused me of lying about the renowned physician, Dr Benjamin Feingold's anti-fluoridation statements. Yet, in a letter to Dr Phillip E. Zanfagna, dated June 7, 1976, Dr Feingold clearly states in his closing sentences, "Each individual should be granted the option to choose fluoride prophylaxis [disease prevention treatment] depending upon his need and tolerance. You have my permission to state my position and quote me as against universal fluoridation of the water supply."*

*The People's Doctor*, Vol 2, No 9, p 2.

### **American Dental Association Campaign of Slander**

I have included the following data only because I feel it could well have a major importance in the story of fluoridation. It explains the actions of what must be a small, but obviously powerful group, within the American Dental Association in the early days of the promotion of artificial fluoridation. It may have had much to do with the disharmony between both sides of the debate that is often mentioned in the ACT Inquiry Report. The report is from *Poison on Tap*:

*"In 1953, the American Dental Association issued a booklet which was sent to every corner of the States.*

*In the booklet ...under the heading:*

#### ***"Downgrading the Public Image of Opponents of Fluoridation" ...***

*Dentists were advised to categorise the opposition to fluoridation into one of the following groups:*

- drugless healers of all types,*
- members of religious groups, who believe that fluoridation is medication,*
- those who oppose for political reasons,*

- those fearing an economic threat to the sale of such things as vitamin preparations and minerals,
- obscure scientists and self appointed protectors of the public who object to every public health measure.

*Besmirching the public image of opponents in advance, effectively prevented anyone from presenting any significant opposition.*

*The Booklet gave explicit instructions on how dentists should conduct themselves at public meetings:*

*At no time should the dentist be placed in a position of defending himself, or his profession, or the fluoridation process.*

*Special care must be taken to ensure that legislation on fluoridation was NOT submitted to the voters, who cannot possibly sift through and comprehend the scientific evidence.*

*Objections to fluoridation should be refuted in the following manner:*

- the objections are documented from out of date materials written by well-known persons, [the "well-known person" tactic is used along the lines of, "Oh, it's him again, is it? We know all about him.]
- they are obtained from little-known lay magazines, newspaper articles, letters to the editor, or health faddist magazines,
- they are based on incorrect and ill-chosen terminology used by well-known persons,
- they are partial quotes from authoritative sources and misinterpretations based upon an incomplete knowledge of the subject,
- they are unwarranted and hasty conclusions drawn from research work,
- they are completely unsubstantiated and undocumented statements made by obscure scientists,
- they are quoted from little known, and out of date or unrecognised medical dictionaries and encyclopedias.

*... the ADA booklet ... (did not contain) ANY SCIENTIFIC DATA on fluoride and its effect on human health.*

*Since that time, one characteristic has featured in every drive for fluoridation - an incessant attack upon the competence and intellectual honesty of opposing scientists.*

*These onslaughts did not originate from a few zealous [eager] proponents; they were officially instituted by the **American Dental Association**, through a booklet that was very widely circulated, and subsequently published in its Journal, and adopted by its sister organisations throughout the world.*

*The crusade to fluoridate America, and the rest of the world, was launched before any experimental work had been done to establish the parameters [a defining factor] of safety of artificial fluoridation; and, before any long term epidemiological studies to test its efficacy [effectiveness] had been completed."*

*Poison on Tap*, pp 121 - 123.

### **The Liability of Criticism of Fluoridation**

In my (Dennis Stevenson) personal experience after 15 years of interest in the subject, of the many scientists or doctors who have been outspoken in revealing scientific results which show problems associated with artificial water fluoridation, I have not been aware of a single one who has not suffered personal and professional denigration by some colleagues who perhaps were unaware of the facts behind fluoridation and thus were strong supporters. It is as though conformity was enshrined.

Dr John Yiamouyiannis said of the proponents of fluoridation:

*"They have failed in their science and all they have left is character assassination."*

Smith G.E., Fluoride: The Frightening Facts, *Simply Living*, Vol 2, No 1, p 34.

### **Falsely Attributing Statements**

There are a number of ways in which some, but fortunately not all, of the proponents of artificial fluoridation have misled people.

One method has been to make a wild claim, and then to falsely attribute it to those who believe in freedom of choice in medication. Dr Colquhoun gave an excellent example of this tactic in evidence to the ACT Inquiry:

*"The other line they take ... is ... an irresponsible one ... they say things like, "Colquhoun would have us believe that every defect in the teeth is caused by fluoride", or "It's quite wrong to say that all mottling is caused by fluoride".*

*Now, of course, I have never said that, and nor have any of the opponents of fluoridation said that.*

*... they imply by making statements like that, that these studies [showing high percentages of mottling in children] were including a whole lot of other defects which were not dental fluorosis. Now, if you read the studies ... the prevalence that I have given you in the table in my submission are the actual prevalences of this specific kind of mottling which cannot be denied is dental fluorosis.*

*So it is a very misleading sort of propaganda line they are circulating ..."*

Dr Colquhoun - *Submission*, p 431.

## Why Doctors May Not Know The Truth About Fluoride

The Medical Adviser to the House of Commons All Party Committee on Freedom of Information, Dr Edward C. Hamlyn, MB. ChB., made this 'Honest Testimony':

*"Freedom of Information, the right to know the truth, would free us from misinformation on fluoridation.*

*Since first hearing recommendations by medical authorities that fluoride should be added to those public water supplies alleged to be deficient in fluoride in order to reduce tooth decay in children, I had always assumed that such authorities could be relied upon. I was far too busy to get involved in the fluoridation controversy and readily accepted what the "experts" said. I also accepted the view that people who were against fluoridation were cranks and I never bothered to listen to what they had to say or read what they wrote.*

*Last year I happened to be on the platform at a meeting to which I was to speak on the subject of Ethics in Medicine. On the same platform was the Chairman of the National Anti-Fluoridation Campaign, U.K., who spoke on the subject of fluoridation of public water supplies. I was a captive audience and for the first time heard something different from what I had previously been told.*

*I was intrigued, to say the least, and my curiosity to discover the truth soon led me to realise that my medical teaching had been quite incorrect. All the data I had been given on fluoridation by the medical authorities was basically untrue. The data had in it, sufficient truth to make it credible, but was so slanted and curved as to lead one to a conclusion which was entirely false.*

*It is almost certain, that had I been engaged upon the task of teaching medical students, I would have passed on to them the same errors as had been passed on to me. I have no shadow of doubt that no one who is untainted by vested interest would knowingly promulgate [to spread far and wide] the myth that the fluoridation of public water supplies is a scientifically based remedy for dental caries. The vast majority of doctors just do not have the time to investigate the subject of fluoridation in depth; they take the word of those who teach them on the assumption that their teachers know the truth.*

*The outcome of my investigations is that I am now a confirmed opponent of the idea of adding fluoride to public water supplies and having looked into it, I regard the campaign being carried out by the Department of Health and others in favour of water fluoridation as perhaps the best possible evidence of the need for a Freedom of Information Act to ensure that public authorities make available to the public such information as they have a right to possess."*

**The Press**, Scotland, 25-8-78.

## **One Can be Sincerely Wrong**

There is no question that most dentists sincerely believe in fluoridation and have their patients health uppermost in their minds. However, if incorrect information has been received, *one can be sincerely wrong.*

## **The Use of Dental Services**

The use of dental services requires the same degree of knowledge, awareness, diligence, homework and concern about fees charged, as the purchase of other goods and services.

## **An "Insider's" View of Dental Propaganda**

The ACT Inquiry Committee was indeed fortunate to gain a fascinating *insider's* view of how some proponents of artificial fluoridation work to keep the truth from the public. Dr John Colquhoun was not only a long-time advocate of water fluoridation, but as earlier stated, was New Zealand's top dental proponent. His story is remarkable:

*"... my dental training made me a proponent of fluoridation ... I was in private practice for 12 years ... one of its keenest advocates for putting fluoride into the drinking water ... I published more research in community dentistry than any other principal dental officer in the Health Department. ... for that reason I was asked to chair the Fluoridation Promotion Committee ... the Department sent me on a world study tour in 1980 [and] prevailed upon me to make fluoridation and fluoride research the subject of my study ... I think they have regretted the decision ever since because my studies led me eventually of course, into changing my opinion about fluoridation.*

*First of all ... the studies which report that the prevalences and severity of dental fluorosis (mottling) - that is the undeniable toxic side-effect of water fluoridation - have reported much greater prevalences and higher severity than we had predicted when we introduced fluoridation. We used to say only 10 percent of children would have this ...*

*I was the first to publish a study drawing attention to the prevalence and severity of it and I was severely censured by my professional colleagues for doing that at the time and they circulated a whole lot of criticisms of that study but since then, of course, there are many, many other studies. Four others in New Zealand and many in North America and Africa and elsewhere have reported the similar prevalences, in fact higher prevalences, than I reported back then."*

## **Evidence of the Ineffectiveness of Fluoridation Suppressed**

Dr Colquhoun now discusses one of the most thorough statistical studies of teeth done anywhere in the world. He had data on children's teeth collected throughout New Zealand for the purpose of showing the **benefits** from artificial fluoridation (at the time, Dr Colquhoun was still operating on automatic pilot, as it were, and was therefore a strong supporter of fluoridation).



Dr Colquhoun said:

*"... we decided we did not have figures to show the benefit of fluoridation. I was an ardent fluoridationist, you see, I wanted to show people how good it was.*

*So we decided to collect from every child leaving the New Zealand dental service - and 98 percent of them attend the NZ school dental service. So it was virtually a population, not a statistic in the strict sense, it was a population parameter we were collecting - the state of the teeth of every child who left the school dental service. So we had population figures for all 12 and 13 year old children in New Zealand.*

*When, as Chairman of the Fluoridation Promotion Committee, I gathered in these statistics and had a look at them, I observed immediately, because they were collected for each health district, all 14 of them, according to whether a child lived in a fluoridated area or ... an unfluoridated area ... **the percentage of children who were free of dental decay was higher in the unfluoridated part of most health districts in New Zealand.***

*I said "Why has this information not been given to the public? We told them we were collecting this information which would show finally what the benefit was," and the reason given [by the Health Department] ... was that this would lower their confidence in fluoridation!*

*They did circulate a document within the department called 'Overviews of Fluoridation Statistics' and this purported to show the benefit of fluoridation - but they left out the figures ... which did not support fluoridation ... **they actually omitted certain figures** and it was that quite shameless doctoring of statistics which caused me to challenge what they were doing!*

*... I circulated [a document] to senior officers of the Health Department, and at the Senior Officers Conference in 1982, I pointed out what they were doing with these statistics, that they did not really support fluoridation at all, and the chairman said, "Well, you've heard John. Anyone got any discussion?" There were about 17 from around New Zealand sitting at this Head Office Conference in Wellington. I sat through what seemed like five minutes to me - it might not have been quite so long and there was a stony silence. Nobody said a word, not one word! So the Chairman said, "Well, as nobody has anything to say, we'll pass on to the next item of business."*

Worse was to come. Dr Colquhoun continues:

*"When I resigned from the department I told the public what had happened and published the statistics in international journals - scientific journals which are open to peer review. The department is now saying - and it has put it in writing ... in the New Zealand Listener - these statistics were never collected ... for the purpose of showing the effects of fluoridation, they were only collected as a guide to treatment for dental nurses!"*

## **When Experts Disagree, Who are we to Believe?**

Before people have had a chance to look at the compelling arguments against artificial fluoridation, they quite often say (quite reasonably), "*Who are we to believe when we have these contrary scientific opinions?*" Dr Colquhoun explains the simple answers:

*"There are two answers ... if you do not know who to believe, you should follow your doubt and we should not be imposing it compulsorily on the whole population if ... experts cannot agree among themselves.*

## **How Research Studies are Evaluated (Dr Colquhoun continued:)**

*... there is a convention in the scientific community ... that when research data is published in a responsible scientific journal after peer review - that is, independent experts approve of it for publication - if you disagree with that research and you think the author has made a wrong interpretation, you write in your objections to that journal where it will be published along with the author's response and there can be a discussion in a scientific forum of that research.*

*A lot of criticism of my research is being circulated, sent to councils ... [but] none of it has been sent to the journals which published my research. Some has been published very recently [long after Dr Colquhoun's studies were published] ... in ... journals which are committed to the fluoridation theory.*

*They [the criticisms] are being circulated [to councils, etc] without the reply which Dr Diesendorf and I managed to get put into those journals. So they do not include our replies, but also those criticisms in the proponent journals did not even cite my studies [or] put them in the reference list.*

*So I would suggest that you believe the ones that follow the proper procedures within science, that is, open discussion, and open criticism and counter-criticism of the research."*

When the ACT Inquiry Committee asked Dr Colquhoun if the **New Zealand Dental Journal** had published his original paper, he said 'No', in spite of it having been published in some of the world's leading scientific journals!

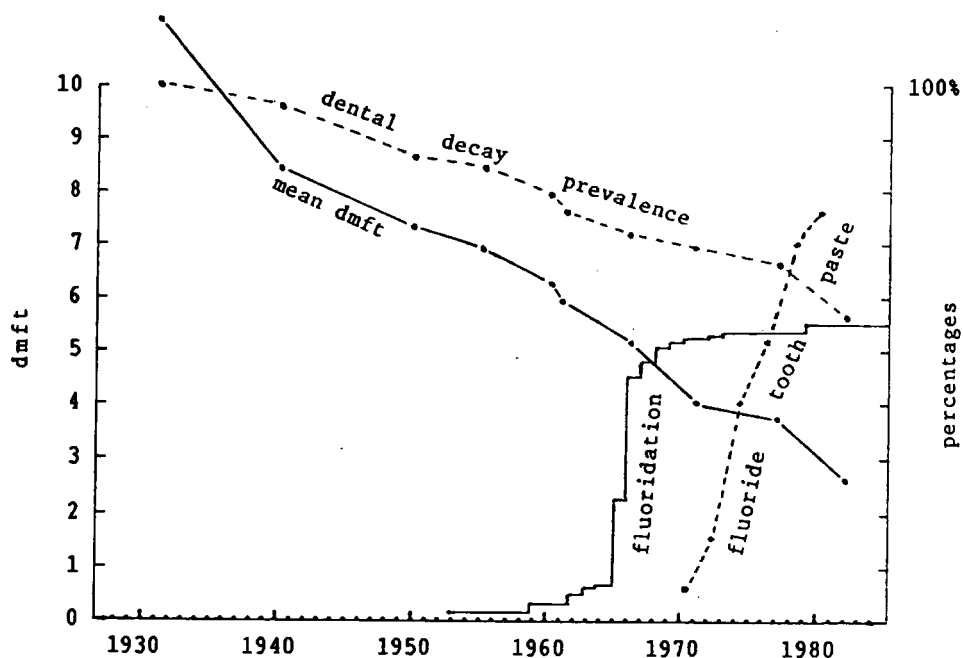
## **Wrong Reason for Health Improvement**

Dr Colquhoun then made a telling comparison between artificial fluoridation and tuberculosis [a disease affecting any part of the body, usually lungs; characterised by inflammation or formation of nodules]:

*"Take tuberculosis, it has been shown in books by McKuen and others ... that tuberculosis was on the decline before these new drugs for the treatment of tuberculosis were introduced. But the medical profession like to get the credit ... I think the same thing has happened with dental decay. We have shown quite conclusively that it was declining before we introduced ... fluoridation ... . It has gone on declining ... after the children have received the maximum possible benefit of fluoride, it has still gone on declining. So obviously it is not related to fluoride at all."*

Figure 3

50-year decline in tooth decay among New Zealand 5-year-olds.  
 Solid line: Average no. decayed, missing and filled primary teeth (dmft).  
 Broken line: Dental decay prevalence (100 minus percent caries-free).  
 Fluoridation. Solid line: Percent of population with fluoridated water.  
 Fluoride toothpaste. Broken line: Percent of total toothpaste sales.



Dental data for Figure 3:

Date of collection	No. of children	dmft	Percent caries-free	Sources
1930-32	263	11.2	0.76	Hewit et al. (41)
1940	"70 clinics"	8.48	4.35	Health Dept. (41)
1940	1039	8.22	4.8	do.
1948-50	692	7.1	12.28	Hewit et al. (41)
1950	13,337	7.45	13.5	Health Dept. (41)
1950	"70 clinics"	6.85	14.37	do.
1955	10,975	7.34	14.5	do.
1955	10,984	6.6	14.5	do.
1960	"70 clinics"	6.07	16.74	do.
1960	924	6.82	13.7	do.
1961	9,025	5.87	18.9	do.
1966	1,256	5.17	28.03	do.
1971	1,040	4.04	31.08	do.
1977	998	3.75	34	Hunter (41)
1982	958	2.6	44	Hunter (41)

"70 clinics" had approximately 4000 5-year-old children.  
 The Figure shows averages from the data for each year.

*Submission* from Dr M. Diesendorf, 19-2-90, p 5.  
 The data has previously been in overseas scientific journals.

## ARE CHILDREN BEING POISONED?

The ACT Inquiry ignored, and thus denied, the importance of the scientific evidence, submitted to the ACT Inquiry, of the adverse health effects that are indicated when children's teeth become mottled because of ingested fluoride. The ACT Inquiry Committee did this by quoting (para 10.43 onwards) incorrect and outdated statements made in the Tasmanian and Victorian Inquiries - held more than 22 years and ten years ago, respectively, and ignoring data that appears far more relevant in presenting the alternative case.

The three Government Inquiries in Australia thus make three incorrect claims about dental mottling, in common with most proponents:

1. Mottling is commonly due to "*wholly unrelated causes*" - other than fluoride.
2. Mottling in Australia is not related to ill-health (*implied, but is not directly stated*).
3. Mottling is only a cosmetic problem (in Australia). "*It is not unsightly and is generally not noticeable to most people.*"

It is interesting to look at the actual evidence submitted to the ACT Inquiry concerning dental fluorosis, which, notwithstanding incorrect claims to the contrary, has been recognised for many years as an irreversible pathological (due to, or accompanying disease) condition, and the first visible sign of chronic fluoride poisoning.

### Dental Fluorosis (Diseased condition)

In a letter dated, 26th April, 1975, Sir Arthur Amies, Dean of the Faculty of Dental Science, stated:

*"Dental fluorosis or 'mottled enamel' is an irreversible pathological condition which occurs in some 10% of children who habitually drink artificially fluoridated water during their early years of life. It is generally agreed that 'mottled enamel', which varies in severity, is the first demonstrable sign of fluoride toxicity in the individual."*

Professor of Dental Medicine Arthur Amies, Kt. G.M.G., D.D.Sc., D.L.O. (Melb.)  
F.R.C.S. (Edin.) F.R.A.C.S., F.R.S.E., F.D.S.R.C.S. (Edin. and Eng.) F.R.A.C.D.S.,  
C.M.G., Hon. LL.D. (Glas.).

The practice of medicine is based upon the recognition and interpretation of symptoms. A symptom is: "*a characteristic sign of some disease*". (Oxford English Dictionary.)

**Dorlands Illustrated Medical Dictionary** defines:

*"Fluorosis - chronic poisoning with fluorine", and;*

*"Mottled enamel - a chronic endemic [regularly found among a particular people or in a particular locality] dental fluorosis that is found in communities using a drinking water that contains one part or more of fluorine per million. The permanent teeth of children so raised tend to erupt more or less chalky white in colour and later tend to become pitted and stained yellow, brown, or almost black."*

**Dorlands Medical Dictionary**

Although claiming that artificial fluoridation is safe and supporting artificial fluoridation, all three government inquiries in Australia acknowledged in their reports that the 'recommended dose of 1 ppm' can cause dental fluorosis (poisoning). The Victorian Inquiry, in citing the Tasmanian Report (para 9.64), agreed (on p 159) that:

*"With water fluoridated at optimum levels there is a probability that up to ten per cent of young children will be affected by dental fluorosis or mottling due to variable water intake."*

### **Toxic Symptom Downplayed**

Dr John Colquhoun, during a world tour to support fluoridation, discovered that fluoridation was not as he had believed it to be. His research in New Zealand confirmed this view:

*"They [proponents] admit that there is more mottling than anticipated, and they put it down to other sources of fluoride added to the original one part per million, but they get out of it by saying, 'Well, it's only a cosmetic defect. It doesn't do any harm to health.' Now I ask people of common sense to ask themselves if you can put a toxic substance in water, sufficiently to damage the tooth forming cells of children, is it likely that it will do absolutely no harm to any other part of the body?"*

Dr Colquhoun - *Submission*, p 431.

Professor Sutton, one of an elite group in Australia who hold the qualification of *Doctor of Dental Science*, stated:

*"Since its inception, fluoridation advocates have admitted that about ten per cent of children who drink fluoridated water from birth will develop dental fluorosis. However, this has proven to be an underestimate. This condition is produced by the ingested fluoride poisoning the tooth-forming cells, so that they create faulty enamel which, when the teeth erupt, is seen as dead-white spots and areas on the surface of the affected teeth. Later, some of these ugly dead-white areas may become stained brown, leading to 'mottled teeth' - the original name for this condition."*

Professor Sutton - *Submission* 21-2-90, p 7.

## Natural Water Fluoride

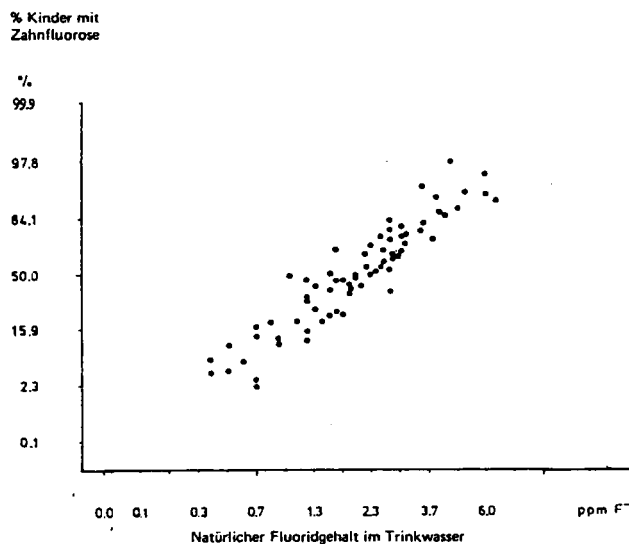


Figure 5. Dental fluorosis and natural water fluoride. Data obtained for 73 communities from all known published studies in North America and Europe, showing high correlation. Figure from Ziegelbecker (55).

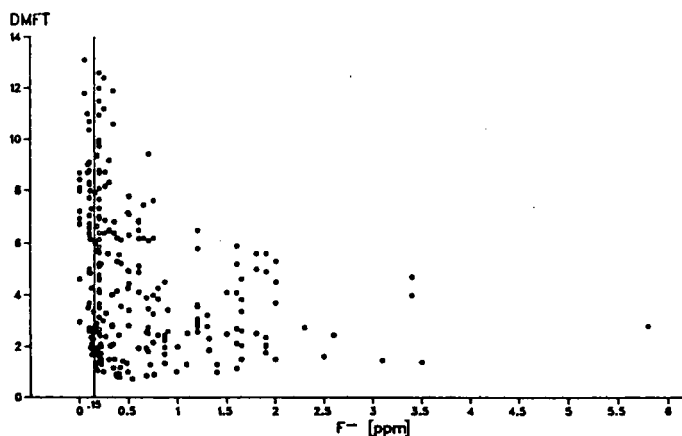


Figure 6. Dental caries and natural water fluoride. Data obtained for 272 samples from all known published studies in North America and Europe (including Dean's 21 cities), showing little correlation. Figure from Busse et al. (54).

## **Major Mottling Problem in ACT Before Artificial Fluoridation**

In his pre-fluoridation study in Canberra, Dr L. Carr states (para 10.46):

*"... that 42.2 percent of seven-year-old children and 53.4 percent of twelve-year-old children had mottled tooth enamel before fluoride was introduced."*

If ever there was sufficient reason for not adding fluoride to the drinking water supplies of a particular community (Canberra), the above research study results by Dr Carr, showing children were already receiving toxic levels of fluoride (apparently from sources other than the water), this was it.

## **Fluoridation has Inescapable Consequences**

The Tasmanian Royal Commission Report stated:

*"Fluoridation of communal water supplies has inescapable consequences for all members of the community. ...*

*Tasmanian Report*, p 239, para 9.80.

*Chronic toxicity or fluorosis may result from too high levels of fluoride ingestion. Its earliest symptom is dental fluorosis or mottling in the young, and the prevalence and degree of this condition can constitute an early community warning in relation to fluoridation levels. ...*

*Tasmanian Report*, p 237, para 966.

The ACT Inquiry Report (para 5.31) quotes the 1968 Tasmanian Royal Commission Report:

*"There is a risk of dental fluorosis occurring in some children. The number affected will not exceed 10 percent of the child population and may be less. [With the major increase in total intake of fluoride from all sources, it could be a great deal more.] The degree will be 'mild' (probably about 2 percent) and the remainder will be 'very mild' or questionable."*

## **Visible Warning of Chronic Fluoride Poisoning**

These levels of dental fluorosis (fluoride poisoning) don't seem to have been given much significance by Justice Crisp. I did not think that children with 'mild' fluorosis had much of a problem until I learnt that the definition of 'mild fluorosis' (as seen below) means that over 50% of the child's tooth is discoloured and unsightly. Sometimes the child simply refuses to smile, out of shame.

The Victorian Government Report listed the following classifications, according to a visual method devised by Dr Trendley Dean in 1934. The categories Dean devised, describe only the appearance of the teeth. The understanding of the pathological processes involved is ignored and obviously not understood by that dentist (Dean):

**Normal:** The enamel is translucent, smooth, and presents a glossy appearance.

**Questionable:** Slight aberrations from the normal translucency, ranging from a few white flecks to occasional white areas which one would hesitate to classify as apparently normal or very mild.

**Very Mild:** Small, opaque paper-white lines or areas scattered irregularly over 25% of the Labial and buccal tooth surfaces.

**Mild:** The white opaque areas involve at least half of the tooth surface and faint brown stains are sometimes apparent.

**Moderate:** Generally all tooth surfaces are involved, and minute pitting is often present on the labial and buccal surfaces. Brown stains are sometimes a disfiguring complication.

**Moderately severe:** Pitting is marked, more frequent and generally observed on all tooth surfaces. Brown stains, if present, are generally of greater intensity.

**Severe:** All labial enamel surfaces are affected and severe hypoplasia [defective or incomplete growth of an organ or tissue] affects the form of the tooth. There is confluent pitting with widespread deep brown to black staining giving the tooth a corroded like appearance.

*Victorian Inquiry Report*, para 7.46.

In answer to a question asked by the ACT Inquiry Committee about the claim by proponents that there are about 90 possible reasons for mottling, other than dental fluorosis, Dr Colquhoun stated:

*"Well, I can refer you to a text which disputes that completely. The most recent book by Professor Ollie Furjerskoff of Copenhagen and his associates go very thoroughly into dental fluorosis. These are recognised world authorities ... they are not anti-fluoride people, they are dental scientists of the highest repute and they give the criteria for differential diagnosis of dental fluorosis from other forms and they say quite categorically it is possible to diagnose the condition from a clinical examination of a patient. It is very rarely, they say, that you are in doubt.*

*Of course in America dental fluorosis is so well known that they cannot say otherwise ... even the proponents. It is only in Australia and New Zealand and Britain where there is less knowledge of dental fluorosis among professionals, they are now saying that you cannot even tell whether it is fluoride that causes it ... . That is bunkum, absolute bunkum!*

*... it is symmetrically arranged diffuse patches or lines on the teeth following the growth lines of the enamel and it cannot be caused by*



*anything but excess fluoride taken internally. That is recognised by all reputable scientists."*

Dr Colquhoun - *Submission*, p 450.

### **Early Warning of Fluoride Poisoning**

In the face of the accepted scientific evidence showing that dental fluorosis is a visible sign of chronic fluoride poisoning during tooth development, most proponents simply refuse to acknowledge the evidence. They suggest that, if unsightly mottling occurs, then the appearance of the affected teeth can be restored by fitting a crown, or by being ground and resurfaced with a synthetic enamel, at the discomfort and expense of the person affected. They insist that the condition has no pathological significance whatsoever.

*"Conditions and symptoms caused by minute dosages of chronically acting poisons such as lead and arsenic, are notoriously difficult to diagnose. Medicine has learnt that no early warning symptoms should be ignored. For example, one of the first clinically detectable signs of some chronic lead poisoning is a blue-black line on the gums indicating the presence in the tissue of lead sulphide. The blue-black line, in itself, is not harmful, it isn't unsightly, and it can't be seen unless someone looks closely for it; but, it is a symptom of chronic lead poisoning, and no doctor would ignore it or dismiss it as a "slight aberration". Left untreated, chronic lead poisoning may progress through a variety of mild, vague symptoms, to more painful colic, inflammation of various nerves, areas of paralysis, convulsions, brain lesions and ultimately, death."*

*Poison on Tap*, p 105.

### **ACNE-LIKE ERUPTIONS**

*"Dr Milton A. Saunders, a physician from Virginia Beach, Virginia, U.S.A., reported that acne-like eruptions also result from the mere contact of fluoridated toothpaste with areas around the mouth. In his report, published in the Archives of Dermatology, he noted: "I requested that these patients switch, on a trial basis, from their fluoride toothpastes to a nonfluoride toothpaste. Within a period varying from two to four weeks, approximately one half of the patients thus observed cleared of their previously persistent acne-like eruption. Several of the patients, who were concerned about the dental health factors relative to fluoride and its exclusion, requested to resume use of a fluoride toothpaste. These patients were then allowed to resume use of a fluoride toothpaste. Without exception, each developed the same distribution of acne-like eruption that had previously occurred."*

*The findings of Dr Saunders has since been corroborated by Dr J. Ramsay Mellette and co-workers of the United States Army who "have gathered clinical and historical data implicating fluoride dentifrices [paste, powder or liquid tooth cleaner] as an important etiologic [causative] factor in the dermatosis [any disease of the skin]."*

*Fluoride: The Aging Factor*, p 15.

## AGEING

*"Everyone being exposed to the levels of fluoride found in the drinking water is being chronically poisoned. Recurrent "upset stomachs", arthritis, skin problems, weakness, etc., are diseases which people begin to accept as normal. As these diseases become more severe, they are attributed to "old age." Of special interest is the fact that before any disease is even noticeable, the acceleration of the ageing process by fluoride is already occurring at the biochemical level (by means of enzyme inhibition, collagen breakdown, genetic damage, and/or disruption of the immune system per se).*

*People who do not experience one or more of the overt fluoride-induced clinical symptoms will invariably be experiencing the fluoride-induced subclinical [mild symptoms not apparent in clinical tests] deterioration of the body commonly referred to as aging."*

*Fluoride: The Aging Factor*, p 20.

## AIDS (Acquired Immune Deficiency Syndrome)

*"Physicians who observed and investigated the adverse effects on their patients following the introduction of fluoridation in Holland (15) are absolutely convinced that drinking fluoridated water can damage the immune system (the body's mechanism for combating all diseases and cancer). Several laboratory studies support that contention (29). It is the damage to the immune system which is the fatal factor in AIDS (Acquired Immune Deficiency Syndrome), for such damage makes people more susceptible to all diseases.*

*In 1987 the present author [Sutton] published a hypothesis (30) which may explain how drinking fluoridated water, which causes fluoride accumulation in bone, may damage developing immune cells. This, of course, in conjunction with the results of recent laboratory experiments (29), raises the question whether, as a part of the regimen to delay the development of full-blown AIDS, HIV positive patients [people with AIDS] should not be permitted to drink fluoridated water. (A paper on this point has just been submitted for publication.)"*

Sutton - *Submission*, p 9. Refs 15, 29, 30, are from original paper.

## ALLERGY

The Allergy Section, Australian Medical Association, N.S.W. Branch, stated:

*"... we cannot feel that the use of fluoridation is without some risk, at least in the allergic field."*

*Tasmanian Inquiry Report*, p 118.

## **Hundreds of Health Complaints**

The adverse health effects caused by artificial fluoridation are usually cases of poisoning rather than allergic reactions. Many people have the general belief that the type of problems caused by fluoride are allergies. Dr Moolenburgh, after giving details of possible fluoride-related complaints in newspapers and on radio interviews, gave the following understanding of the general nature of complaints when he wrote of the case that was built against artificial fluoridation:

*"Soon after all this publicity, letters started pouring in from people who had read these articles or heard the programme, recognised their own complaints and cured themselves with non-fluoridated water.*

*There were people with abdominal cramps who were cured with non-fluoridated water and then suddenly had an attack again and discovered they had drunk a cup of coffee at a neighbour's, made with fluoridated water.*

*The most impressive cases, to my mind, were the yelling babies. Quite a few babies had made their parents frantic with their pitiful yelling which went on day and night. After no more than two feeds with non-fluoridated water one child who had been ill for weeks was suddenly cured.*

*In the months following the publicity, I received hundreds of letters and most of them concerned real fluoride poisoning. The complaints went away with non-fluoridated water, came back with fluoridated water and went away again with non-fluoridated water. This could be proven again and again.*

*In many cases these people had gone to their general practitioners with their discovery and in nearly all cases the general practitioners had laughed and answered that this was pure imagination. "Had the authorities not assured them that it was safe for everyone?"*

**Fluoride: The Freedom Fight**, p 78.

## **ALZHEIMER'S DISEASE**

*"The concern that aluminium may somehow contribute to Alzheimer's disease is now quite current. It is disturbing to discover that fluoride enhances the toxicity of aluminium by increasing the cell's incorporation of aluminium. (Roemer J: Alzheimer's on tap. California. 14 No 11, p 102, Nov 1989.)"*

Dr John Lee, Medical Researcher - **Submission**, 14-1-90.

**BIRTH DEFECTS (congenital malformations)** (also refer to 'Proof of a cancer/fluoride connection' and 'Fluoride Inhibits DNA Repair Activity')

***The New England Journal of Medicine***, January, 1984 reported under the heading of 'Birth Defects and Glycolysis':

*"Fluoride forms a complex with magnesium ions and inhibits any enzyme such as enolase, that requires magnesium as a co-factor."*

### **Deaths from fluoridation in Chile**

Deaths in humans from congenital (existing as a result of faulty development, infection, or injury, in the uterus) malformations were evidenced by the eminent Professor, Albert Schatz, a professor at Temple University and co-discoverer of the antibiotic *Streptomycin*.

### **Dental Department Distorts Death Rates**

In 1976 he published a report titled, *Increased Death Rate in Chile Associated with Artificial Fluoridation of Drinking Water, with Implications for Other Countries*. His report analyzed official demographic (the science dealing with human statistics, eg. size, diseases, death, etc.) figures published by the Chilean government. It alleged that Briner and Carmona, the two top officials in the Dental Section of the National Health Service in Chile, had distorted and misrepresented death rates in order to convince Chileans that artificial fluoridation was safe. Professor Schatz presented figures which showed that 244 per cent more deaths resulted from congenital malformations in the city of Curico (fluoridated in 1953) from 1953 to 1963, than in the unfluoridated control (which served as a comparison, where one factor is different, to test the results of an experiment) town of San Fernando. Deaths from diseases of the digestive system were 50 per cent higher in fluoridated Curico and infant mortality rates were 69 per cent higher.

Professor Schatz is an internationally known scientist. He has been awarded many of France's highest medals for his contributions to science and education. He has received honorary degrees and titles, including "Doctor Honoris Causa" twice, from five universities.

He has published three books, more than 500 articles, and is an honorary member of scientific, medical, and dental societies in Europe, Latin America, and the United States.

In 1977, one year after Professor Schatz published his report, fluoridation was stopped in Chile.

The complete 17 page study of Professor Schatz's research work was submitted to the 1980 Victorian Inquiry, but no reference to it was made in their final report which endorsed fluoridation as *safe and effective*. His vital research work was dismissed by coupling his name with six others in one line only, on page 161, stating:

*"Other critics include Harris, Schatz and Martin, Schatz, Aslander, Peterson and Douglas."*

Both the American Dental Association and the American Medical Association refused to publish Dr Schatz' report. Indeed, the American Dental Association three times refused to accept scientific papers from Prof Schatz, even going so far as to have them returned unopened. It is perhaps hard to believe that the American Dental Association would refuse to look at scientific research by any scientist, let alone one as eminent as Professor Schatz. The photograph of the envelopes of the three refused letters on p 146 of *Poison on Tap*, is the proof.

## BREAKS & FRACTURES

*"In 1978, Dr J.A. Albright and co-workers from Yale University reported at the Annual Meeting of the Orthopedics [dealing with deformities and diseases of bones and joints, especially in children] Research Society that as little as 1 part per million fluoride decreases bone strength and elasticity.*

*In 1983, Dr B. Uslu from Anadalu University School of Medicine in Eskisehir, Turkey, reported that addition of fluoride to the drinking water of rats with fractured bones resulted in defective healing of the fracture due to disruption of collagen synthesis.*

*In 1978, the **Journal of the American Medical Association** published an editorial pointing out that "in several short-term studies, fluoride has been administered for treatment of involutional osteoporosis, alone or with supplemental calcium, vitamin D, or both. No studies have demonstrated alleviation of fracture(s). ... However, studies in humans have shown an increased incidence of ... fractures. When high doses of fluorides have been given to animals receiving a diet that was otherwise unchanged, most studies have shown no change or a decrease in the strength of the bone." They also pointed out that the administration of fluoride resulted in nonmineralized seams in bones, resulting in the disease called osteomalacia [a softening of the bones]. These nonmineralized seams imply that breaks and fractures in the patients' bones would tend to heal more slowly.*

*It is ironic that anyone would ever think of treating osteoporosis (a disease in which the bones lose calcium) with fluoride, a substance which leads to decalcification of bone. In 1977, Dr Jennifer Jowsey, one of the originators of fluoride therapy for osteoporosis, admitted that fluoride was leading to a greater degree of osteoporosis (demineralization) in some bones while leading to osteosclerosis (overmineralization) in others. In other words, fluoride treatments of osteoporosis "robs Peter to pay Paul" and leads to general weakening of the bones . [my emphasis]*

*In 1980, Dr J.C. Robin and co-workers from the Roswell Park Memorial Institute confirmed the foolishness of using fluoride for the treatment of osteoporosis by publishing their results in the **Journal of Medicine**. According to the authors, "fluoride had no preventive effect. In some experiments there was even a deleterious effect of fluoride." They found fluoride accelerated the process of osteoporosis leading to a loss of calcium from the bone.*

*In 1973, a report from the National Institute of Arthritis and Metabolic Diseases found 50 to 100% increases in the incidence of a disease called osteitis fibrose among patients whose artificial kidney machines were run on fluoridated water. Osteitis fibrosa is a disease characterised by fibrous degeneration of the bone; it results in bone deformities and sometimes in fracture."*

Yiamouyiannis, *Fluoride: The Aging Factor*, p 46-47.

### **Increased Hip Fractures with Fluoride**

*"There has been controversy as to whether fluoride therapy increases the risk of fracture in the appendicular skeleton [the skeleton of the limbs]. In the present study we compared the incidence of hip fracture in four groups of osteoporotic women: 22 treated with placebo, 17 with fluoride and calcium, 18 treated with fluoride and calcitriol, and 21 with calcitriol alone or placebo. Four hip fractures occurred in 3 patients on fluoride and calcitriol, and two hip fractures occurred in 2 patients on fluoride and calcium. No hip fractures occurred in patients receiving either calcitriol alone or placebo. The difference in fractures rates for fluoride versus nonfluoride treatment is significant ( $p = 0.006$ ). Moreover, the six hip fractures occurring in patients receiving fluoride during 72.3 patient years of treatment is 10 times higher than would be expected in normal women of the same age. ... In four of the hip fracture cases, the history suggested a spontaneous fracture. These findings suggest that fluoride treatment can increase the risk of hip fracture in osteoporotic women."*

*Journal of Bone and Mineral Research*, Vol 4, No 2, 1989. Increased Incidence of Hip Fracture in Osteoporotic Women Treated with Sodium Fluoride, p 223.

### **Claims for Fluoride Benefit Retracted**

In 1966, Bernstein published a paper (Prevalence of Osteoporosis in High - and Low - Fluoride Areas in North Dakota, U.S.J.A.M.A., 198, 499.) which proponents have used as a reference to suggest high doses of fluoride are safe and effective for bone diseases. Bernstein later realised his errors.

*"... in 1970, Bernstein recanted his 1966 claims, and in the New England Journal of Medicine, 16th April, 1970 at a seminar in medicine at Beth Israel Hospital, Boston - "Physiologic and Pharmacologic Regulations of Bone Resorption".*

*... Bernstein said:*

*"Large doses of fluoride can produce osteomalacia (softening of the bones) in man and also in rats. In view of this histologic data, I do not believe that fluoride is useful in high doses in human beings."*

*New England Medical J.*, 16-4-70, Vol 282, No 16, p 915.

One can understand proponents using Bernstein's 1966 study to support their claim that water fluoridation is also safe and effective.

It goes beyond the bounds of professional practice, however, to continue to use the 1966 study data, after 1970 when one is aware that its author had retracted his earlier claims. The use, by proponents, of the earlier incorrect data is a common practice and was also done in the Victorian Inquiry (Report, 1980, p 133, para 12.66.)

## **DEATHS FROM FLUORIDE**

The following evidence was presented by Dr Yiamouyiannis in *Fluoride: The Aging Factor*.

### **Fluoride Tablets Kill Child**

*"Jason lapsed into a coma and died five days later at the Mater Children's Hospital in South Brisbane.*

*A spokesman for the Queensland Justice Department confirmed that Jason's death was caused by fluoride poisoning.*

*... Mrs Burton (Jason's mother) recalled the day her nightmare began: "I was getting some carpet laid while Jason was having his afternoon sleep. After about five minutes - definitely not more than seven - I got the feeling something was the matter. Jason was sitting on the floor with a bottle of fluoride tablets. I rang the doctor and said Jason had taken some of the tablets, not many ... about half a dozen.*

*Mrs Burton said the doctor told her to take Jason down to him and had then given the child a stomach pump. 'I asked the doctor if he had found any fluoride tablets and he replied that he had found four.*

*Later, Mrs Burton found her son had become unconscious. She took him to the hospital. She said a tube was placed in her son's throat and he was connected to a respirator.*

*Four days later ... Jason died.*

*She said: 'They (the doctors) told me at first that it was impossible for fluoride to kill my son. Finally they said it was the fluoride.'*

### **The Dubious '92-tablet' Claim by Politicians**

In a statement to the Victorian Parliament (*Hansard*, 6-9-80), Mr Roper, the Victorian Minister for Health, mentioned a letter he received from Dr Edwards, the Queensland Minister for Health, indicating that *ninety-two tablets* had been ingested by this young boy.

The mother of the child, who was in almost continuous contact with her son, stated that the child ingested no more than six tablets. The doctor who pumped out the stomach of the child shortly after ingesting, found four tablets.

The politicians claimed that the child ingested ninety-two tablets, but failed to provide any evidence to substantiate the claim.

Though the death certificate gave the cause of Jason's death as, "Fluoride poisoning", the case was never reported in any medical or dental journal anywhere in the world. The integrity of medical science depends on objectively reporting both the benefits and hazards of medical treatments and techniques. The death of a child, apparently due to swallowing a small number of flavoured fluoride tablets, which are available without prescription, in both unfluoridated and fluoridated areas, was simply never thoroughly publicised or investigated.

### **Fluoride Tablets Banned in U.S.A.**

In 1966, the United States Food and Drug Agency (FDA), which has the responsibility for the safety of all drugs, **banned** the sale of fluoride tablets and certain other products containing fluoride, for use of pregnant women.

*"(a) The Food and Drug Administration finds that there is neither substantial evidence of effectiveness, nor a general recognition by qualified experts that prenatal drug preparations containing fluorides are beneficial to tooth development in the fetus or in the prevention of dental caries in the offspring.*

*Any such drug preparation that is so labeled, represented, or advertised will be regarded as misbranded and subject to regulatory proceedings unless such recommendations are covered by a new-drug application, including substantial evidence of effectiveness ..."*

Title 21, **Federal Register**, Vol. 31, No 204, 20-10-66.

Though fluoride tablets are still banned in the U.S., in Australia, fluoride is still recommended as safe and effective for pregnant women.

The New South Wales Health Department, in 1973, endorsed and adopted the policy of recommending fluoride to expectant mothers. Professor Noel Martin of Sydney University Dental School was recorded in the **Medical Journal of Australia**, 2nd June, 1973:

*"It has been conventional practice also to give a fluoride supplement during the second and third trimesters [a period of three months] of pregnancy at a rate of one and a half milligrams of fluoride a day ... with perfect safety ..."*

The Australian Prescribing Manual, MIMS (1980), recommends the following dosage of fluoride tablets or drops for pregnant women:

*"For expectant mothers: 0.75 milligrams per day."*  
This recommendation includes **fluoridated areas**.



In America and the rest of the world, fluoride supplements are not recommended for use in fluoridated areas; and are not prescribed for pregnant women, irrespective of whether they drink fluoridated water.

### **Sudden Death Syndrome (This is a U.S. term and unrelated to S.I.D.S.)**

*"How many childhood deaths from "sudden death syndrome" are associated with the consumption of, or overdose of fluoride from tablets, toothpastes, and dental treatments? This is still hard to determine. Even ... where it was clearly shown that these childhood deaths were due to fluoride, the attending physicians and dentists refused to admit openly that fluoride was the killer. Think how much harder it is to recognize fluoride as the villain when it works more slowly, as in the following case related by Cynthia Markos of Battle Creek, Michigan:*

### **Fluoride rinse caused sickness**

*"It all started when my 5-year-old son, Eric Markos, was given fluoride rinses weekly at the Head Start Program. Naturally, I signed a permission slip for him to participate in the program; I was always led to believe fluoride is great.*

*... Eric started the Head Start Program on October 14, 1980. The fluoride rinsing started the week of October 20th, 1980. Eric was having stomach aches once-twice a week. His appetite was not like it had been, he was always tired and wanted to sleep a lot. One of his teachers informed me that he was sick quite often at school and had to lie down. She said he would sometimes turn pale in the face when he complained of stomach aches. His problem seemed to get worse, more severe pain on the weekends. Finally, on February 20, 1981, I took Eric to see his pediatrician, Dr Joseph Levy. Dr Levy examined Eric in his office as thoroughly as possible. ... The doctor thought it was possibly his nerves [were] doing this. As Eric's mother I didn't go along with this theory at all. Dr Levy could find no physical problems with Eric. Eric continued having stomach problems, loss of appetite, and fatigue.*

*On March 17, 1981 I met Mr Andrew Craig. He got on the subject of fluoridated water in the city of Battle Creek. He made a statement which really hit home with me. 'Fluoride is a poison and can cause, in small children especially, gastrointestinal tract problems.' After talking with Mr Craig about fluoride, I informed him of my son's problems and that he was on a fluoride rinse program. He then gave me quite a bit of information pertaining to fluoride. After reading all of the information and thinking back about when Eric's problems started I decided this could be the cause of his stomach aches. So I took Eric completely off the rinse program, fluoridated toothpaste at home, and all the natural fluoride food and drinks.*

*Well, Eric's health was 100% better after just one week of being off the fluoride. I look back now and realize how sick Eric really was. Seeing him healthy now is such a great relief, I don't want to think about what could have happened to him if we hadn't caught the fluoride overfeed in time."*

## Mass Fluoride Poisonings

*"Mass poisonings from fluoride emissions from aluminium, phosphate, and other industries have been reported in Maryland, Florida, Quebec, Ohio, Oregon, Washington, and British Columbia, as well as in other places. In an air pollution disaster in Donora, Pennsylvania, 20 people lost their lives with lethal levels of fluoride in their blood. In another incident in the Belgian Meuse Valley, 60 persons lost their lives. In Spencer County, Indiana, population 18,000, 79 persons living around a fluoride-polluting plant died from a disease called **"sudden death syndrome."** The coroner is convinced that fluoride emissions from the local aluminium plant were to blame."*

Excessive discharge of fluoride into the air are only one of the means by which people can be exposed to lethal doses of fluoride.

## The Annapolis Fluoride Spill

*"On November 11, 1979, up to 50 parts per million fluoride was dumped into the Annapolis, Maryland public water system. This resulted in the poisoning of 50,000 people. At the request of the local newspaper, the Annapolis Evening Capital, Dr Yiamouyiannis went to Annapolis to investigate the damage that had been done. He conducted an epidemiological study and found that approximately 10,000 people exhibited acute symptoms of fluoride poisoning. His findings were subsequently confirmed by the Maryland State Department of Health. While the Maryland Department of Health refused to disclose the number of citizens who died of heart failure due to the spill, Dr Yiamouyiannis found that more than 5 times the normal number of people died of heart failure during the week following the spill.*

*Dr Yiamouyiannis enlisted the aid of Dr Waldbott who conducted a clinical survey of people in the Annapolis area. Dr Waldbott interviewed 112 persons who believed they had suffered adverse reactions from the spill. He recorded the presence or absence of known symptoms of fluoride poisoning. Of the 112 interviewed, 103 were diagnosed as suffering from fluoride poisoning; of the 103, 62% complained of musculo-skeletal symptoms, 65% neurological symptoms, 81% gastrointestinal symptoms, 59% urological symptoms, and 13% dermatological symptoms. These results confirmed already-reported information about fluoride intoxication from drinking water."*

This content of this 'Deaths' section is from: *Fluoride: The Aging Factor*, pp 11-19.

## Lethal Overdose in the Dental Chair

On January 20, 1979, the *New York Times* ran the following story:

***"\$750,000 Given in Child's Death in Fluoride Case - Boy, 3 Was in City Clinic for Routine Cleaning***

*A State Supreme Court Jury awarded \$750,000 to the parents of a 3-year-old Brooklyn boy who, on his first trip to the dentist in 1974, was given a*

*lethal dose of fluoride at a city dental clinic and then ignored for nearly five hours in the waiting rooms of a pediatric clinic and Brookvale Hospital while his mother pleaded for help, and he lapsed into a coma and died.*

*Mrs Kennerly testified that she took William, born on Feb. 7, 1971, for his first dental checkup on May 24, 1974, to the Brownsville Dental Health Centre, a city clinic at 259 Bristol Street.*

*There, he was examined by Dr George, who found no dental caries and turned the boy over to Miss Cohen, a dental hygienist, for routine teeth-cleaning. After cleaning William's teeth, witnesses explained, Miss Cohen, using a swab, spread a stannous fluoride jell over the boy's teeth as a decay-preventive.*

*According to Mrs Kennerly, Miss Cohen was engrossed in conversation while working on William and, after handing him a cup of water, failed to instruct him to wash his mouth out and spit out the solution. Mrs Kennerly said William drank the water.*

*According to a Nassau County toxicologist, Dr Jesse Bidanset, William ingested 45 cubic centimetres of 2 percent stannous fluoride solution, triple an amount sufficient to have been fatal.*

*William began vomiting, sweating and complaining of headache and dizziness. His mother, appealing to the dentist, was told the child had been given only routine treatment."*

## **DERMATITIS**

*"... I am one of the estimated 10% of the population who are sensitive to fluoride [so said Mrs B. Wilkes in her submission to the ACT Inquiry]*

*During the year 1977 I developed severe dermatitis. My skin became red, blistered, suppurating. Irritation was intense. I consulted by local G.P. who tried various medications and ointments over a considerable period of time.*

*I then decided to try an alternative G.P. When his treatments all failed, he referred me to a Specialist Dermatologist. After exhaustive treatments, the Specialist arranged for skin tests to be made at the Allergy Department of the Royal Melbourne Hospital. The results [of] 33 skin tests were all negative.*

*It was at that time, when I had been under treatment for 3 years, and everything, including Acupuncture and Cortisone had been tried, that my husband suggested that I ask the Specialist and the Royal Melbourne Hospital whether I could be being affected by Fluoride. They both said that was not possible, and my request to the Royal Melbourne Hospital to be tested for reaction to fluoride was declined, as a waste of time.*

*The dermatitis was diagnosed as "Contact Dermatitis", but I was living the life of a hermit, contacting no soaps or detergents, and touching*

*nothing without gloves. I had experimented with diets, all to no avail. I had never had any form of dermatitis prior to 1977.*

*My husband then decided to investigate for himself. He studied all the literature he could obtain on fluoridation, and concluded that my dermatitis could be caused by ingested fluoride. So we decided, having already spent a fortune in medical expenses, to say nothing of the inconvenience, that it was worth taking the gamble to buy an ionic water purifier capable of removing fluoride from all the water that I would be ingesting in drinking and cooking.*

*The purifier was commissioned on 2 Jan, 1980. The first manifestation was reduction in irritation within a couple of weeks, followed by gradual but steady clearing of the skin eruption back to normal over the following 6 months.*

*Fluoridation is a confounded nuisance to me. I can only drink or dine away from home on rare occasions. I dare not consume any canned food, most likely prepared with fluoridation water. ...*

*The Medical Authorities who treated me over a period of 3 years should have suspected that fluoride might be the cause of the dermatitis. If they did have an inkling but refrained from saying so, on account of the "Political aspect", or being unwilling to clash with their "Medical Union" who authorised Fluoridation, that attitude amounts to criminal behaviour. But for our finding the cause of the trouble, I would now be in a lunatic asylum, heavily drugged to quell the intense irritation, or I would be dead.*

*There is absolutely no doubt that I am sensitive to fluoride. The dermatitis can be re-created at any time by using tap-water, or fluoridated toothpaste.*

*I have offered myself to the Australian Medical Association, and to the Victorian Health Department, to conduct any tests that they determine. Both bodies declined to accept my offer, stating that my dermatitis was never caused by fluoride, but by some substance which I failed to detect.*

*...In my case, it is an affront to my civil liberty to suffer the inconvenience of having to avoid domestic water, to remain free of Dermatitis and other side effects to which I could succumb.*

*It is against civil liberties to force people to consume a poison which does produce innumerable drastic side effects to some of the population.*

*I welcome the opportunity to hear each of my claims debated separately in an honest fashion by the proponents of Fluoridation who may try to refute the facts. This would be a welcome change from their usual bald general statements that "Fluoridation has been shown to be beneficial and has no side effects", without producing solid facts to back up their claims."*

*Wilkes (Mrs) B., Submission, 26-4-90, pp 1-3.*

The story of Mrs Wilkes was similar to the details of literally hundreds of cases reported to the ACT Inquiry, either in written or verbal submissions, mentioning personal experiences or the results of studies.

### **DOWNS SYNDROME (Mongolism)**

In 1954, Dr Ionel Rapaport, a French-trained Doctor of Medicine and an endocrinologist, was working at the Psychiatric Institute of the University of Wisconsin, Madison. A report in *Poison on Tap*, gave the details:

*In searching for clues to the cause of Down's Syndrome, Rapaport noted the high prevalence of cataracts in mongoloids above the age of twenty (70%). He observed that nearly 40% of the mongoloids at one of the Wisconsin State colonies had been born in Green Bay, whereas only 17.5% of the epileptics came from that city. Also the incidence of blindness due to senile cataracts in persons over sixty-five years in Green Bay was 44% higher than in other major cities of the State.*

*He recalled that in 1853, Chatin had linked goitre and cretinism, another birth defect, with a lack of iodine in drinking water and iodine deficiency has been associated with fluoride in the water. Dr Margaret Crawford pointed out in 1972 that moderate concentrations of fluoride in drinking water can block iodine absorption. Rapaport noted that many mongoloid children has mottled teeth, a fact now well established.*

*Therefore, he determined the fluoride content of Green Bay water and found that it had a much higher natural fluoride content (1.2 to 2.8 ppm) than in most other Wisconsin towns.*

*He pursued this lead, and found the place of birth of all mongoloid children in institutions on 1st July, 1956, in the States of Wisconsin, North and South Dakota and Illinois, and grouped them according to the official fluoride content of their municipal water supply.*

*In the 687 urban cases, he found a statistically significant, two-fold greater prevalence of mongoloid births in communities with 1 part per million or more fluoride in the water than there was in those with little or none.*

*He presented these findings to the French National Academy of Medicine in Paris, and a report was published in the Journal of that Academy in November, 1956.*

*Rapaport also correlated the age of mothers with the the fluoride content of the water. The mean maternal age in low fluoride areas was 34.26, whereas in the 1 ppm communities it was 33.7, and in the high (1.2 to 2.8) areas, it was 29.81 years. Therefore the difference was not due to the age of the mothers. It is well known that the prevalence of mongolism is higher in older mothers."*

Shortly after Rapaport's study appeared, W.T.C. Berry of the British Ministry of Health, published a study of the occurrence of 199 cases of Down's Syndrome which apparently contradicted the study by Rapaport. However, Berry's study

has been challenged on a number of points (the report in *Poison on Tap*, continues:)

*-the sparcity of the data,*

*-the survey did not provide maternal age data,*

*-in England there is a ten-fold greater tea drinking habit which can often erase the narrow difference in fluoride intake between the high and low fluoride cities and,*

*-tea drinking in Britain has been linked with increased incidence of other birth defects, namely anencephalus (absence of brain) and still-births, particularly in soft water areas.*

*Rapaport's findings, ... raised a considerable controversy in the United States.*

*Therefore he undertook a second investigation in 1959 ...*

*The study was limited to a single State, Illinois; and the Department of Public Health provided chemical analyses of the potable water of all towns with 10,000 to 100,000 inhabitants.*

*Rapaport checked every case of mongolism in the registries of all the specialised institutions in the State. All cases of mongolism born between 1st January, 1950 and 31st December, 1956, for which the habitual residence of the mother between delivery was in towns of 10,000 to 100,000 inhabitants, were included in the study.*

*The frequency of mongolism was calculated in relation to the number of cases per 100,000 births.*

*The results of the second study are as follows:*

*Frequency of mongolism in Illinois towns of 10,000 to 100,000 inhabitants.*

<b>Births</b>	<b>Fluorine</b>	<b>Cases of Mongolism</b>	
<b>Total Number</b>	<b>mg/litre ppm</b>	<b>Number</b>	<b>per 100,000</b>
196,186	0.0 - 0.2	67	34.15
70,111	0.3 - 0.7	33	47.07
67,053	1.0 - 2.6	48	71.59

*This second study also was published in the Bulletin of the French National Academy of Medicine.*

Two later studies, Needleman et al (and others) and another published in the November, 76 issue of the Journal of the American Dental Association, both challenged Rapaport's studies, but both showed a higher incidence of mongolism with increasing levels of fluoride in the water.

***Poison on Tap***, pp 137-140.

**ECZEMA (a skin inflammation)**

See; ***Dermatitis*** section above.

**ENZYME (A protein substance that influences living cells)**

The Nobel Laureates, Hugo Theorell and Otto Warburg both pointed out that fluoride ions are potent enzyme inhibitors.

Dr Theorell, prizewinner for research in the field of enzyme chemistry, stated:

*"The fluoride ion exerts its toxic effect by inhibiting the action of many enzyme systems."*

***When Doctors Disagree***, Warnings by Physicians, Dentists and Scientists Around the World On the Known Dangers and Possible Hazards Of Fluoridation, June, 1967. Pub. Greater N.Y. C'tee Opposed to Fl, Inc.

Professor Theorell based his opposition to fluoridation on the fact that fluoride is an established enzyme poison, and potent inhibitor of many enzyme systems. His research, together with that of others in the Medical Nobel Institute, had much to do with the unanimous ruling of Sweden's Supreme Administrative Court, December 1961, that fluoridation of water supplies is not permissible under the Swedish Health Act.

Dr J.J. Rae, for 20 years associated professor of chemistry and Ph D., in biochemistry and organics, University of Toronto, stated"

*"... it is known as a scientific fact that fluoride is deadly poison to enzymes, upon which all life depends."* [my emphasis]

***When Doctors Disagree***, (as above)

The World Health Organization reported on 'Fluoride and Enzyme Inhibition:

*"Fluoride can partly bring about enzyme inhibition by being absorbed on (and thus blocking) the active sites of the enzyme required for formation of enzyme-substrate complex."*

W.H.O., Fluorides and Human Health, ***Monograph***, 1970.

Judge Jauncey, in his 390 page opinion on the evidence presented to him during the 1981 Edinburgh Court Case, stated:

*"It is not disputed that fluoride at certain concentrations can produce degrees of inhibition in enzymes. ...*

*... I consider that the petitioner (the anti-fluoridationist) is well founded in submitting that drinking water fluoridated to 1 ppm can in some circumstances cause enzyme inhibition."*

Strathclyde, Court of Session, Edinburgh, **Judicial Opinion.**

### **GASTRIC HAEMORRHAGE (Stomach Bleeding)**

The Victorian Inquiry Report points out that in an acid solution, some fluoride ions could combine with hydrogen to form hydrofluoric acid, which is extremely corrosive. But they add (Para 6.35):

*"Potable waters are invariably maintained at a pH close to neutral (i.e.. 7), and certainly within the range 6-8. In this pH range formation of HF and HF<sub>2</sub> is quite insignificant. At pH4, some F would be converted to HF<sub>2</sub>."*

The important factor they omit here is that the pH of our stomach juices is often as low as pH 2 to 3.

*"Many years ago, Professor Kaj Roholm pointed out that both fluoride and silicofluoride salts can react with the stomach's hydrochloric acid to produce hydrofluoric acid that can penetrate the lining of the stomach walls in a non-dissociated state to cause corrosive damage.*

*In 1962, one severe case was reported in the specialists' medical journal **Fluoride**, by Dr George Waldbott. Gastric haemorrhages had necessitated the removal of a large portion of the stomach of a nine year old boy. After the boy's return home he promptly suffered another haemorrhage so severe that a part of the upper bowel had to be removed. This time, careful questioning revealed that several hours before the second incident, the boy had taken a 1 milligram fluoride tablet. The attending physicians concluded that the fluoride tablet had caused the haemorrhages, and thus was responsible for the child losing much of his digestive tract."*

*Poison on Tap*, p 98.

### **GENERAL ILLNESS**

*"Dr Jonathan Forman, an allergist from Columbus, Ohio, relates: "In our own practice, we have run down cases of hives, behaviour problems, and several patients which others had labeled neurotics, due to fluorine intoxication." He pointed out when these people were put on distilled water and when fluorine-containing foods were removed from their diet, they recovered. When fluorine was introduced back into their diets, their symptoms returned.*

*Dr George Waldbott of Warren, Michigan observed fluoride-induced diseases in over 400 cases of fluoride exposure. One of his most severe cases was a 35-year-old woman from Highland Park, Michigan, which was fluoridated at that time. Dr Waldbott recorded her symptoms as*



*follows: "She was constantly nauseated, vomited frequently, had sharp epigastric (abdominal) pain and diarrhea, and complained of pain in the lower back.*

*She reported progressive weight loss, had repeated hematuria (bloody urine), uterine hemorrhages, and constant pain throughout her head. Her eyesight had gradually deteriorated. She had noticed scotomas (blind spots) in both eyes and lesions on the arms and legs. Weakness in the hands and arms prevented grasping certain objects. Furthermore, due to loss of control of her legs and lack of coordination of her thoughts, she eventually became incoherent, drowsy, and forgetful.*

*Her health deteriorated further, forcing her to a bedridden state. She was hospitalized for diagnostic tests. Nine specialists were unable to determine the cause of her disease.*

*After the tests were completed she began drinking unfluoridated ... water. Within two days the gastrointestinal symptoms and headaches subsided without medication, and she was soon well enough to be discharged.*

*At home she strictly avoided ... [food with a] high fluoride content. The headaches, eye disturbances, and muscular weaknesses disappeared in a most dramatic manner. After about two weeks her mind began to clear, and she had a complete change in personality. In subsequent tests, each time she was given fluoride, her symptoms returned."*

**Fluoride: The Aging Factor.** pp 9-10.

## **HEADACHES**

In 14 years of research (Feltman R. and Kosel G. *Journal of Dental Medicine*, 1961.) involving blind study, headaches were shown to occur with the use of fluoride tablets and disappear upon the use of placebo tablets, only to return when the fluoride tablet was, unknowingly to the patient, given again. (Details of study at start of 'Adverse Health Effects' section).

## **IMMUNE SYSTEM ATTACK**

*"The immune system is the body's major defense mechanism against disease. It is composed of white blood cells and a number of tissues throughout the body that make or activate white blood cells. These cells serve as the body's surveillance system to recognize and destroy foreign agents such as bacteria, viruses, and chemicals, as well as the body's own obsolete, damaged, or cancerous cells.*

*When the immune system is working optimally, infections are stopped quickly and the disease produced is mild.*

*As people age, their immune system becomes less able to recognize the differences between the agents that it should attack and the component cells or cell products of their own body. This may result in an "auto-immune" allergic response (an auto-immune response is a process in which the immune system begins to attack and destroy the body's own tissue.) In such cases, the clinical observations of skin rashes, gastrointestinal disorders, etc., which are common among the elderly, will result. Many scientists believe that the cumulative effect of tissue damage by the auto-immune response is a major factor in the aging process.*

*Even when white blood cells properly recognize the agents they should be attacking, the speed with which white cells get to these agents and destroy them diminishes with age. As a result, the body's ability to fight infections is retarded and the "elderly" patient suffers much more severe diseases - some even leading to death - than their "younger" counterparts, who, when challenged with the same infections, suffer little, if any discomfort."*

*Fluoride the Aging factor*, 1986, p 21.

### **JAUNDICE (Ill health causing yellowing of Body)**

Gilbert's disease (chronic mild jaundice) was shown by Dr John Lee to be caused by fluoridation. (See *Toxic effects of Fluoridation*.)

### **KIDNEY DISEASE**

Judge Jauncey's Opinion in the Edinburgh Court Case, highlighted the dangers of fluoride accumulation and renal failure. Judge Jauncey stated:

*"... when renal function is impaired there will come a time when the kidneys will no longer excrete the amount of fluoride which is being ingested with the result that the plasma fluoride level rises and excess fluoride is deposited in the bone. This situation arises when renal function is reduced to 20% and retention of fluoride increases progressively as renal function further decreases. When renal function is reduced to 10% serious retention is likely.*

*As an individual ages normal atrophy of the tissues occur so that by the age of 70 as a result of age alone renal function is reduced by one half. If the individual also suffers from one of the common diseases, such as high blood pressure, hypertension, diabetes or arteriosclerosis his renal function will be reduced still further."*

Edinburgh Court - Judge Jauncey's *Opinion*, p 260.

Because kidneys are involved in eliminating fluoride from the body, scientists have indicated that kidneys can be overworked:

*"Cases of kidney disease are a special risk (due to poor elimination of fluoride and considerations of thirst)."*

Dunlop, Sir Edward, C.M.G M.S. F.R.C.S., F.R.A.C.S., F.A.C.S. Extracts of speech given Melb. Town Hall, 4-6-75.

*"Dr Luis Juncos and James Donadio of the Mayo Clinic described a 17-year-old girl and an 18-year-old boy who had skeletal and dental fluorosis, accompanied by markedly reduced kidney function. The youth's primary source of drinking water contained 1.7 and 2.6 parts per million fluoride, respectively. In regard to these two cases, Drs Juncos and Donadio concluded that either fluoride was damaging the kidney or that fluoride was not being removed from the body because of an already damaged kidney. The possibility that fluoride damaged the kidneys in these cases is supported by evidence from the Yerkes Primate Research Centre in Atlanta and Cornell University, which shows that 1 to 5 parts per million fluoride causes interference with enzymes in the kidney and kidney damage in laboratory animals."*

**Fluoride: The Aging Factor.** (Also mentioned in ACT Inquiry Report)

*"An accidental leak of fluoride into the water supply of Annapolis, Maryland, caused the death of a man with kidney problems. Medical Examiner, Homez Guard, M.D., said he found 30 times the normal amount of fluoride in the patient's body tissues. Eight patients had been receiving kidney dialysis [separation of waste matter from the blood by a machine] when a valve which controlled fluoride inflow at a water station was mistakenly left open. The other seven patients also became ill, but they apparently recovered. (American Medical News, December 14, 1979).*

*This "side-effect" of death from fluoridation is quite a price to pay for its questionable effectiveness in preventing tooth decay."*

**The People's Doctor**, Vol 2, No 9, p 5.

*"In the 1970's, several major overseas hospitals, such as the Mayo Clinic, Ottawa General Hospital and Montreal General Hospital, reported cases of serious bone diseases in patients undergoing long-term treatment on kidney machines which used fluoridated water. Nowadays, many ... kidney machines have a 'filter' to remove fluoride from the water."*

Diesendorf M., Sutton P., Fluoride: New Grounds for Concern, *The Ecologist* Vol 10, No 6, 1986, p 239.

*"The available evidence suggests that some patients with long-term renal failure are being affected by drinking water with as little as 2 ppm fluoride."*

*Continuing Evaluation of the Use of Fluorides*, American Assn. for Advancement of Science, Taves, Johansen and Olsen, p 290, 1979.

The treatment for eliminating small kidney stones, via the urine, after medical treatment (*Blacks Medical Dictionary*, Vol 34, 1984) is given as (p 510), "... **ensuring large amounts of urine by drinking large amounts of bland fluids.**" (treatment for diseases of urethra includes the same and states (p 929), "... **drinking of milk, water, and other bland fluids ...** ." [my emphasis]

If fluoride is a major contributory factor in kidney disease, it must result in an increase in the overall number of people who suffer from the disease after the introduction of artificial fluoridation. An examination of the increase in kidney disease in Australian States over a five year period is given in the Australian Kidney Foundation, 7th Annual Report (1984), *Kidney Disease Intake of Hospital Kidney Patients*:

State Increase	Year (from)	Year (to)	%
Victoria	*1977	1981	64%
N.S.W	1977	1981	25%
W.A.	1977	1981	109%
Australia-wide	1977	1981	40%

\* Fluoridation began in Victoria in 1977.

These statistics must be approached with caution. They cannot be interpreted simplistically at face value to show a connection between the increase in kidney disease and artificial fluoridation. They are however, cause for concern. What we do know from them, is that firstly, a lot more people are suffering from kidney disease, and secondly, it's cause has not yet been identified. We also know that most of the population of these States is compelled to drink water that is fluoridated.

## **MONGOLISM (See Down's Syndrome)**

## **OSTEOFLUOROSIS (Hardening of bone)**

*"Professor Lennart Krook and Dr George Maylin of Cornell University (1979) (recording what they termed "yet another man- made fluoride pollution disaster") showed that the target cells for fluoride poisoning in cattle, include, in addition to the ameloblasts and odontoblasts, the dental pulp cells and - in the bones - that the resorbing osteocytes, are*

*the primary target cells, and that osteoblasts are also affected by fluoride ingestion."*

*... Those Cornell Researchers have shown that bone lesions in chronic fluorosis are dose dependent, and they recognise three categories:*

***In moderate*** chronic osteofluorosis, there is an arrest of absorption of bone but only minor interference with apposition of new bone; the net result is hardening and overgrowth of bone.

***In more severe***, chronic osteofluorosis, there is arrest of absorption of bone and atrophy [a wasting away] of bone-building cells. This results in hardening of bone without overgrowth.

***In most severe*** chronic osteofluorosis, there is death of bone absorbing cells, and atrophy [a wasting away] of bone building cells. For these two reasons, osteopenia - or low density bone, results. [my emphasis]

*According to the data produced in this important research, "mottled" teeth are NOT an isolated symptom of chronic fluoride poisoning; bone cells are damaged too, and are even more sensitive to fluoride poisoning than are ameloblasts."*

***Poison on Tap***, pp 108-9.

## **OSTEOMALACIA (softening of the bones)**

*"Large doses of fluoride can produce osteomalacia in man and also in the rat. In view of this histologic [the science of organic tissues] data I do not believe that fluoride is useful in high doses in human beings."*

Bernstein D. S., M.D., *New England Journal of Medicine*, 16-4-70, Vol 282, No 16, p 915.

## **OSTEOPETROSIS (Weak, brittle bones)**

***N.B. See***, Editorial: Effect of Fluorine on Dental Caries, ***J.A.D.A.***, Vol 31, pp 1360-1363. Ref at beginning of this Dissenting Report.

## **OSTEOPOROSIS**

*"In 1977, Dr Jennifer Jowsey, one of the originators of fluoride therapy for osteoporosis, admitted that fluoride was leading to a greater degree of osteoporosis (demineralization) in some bones while leading to osteosclerosis (overmineralization) in others. In other words, fluoride treatments of osteoporosis "robs Peter to pay Paul" and leads to general weakening of the bones." See 'Breaks and Fractures' for more detailed analysis.*

***Yiamouyiannis, Fluoride: The Aging Factor***, p 46-47.

## **OSTEOSCLEROSIS (Hardening & increased bone density)**

N.B. See Osteosclerosis.

## **POISONING**

A double-blind study was conducted in the Netherlands by ten family physicians with large practices in the fluoridated regions. Also in the group were two biologists, a neurologist, a pharmacologist and a notary (a public officer authorized as a witness to legal matters). Two more specialists, an allergist and a dermatologist were advisors to the group.

The notary was included because, as Dr Moolenburg said:

*"What we wanted was absolute objectivity in our discussions and the legally trained mind is better at that than family physicians."*

In their Report "A Double-blind Test for the Determination of Intolerance to Fluoridated Water", they make this important observation:

*"During the next months, it was demonstrated that when you do not look for an illness, you will not find it. Right at the start the doctors were rather skeptical about the research as they had not seen anything, but, as the weeks and months went by they began to recognise patients with side effects. After that we saw more and more patients with the complaints described in the literature."*

Dr Hans Moolenburgh, *Fluoride - The Freedom Fight*.

The study was a carefully controlled double-blind investigation of patients drinking various waters contained in bottles identified by secret codes. Every two weeks the coded bottles were changed and the physicians recorded any complaints from each patient under examination. Only the notary knew the code and after sixteen weeks of changing the drinking water eight times and recording the results, the reports were delivered to the notary in sealed envelopes.

When all the bottles were returned, together with the sealed results, the notary, with two witnesses, broke the seals and compared the code of the bottles with the complaints of the patients.

Dr Moolenburg summarised the study:

*"We, as a group of family physicians, found that between 1% and 5% of our patients reacted adversely on fluoridated water. That these complaints had such a general character that they could be recognised when you looked for them but that these complaints were always overlooked when you did not realise what you saw. That, contrary to what we thought in the beginning, we were not observing rare allergic phenomena but low grade poisoning. And, that all complaints but the*

*joint troubles, cleared up in, at most, five days after stopping the intake of fluoridated water."*

**Moolenburg H. *Fluoride - The Freedom Fight***

The scientific validity of this study was upheld by the Dutch High Court in June, 1973.

### **RSI-TYPE INJURIES. (Repetitive Strain Injury)**

Drs Sutton and Smith and other researchers have shown that fluoride could be a major factor in diseases having RSI- type symptoms:

*"Painful and crippling conditions, mainly of the fingers and arms, associated with their overuse performing repetitive movements, are termed repetition (repetitive) strain injury (RSI) in Australia and New Zealand. (Other terms are used for similar conditions: overuse injuries, carpal tunnel syndrome, tenosynovitis ['tennis elbow'], etc.) Stone (Stone W.E. Repetitive strain injuries, Med J Aust 2: 616, 1983.) identified three causes of injury: rapid, repetitive movements; less frequent, more powerful movements and static load. These conditions affect many thousands of workers and cost hundreds of millions of dollars annually in compensation payments.*

*RSI is usually thought to be caused by ergonomic [the study of the relationship of individuals to their work] factors - incorrect working methods and postures. The possibility that a pathological condition may be present is mentioned only rarely.*

*Actions similar to those now associated with RSI have been performed for many years with similar faulty postures but with few complaints. This suggests that a new factor has arisen during the last few years which has made some people much more susceptible to the development of RSI. One such factor is the recent marked increase in the fluoride content of the environment. The condition of 'fluorosis' is due to a high level of fluoride in bone, resulting from excessive intake of fluoride.*

*... Some of the symptoms of fluorosis are: aches and stiffness in muscles/bones (in the arms, shoulders, neck, legs, jaws and lower back), sometimes accompanied by muscular weakness, muscle spasms or tingling sensations in the fingers and feet (Waldbott G.L. Burgstahler A.W. McKinney H.L. Fluoridation: the Great Dilemma. Coronado Press, Kansas, p 393, 1978.) The similarity between those symptoms and the symptoms of RSI, and the recent increase in the fluoride content of the environment, suggest that RSI might be due partly to excessive fluoride absorption (Sutton P.R.N. Is fluoride ingestion a cause of repetitive strain injury? Aust Secretary, 10: 10, 1985.)*

*The fluoride/RSI hypothesis is that excessive absorption of fluoride leads to an abnormally high fluoride level in bone. This affects the resorbing osteocytes, disrupting the remodelling process, and leading to reduced functional efficiency and to discomfort and pain, which are features of*

fluorosis (Vischer T.L., Bernheim C., Guerdjikoff C., Wettstein P., Lagier R., Industrial fluorosis. In: T.L. Vischer, ed. Fluoride in Medicine, Huber, Bern, pp 96-105, 1970.)

Readings taken in 1985 of the concentration of fluoride in the bones of women office staff in Melbourne, of average age 26 years, who had ingested fluoridated water for a period of only about eight years, (Sutton 26) strongly suggest that Sir Edward's (Dunlop) fears were justified, for in the women who had been medically diagnosed as having 'RSI' the fluoride content of their bones was increasing at the phenomenal rate of 103 ppm annually. (The annual rate of increase in non-fluoridated areas was 5.4 ppm in women and 3.3 in men). (Sutton 25). If this rate of increase continues in these women, by the time they are about fifty-five years old they will have accumulated a fluoride concentration in their bones which is similar to that associated with the onset of crippling fluorosis."

Sutton. P.R.N., Is Fluorosis an Etiological Factor in Overuse Injuries? *Medical Hypotheses* 21: pp 369- 371, 1986.

## Skeletal Fluorosis

Although skeletal fluorosis, which can cripple, is usually associated with drinking water containing several parts per million fluoride, it has been recorded as occurring where the fluoride concentration in the water is only 0.73 ppm. (See Table A following).

Sir Edward 'Weary' Dunlop, C.M.G., O.B.E., M.B., M.S. (Melb.), F.R.C.S., F.R.A.C.S., F.A.C.S., D.Sc., Chairman, Anti-Cancer Council of Victoria, is a remarkable Australian, known and respected throughout the country, spoke of the dangers of artificial fluoridation:

"Objection to fluoride on scientific grounds had been based on various points. The one about which I am most personally informed is the incidence of toxic fluorosis, especially in the skeleton. In the course of work under the Technical Division of the Colombo Plan in India, my distinguished friend and colleague, Professor Singh of Patiala Medical College, Punjab, India, showed me cases of Skeletal fluorosis in which the spinal overcalcification and deformity had led to paralysis and crippling ... from natural waters with fluoride levels ranging from 1.2 to 14 ppm fluoride.

Crippling deformities of the skeleton due to fluoride toxicity such as 'forward bending', 'stiffness of the spine', 'reduced mobility of the chest', and 'sproats on the bone', have been reported from different parts of the world.

These grave abnormalities, which I've personally seen, raise the question, 'Is fluoridation of water really safe?' This question is all the more disturbing when one notes the fact that in areas of endemic fluorosis, serious effects are much more common after forty years of exposure - in other words, there is a slow and subtle process in which fluoride, once put into the body, is hard to get out.



*The fact that lesser degrees of skeletal fluorosis are closely parallel to those of rheumatic [to do with a disease involving inflammation, swelling and stiffness of joints] diseases lessens the alertness of doctors."*

Dunlop, Sir Edward, C.M.G M.S. F.R.C.S., F.R.A.C.S., F.A.C.S. Extracts of speech given at Melbourne Town Hall, 4th June, 1975.

## SKIN DISEASE

It is reasonable to expect that the toxicity and widespread ingestion of fluoride, would result in a great many cases of adverse health effects. This is indeed the case as thousands of cases testify. The following are a small sample reported by Dr Yiamouyiannis in, *Fluoride: The Aging Factor*:

*"Dr John J. Shea of Dayton, Ohio relates one of his experiences: "Mr. E.H., age 48, consulted ... [Dr Yiamouyiannis] because of giant urticaria (itchy red skin eruptions) of one month's duration. The lesions involved mainly hands and feet and at times the entire body surface. At the first visit the lips and gums showed a marked edema (swelling). The lesions usually occurred about one hour after breakfast. The patient had been using a fluoridated toothpaste at that time.*

*He was asked to discontinue the fluoride toothpaste and not to take any medication. Three days later, he reported having had only a single hive and slight residual pruritus (itching). Six days later, he was completely free of symptoms. Three years later, this patient experienced another episode of generalized urticaria. In the morning he had inadvertently brushed his teeth with a toothpaste used by his family without realizing that it was a fluoride brand. The hives appeared within one hour of its use.*

*Dr S. M. Gillespie relates the following: "C.E.O., a seven-month-old female child, had been taking Tri-Vi-Flor (vitamin drops with fluoride) daily for five weeks. About that time she developed ... (itchy red skin eruptions) on the neck, face and in the ... [arms and legs] accompanied by diarrhea, abdominal cramps and bloody stool. The parents noted that the cramps occurred exclusively, shortly after the afternoon feedings when the baby received the fluoride drops. The drug, therefore, was discontinued. The skin immediately began to clear up. Within one week the eruption had healed, no medication had been prescribed. The child has been in good health ever since."*

*Fluoride: The Aging Factor, p 8.*

## SMOKING & FLUORIDE

In 1948, Dr Leo Spira published a paper in the leading Swedish Medical Journal, *Acta Medica Scandinavia*, in which he recorded the presence of

fluorine in the tobacco smoke obtained from a lighted cigarette. From his findings, since confirmed by a number of researchers, he postulated that:

*"... any fluoride found to be present in tobacco might act as a superadded local irritant in the production of cancer in the lung."*

*Poison on Tap*, p 207.

Cigarettes may also be another significant source of fluoride intake by humans. Okamura and Matsuhisa (1965) reported the following results for fluoride content of cigarettes:

Type of Cigarette	No of Brands Analysed	ug in Cigarettes			(ug F per) Cigarette (Average)
		Range		Average	
Japanese	16	42	to	640	157
American	19	34	to	420	244

Rose and Marier, 1977, National Research Council of Canada

Is it of any significant interest, with so many studies on cigarette smoking, that none have tested the fluoride content of tobacco and its relationship to cancer?

A report by five W.H.O. scientific groups said that the potential long-term effect of breathing fluoride 'at usual air pollution levels' is that it:

*"... promotes or accelerates lung disease".*

W.H.O. (1968) Research into Envir. Pollution. *W.H.O. techn. Rep*, Ser. No 406.

## SPONDYLOSIS (degenerative change in the vertebrae)

*"In 1942, a classic study was published in the British medical journal, Lancet. It was entitled: "Spondylosis Deformans in relation to Fluorine and General Nutrition", its authors were Drs Kemp, Murray and Wilson. Don't let the title put you off, it's absorbing reading, and it begins:*

*The radiological investigations to be described originated in the observation of the frequency of "round back" among children and adults in areas where "mottled" enamel was prevalent. The significance of fluorine has received little attention except from those interested in tooth formation and dental caries. Until recently it was considered that the lower level at which fluorine in drinking water would give rise to mottled enamel was 1 part per million. But Raeder Sognnaes 1941, and Sognnaes and Armstrong 1941, have suggested that in Tristan da*

*Cunha, where the fluorine in water is 0.2 parts per million, there exists a condition of threshold mottling evidenced by the white spots of a very mild degree of dental fluorosis. It is concentrations of fluorine between these mentioned levels that are of interest in the observations to be described.*

#### **Findings of Kemp, Murray and Wilson in Adults (Summarised)**

*The first persons radiographed were adults from the village of Bampton, near Oxford. They had been resident in the village since childhood and drank water from surface wells with a fluorine content varying between 0.3 to 1.2 ppm.*

**Case 1:** *Male, 53. Edentulous [toothless], but son had severe dental fluorosis, Considerable dorsal kyphosis, (forward bending of the spine), restricted spine movements posture resembling picture of cryolite worker in Professor Roholm's book - Fluorine Intoxication.*

**Case 2:** *Man aged 18, son of Case 1. Severe dental fluorosis with pitting of enamel. No obvious skeletal deformity.*

**Case 3:** *Female aged 38, edentulous, son who used same water, moderate dental fluorosis. No obvious spinal deformity.*

#### **Findings in Children**

*The first group of children (4), lived in Bampton and derived their water from a surface well containing, at different times, 0.3 - 1.2 ppm fluoride. All four children show severe dental fluorosis.*

**Case 4:** *Boy aged 15, severe dental fluorosis. Slight dosal kyphosis. Anterior bowing or cervical spine. Some irregular ossification [process of changing into bone] and local sclerosis of end plates in many vertebrae.*

**Case 5:** *Boy aged 13, severe dental fluorosis. Slight dorsal kyphosis.*

**Case 6:** *Girl aged 11, severe dental fluorosis. Some changes in lower dorsal and upper lumbar spine.*

**Case 7:** *Twin sister of above case, severe dental fluorosis, definite dorsal kyphosis and lumbar lordosis (forward spine curvature - lumbar region).*

*Two other families at Bampton were examined:*

**Case 8:** *Girl aged 15, severe dental fluorosis. Slight kyphosis.*

**Case 9:** *Girl 11, severe dental fluorosis, no spinal deformity.*

**Case 10:** *Girl 9, severe dental fluorosis, slight kyphosis.*

**Case 11:** *Girl 10, mild dental fluorosis, slight kyphosis.*

**Case 12:** *Mother of Case 11, mild dental fluorosis, slight dorsal kyphosis. Backache.*

**Case 13:** *Uncle of Case 11, mild dental fluorosis, slight dorsal kyphosis."*

**Poison on Tap**, pp 110 - 111.

**N.B.** The study lists a further 14 cases of an identical general nature to those above.

One point to note is that four Oxford City children were examined but revealed no dental fluorosis. Their drinking water contained no fluoride.

Dr Philip Sutton brought the Kemp Study (1942) to the notice of the Tasmanian Royal Commission into Fluoridation (1966-68).

### **Fluoride Dangers Disguised in Tasmanian Inquiry**

Commissioner, Mr Justice Crisp stated in his Report (p 91):

*"Another early report on the same nature cited by Dr Sutton, who did not refer however to later work in which it has been criticised was a report by Kemp et al.[and others] (1942) (\*18) of severe dental fluorosis in a village in Oxfordshire with 8 ppm F. In fact the condition does not seem to have been fluorosis at all but a hereditary complaint.(19) Other aspects of the same same work relating to skeletal fluoride were not confirmed by later work.(20)"*

*Mr Justice Crisp dismisses the significance of the Kemp Paper because [he claims]:*

*"The Oxfordshire village water contained 8 ppm fluoride, and*

*The dental fluorosis was NOT due to fluoride but was a hereditary complaint.'*

**Poison on Tap**, pp 112 - 113.

*\*Refs 18,19,20 given in original paper.*

Firstly, as earlier stated, the fluoride level was not 8 ppm, but 0.3 to 1.2 ppm. Secondly, none of the references that Justice Crisp quoted, did in fact claim that the Kemp Study related to hereditary complaints - as Justice Crisp alleged they did.

The Kemp paper was published by three senior scientific researchers in a highly esteemed English Medical journal, *Lancet*.

The paper was well constructed, objective, detailed and presented a "cautious" conclusion. Normally, it would have stimulated a great deal of interest and further research.

It is interesting to observe that Mr Justice Crisp, with the responsibility on behalf of the public of determining whether artificial fluoridation was effective or safe, could make such glaring and obvious errors - coincidentally in favor of fluoridation, like the dozens upon dozens of other mistakes he made in the Report of the 1968 Tasmanian Royal Commission.

## **SUDDEN DEATH FROM FLUORIDE**

*"Terry Leder, a dental hygienist from Glen Cove, Long Island, witnessed a ... tragedy in 1969. At the time she worked in a New York City dental clinic.*

*"One of my bosses was working on a patient and applied topical fluoride", Ms. Leder recalled in a recorded interview in 1979. "The child went into convulsions and died in the chair. We were all shocked. It happened so fast that nobody could do anything for him. It was just a few minutes after the fluoride was applied."*

*The clinic, claiming the child had died of a heart attack even though he had no history of heart problems, denied any responsibility for the death. Ms. Leder pointed out that the parents "never got the true answer."*

*Fluoride: The Aging Factor, p 14.*

## **THYROID**

Fatigue is a common symptom of fluoride toxicity.

*"The symptom of fatigue is probably the result of the inhibitory effect of fluoride on thyroid activity. As pointed out by the **Merck Index**, fluoride was formerly used to depress thyroid activity. As little as 5 milligrams, the amount consumed daily by people drinking fluoridated water, has been shown to lower thyroid activity in humans."*

*Fluoride: The Aging Factor, p 20.*

## **URTICARIA**

**N.B.** See Eczema & Skin Disease sub-sections.

## **The Potential For Harm**

If we do not act to prevent the compulsory drugging of most of the Australian population, we could become the victims that Professor Albert Schatz, a co-discoverer of the antibiotic streptomycin, spoke of, when he said:

*"Artificial fluoridation of drinking water may well dwarf the thalidomide tragedy."*

*Poison on Tap*, p 126.

## **Thalidomide**

In 1954, scientists working in the laboratories of a German company discovered a non-barbiturate hypnotic which was later marketed as Thalidomide. History shows that it took six years of diligent and persistent work by devoted people battling bureaucratic indifference, commercial self-interests and suffering personal character attacks before Thalidomide was finally unmasked as a horror drug.

In a remarkable statement for such a renowned scientist, Dr Dean Burk, former Head of the cytochemistry division, U.S. National Cancer Institute, said on oath before a Court in Pittsburgh:

*"The scientific and medical status of artificial fluoridation of the public water supplies has now advanced to the stage of the possibility of socially imposed mass murder on an unexpectedly large scale involving tens of thousands of cancer deaths of Americans annually."*

*Poison on Tap*, p 126.

## **Disadvantaged Groups**

The elderly, the very young, the malnourished and those who suffer illness are particularly susceptible to the toxic effects of fluoride.

In none of the studies has either the adult or the more matured population been studied to determine what physiological effects fluoridated water has on these groups.

*"Fluorine has been consumed at an increasing rate over the past 50 years. Change in disease pattern over that period of time has not been explained by medical science."*

Dr Charles Dillon, D.D.S., *The Biochemistry of Fluorides* **Dental Digest**. When Doctors Disagree, p 9.

**In summary:** the issue of the fluoridation of water supplies has been dramatised and politicised to the extent that the technical details and the weight which should be given to various scientific studies in the matter are often ignored in the shouting match.

## SECTION 2: CONSCRIPTION

### **Your Health Rights**

The case against coercive medication was compellingly made to the ACT Inquiry Committee in a publication entitled ***Your Health Rights***, which was endorsed by Dr Neal Blewett, then Federal Minister for Community Services and Health. It stated:

*"Doctors are experts but they are not infallible ... doctors may disagree with each other over the best treatment for particular problems. The final decision is ours ...*

*We need not submit to their treatments unless we so choose. It is up to us to stand up for what we regard as our rights ... it is our right to live our lives free from unwanted bodily interference.*

*The NSW Department of Health ... has developed the following list of patients rights:*

*Before any treatment ... is carried out, the doctor ... should give you a clear explanation ... any risks associated ... should also be explained. This explanation should include an outline of any after-effects, side-effects, or adverse outcomes.*

*Your consent is required before treatment begins. You are entitled to refuse such treatment (my emphasis)."*

Australian Consumers' Association, ***Your Health Rights***, Australasian Pub. Coy., 1988, Chapter 1.

The fact that fluoride is in the tap water and is invisible, obscures, for some, the principle involved. Many supporters of artificial fluoridation argue that individual rights are not violated by fluoridation at all and that being forced by the State to take fluoride into your body is neither mass-medication, nor undemocratic. Others believe that these assertions fail whether they come from the viewpoint of law, medical ethics, individual rights, or common sense. If the issue were to be expressed differently, say: whether or not government authorities have the right to force citizens to swallow their daily fluoride in tablet form, the "no" case might be particularly obvious. The fact that what some refer to as a drug (fluoride) is administered through the drinking water, changes the principle not at all.

### **Fluoridation - Good Intentions and Bad Principle**

*"Those who wish to fluoridate the community's water supplies are very powerful and very persistent in the face of a large and growing volume of opposition. Moved as they are by a genuine concern for the state of children's teeth, emotionally predisposed to attach very great authority to what purports to be the result of objective scientific method, they are wholly convinced that they have discovered a scientifically attested, safe method of remedying effectively and easily a serious menace to health. Hence their thinly suppressed irritation when their will is frustrated by*

opposition. Although this is one public controversy among many, yet, in this instance, because the bulk of professional opinion is aligned on one side, the opposition is contemptuously dismissed as agitation stirred up by an alleged "handful" of well-meaning but mischievous cranks.

But, however irritating to them the fact may be, try as they will the fluoridators cannot answer the objection that the measure is incompatible with human freedom. No amount of ransacking constitutional law books, invocation of legal authorities, appeals to the principle of parliamentary sovereignty, touches the principle, immediately evident to all unprejudiced men, that the forcing of any ingredient into the body of another is a most fundamental violation of his right to personal liberty. This cannot be denied. Of course, if we all wanted to drink 1 ppm of fluoride, there would be no difficulty. Hence the irritation of the authorities, convinced of their own good intentions and authoritative expertise, when through "pure ignorance", on our part we do not want to take what they say we so clearly ought to want. The question therefore must be faced: Why are some men no less stubborn in opposition to this measure than those in advocacy of it? All, no doubt, are equally public spirited; all, no doubt, equally and deeply concerned about the grave state of dental decay in children's teeth. The opposition fully appreciates the reasons animating the public authorities; their opposition is none the less unswerving. Why? There are two essential and related reasons.

First, though less important than the second, is a widespread suspicion of claims of infallibility by scientific experts in matters where it is very difficult for lay opinion to judge for itself. This is due in part, of course, to a number of recent disasters still fresh in the public mind which have resulted from uncritical acceptance of expert advice. Secondly, there is a growing suspicion that many scientists, doctors and health authorities are animated by a mistaken metaphysic and correspondingly misguided social thinking. Lord Douglas of Barloch puts his finger on the heart of the matter when he says of the fluoridation proposal: "the design may not be sinister, but the principle is thoroughly bad". Men are individuals with individual needs and requirements. They cannot be prescribed for in mass without doing injury to some individuals. Moreover, to treat individuals as though they were an undifferentiated mass is an insult to human dignity as well as a grave violation of human freedom. The mere fact that someone feels that his vital liberties are impaired does him real and long-standing psychological harm.

A precise analogy to the fluoridation proposal should help to clarify the vicious nature of the principle involved. Many people take flight from their own moral weakness and inability to resolve their unconscious conflicts into the spurious refuge of intoxication. If this form of escapism is persistent, chronic alcoholism can result, with further possible grave physical consequences in the shape of cirrhosis [liver disease] ... . When the culminating point of an individual patient's suffering is reached, it may well be the duty of his medical practitioner to prescribe, if available, chemicals or drugs relevant to his condition. But if this form of illness were to become rampant on a wide social scale, what would we think of a proposal by the public health authorities to add a chemical to the public water supplies to make everybody's livers more resistant to the effects of chronic alcohol in case they should be



*unfortunate enough to develop this form of weakness? Sickness, suffering, pain are frequently nature's warning symptoms that wrong ways of life cannot be pursued without paying a price. To seek by spurious mass application of chemicals to encourage the public in the belief that easy, morally effortless, remedies are available to enable us to escape the consequences of our own folly is to do incalculable damage. There are never such easy escapes available. To encourage people in such a delusion is to lead them to further moral debilitation.*

*The principle at stake in the fluoridation battle, rightly understood, emerges as the most vital of all principles in the conduct of human life. Children's teeth are decaying mainly because of the weakness of many parents (i.e. in not controlling the intake of refined carbohydrates by their children) and the avarice of commercial interests in exploiting the weakness of the parents and the sweet tooth of the children. It is imperative that this evil be tackled at the source. It would be a grave social crime to attempt by spurious remedies to conceal this profound social evil in our midst. What is urgently needed is a vast educational campaign at many levels on the essentials of health."*

**Memorandum** by Dr R.V. Sampson, D.Phil., of the Dept. of Politics, Uni of Bristol.

### **A Promise of Freedom**

Her Majesty, Queen Elizabeth II, at the Opening of Parliament, Canberra, on 8th March, 1977, made the following promise to the Australian people:

*"Today, the qualities of the Australian people, the character of the Australian society, and the resources of the Australian continent, hold out a great promise and a great challenge. My Government is determined to establish the conditions in which this challenge can be met; this challenge realised.*

*At the heart of my Government's policies lies a commitment to increasing the Freedom, opportunity and equality of the Australian people and concern with enhancing people's ability to make their own choice and live their own lives in their own way ..."*

When sodium silico-fluoride is no longer added to our water supplies, and we are no longer thus compelled to ingest regular, uncontrolled and unknown amounts of this toxic chemical, the people will be a giant step closer to the freedom promised by our Head of State.

### **Our right to Unmedicated Water**

*"No place is habitable without drinking water. The inhabitants of a modern city must depend on a common water supply, and every citizen has an equal claim to its purity; each has a right to obtain water from his tap - not medicine or soup! You may add any substance you wish to your own water; your neighbour may do the same. But neither has the right to interfere with his neighbour's right to draw unmedicated water from his own tap.*

*Our liberties are all of one piece, and an attack on anyone, is an attack on all. The most fundamental right is the right to decide what shall be taken into one's own body."*

*Poison on Tap*, p 188.

### **Fluoridation is Mass Medication Without Parallel in Medical History**

The U.S. Select Committee on Fluoridation in 1952 gave the reasons why fluoride is a drug, and artificial fluoridation is mass medication and not validly comparable to vaccination or chlorination. They stated:

*"... the Committee wishes to point out that the fluoridation program does constitute medication, and medication with which the entire population must necessarily be treated. The term "drug" is defined in part, in section 201 (g) of the Federal Food, Drug and Cosmetic Act, as articles intended for use in the diagnosis, cure, mitigation, treatment or prevention of disease in man and other animals, and articles intended to affect the structure of the body of man or other animals. Medicine deals with the prevention, cure and alleviation of disease. A reduction of the incidence of dental disease is the aim of fluoridation. It is safe to say that fluoridation is mass medication without parallel in the history of medicine. An analogy is vaccination, which is designed to prevent smallpox and not to treat persons who are afflicted with the disease.*

*It may be contended that people must submit to vaccination regardless of their personal predilections [preference]. The difference is one of degree.*

*Persons who are not vaccinated and contract smallpox may become disfigured or die. More important, they may endanger the entire community.*

*Community health therefore, requires that the wishes of the individuals be submerged. Even so, it is a physician who administers the medication and who watches the patient.*

*Fluoridated water however, must be drunk by everyone and without personal medical supervision and guidance. Furthermore, dental decay is not contagious, nor can it be said to constitute a serious danger to health.*

### **Is Fluoridation comparable to Chlorination?**

The U.S. Select Committee Report continued:

*"Nor is there any real similarity between the chlorination of water and the fluoridation of water. Chlorine is added to drinking water to destroy harmful bacteria in the water, whereas fluorides are added for the purpose of affecting a physiological change in the body which results in a reduction in the incidence of dental decay.*

*It may be noted, in this connection, that chlorine may be gotten rid of readily by a slight heating of the water, whereas fluorides cannot be driven off by heating or boiling."*

**Poison on Tap**, pp 154-155

### **Legal Point of View**

Paul M. McCormick, a Research Fellow in Law at Nuffield College, Oxford, U.K., stated that:

*"From the legal point of view fluoridation is compulsory medication. It is done without the permission of the person at the receiving end."*

**Cancer Control Journal**, May, 1985, pp 84-85.

Lord Monson, President of the *Society for Individual Freedom*, in summarising the views of many British Parliamentarians who have publicly opposed the principle of fluoridation, said:

*"... for the State to introduce foreign substances into the public water supply - except for those essential in order to render the water safe to use - is a grave misuse of power, however beneficial such non-essential foreign substances might be to a proportion of the consumers."*

### **Code of Ethics Ignored**

Over two-thirds of Australians are regularly dosed with fluoride, without ever having received a medical examination to determine if the drug is necessary, effective, or has adverse health effects for the individual patient. Yet, the Australian Medical Association, *Code of Ethics*, states:

*"Every patient has a right to expect a complete and thorough examination into his condition and that accurate records will be kept."*

The A.M.A., *Code of Ethics*, 1977, 6.1.2., p 11.

Dr Hans Moolenburgh was the chief scientist responsible for the defeat of artificial fluoridation in the Netherlands. In his book, **'Fluoride: The Freedom Fight'**, 1987, he stated:

*"Precisely at the moment the State makes you swallow a medicine without asking your permission and without the possibility of an alternative, democracy has ceased ..."*

**Fluoride: The Freedom Fight**, 1987.

Compulsory medication with artificial fluoridation, as Professor R.S. Scorer of Imperial College, London, Fellow of the Royal Society of Health, stated:

*"... is deemed by many to be intolerable, and this does not appear to be in the least understood by those advocating it. It is to do what even God does not do, namely, manipulate others for their own salvation."*

*Paper to Community Health Council, June, 1976.*

## **Government Force Without Responsibility**

The Victorian Fluoridation Act 1973 (still current) states:

*"Clause 4. No person shall have any right of action against any water supply authority or any member of such authority in respect of anything done in regard to the fluoridation of a public water supply in accordance with the provisions of the Act."*

In Victoria, even if artificial fluoridation is, in a particular case proven, or in general eventually proven to have caused sickness or death, citizens are prevented by law from suing those responsible. Thus the law is used to prevent the very principle upon which the law is based - to protect individual rights and to see that justice prevails.

If fluoridation was perfectly safe, as claimed by the government, one would be justified in asking:

Why was it necessary to legislate against an age-old right of citizens?

## **Political Compulsion or Democracy?**

*"I am not ashamed to say in this company, that I believe, and believe passionately, that it is not the duty of the State to dose its people like cattle."*

The Rt Hon Jim Killen, *Federal Hansard*, , p 1140.

*"If ever a political majority in Parliament might decide for whatever medical or economic reasons to fluoridate our water supplies, then for the first time in our democratic history will a minority have been physically forced into a position against their will. The integrity of one's own body - a principle laid down in many regulations of our penal code - will have been jettisoned. Those who do not want to consume fluoride, will yet have to do so. Once a majority forces this decision on a minority we must then conclude that a change of principle has taken place. One of the most essential elements of our democracy has become the past tense."*

Vis J.J., *Nieuwe Rotterdamse Courant*, 7-7-73.

## The Proof of Sincerity

Advocates of artificial water fluoridation freely claim that the practice carries no health dangers. If this is a true and sincere belief, then each should have little difficulty in signing the following 'Declaration.'

### The Declaration

Dr/Member of Parliament,  
the presence of the witnesses,

, here declare in  
and,

that medication with fluoride from fluoridation of  
the water supplies, is absolutely safe for general health.

*I herewith commit myself that if, in the course of the water fluoridation in the ACT, certain side-effects to the health of the population should become apparent and if these side-effects should be scientifically proven to have been caused by water fluoridation, to restore with my own money all costs for those people who have fallen ill, be it for medical help, hospitalisation, laboratory costs, or lost happiness.*

*I will not only restore these costs when the side-effects appear after a short time, but I also declare myself liable and will restore the costs should these side-effects become apparent after some twenty or thirty years and I agree to put a codicil in my will that in the case of my decease before the side-effects are proven, my heirs will bear the costs from my estate.*

*I will also find myself duty bound, if discoveries are made that children living in artificially fluoridated regions suffer from greater incidence of birth defects and deformities than compared to those in non-fluoridated regions, to nurse or have nursed at least one such handicapped child and to pay the costs out of my own pocket.*

*I declare with emphasis that I will only take these obligations concerning the fluoridation of the water supplies which I promote with so much strength. They are not valid for medication with fluoride tablets and fluoridated toothpaste, or any other form in which fluoride can be given other than fluoridation of the water supplies.*

*I give this guarantee as a token of my good faith in propagating the fluoridation of the water supplies and to give emphasis to my absolute belief in the safety of this measure for every individual unto whom this measure will be applied.*

Signed ..... Date .....

Witness ..... Witness .....

If someone objects to signing the declaration, ask yourself, is it wise to trust their statements, no matter their sincerity, if they won't support their claims with a guarantee that you or your family won't be harmed?

In asking your doctor, dentist or Parliamentary Representative to sign, if they should they say your request is unreasonable, you may remind them that they support compulsion in making you and your family ingest uncontrolled and frequent doses of medication which you personally have never had prescribed, do not need, and do not wish to take.

### **Individual Sovereignty**

*"The foundation of the legal rights and liberties of the individual is the principle of his responsibility for his conduct and his own interests, chief amongst which is, of course, the responsibility towards his own health. As John Stuart Mill wrote: "Over his own body and mind, the individual is sovereign." Water fluoridation encroaches on that sovereignty and the self same principle underlying water fluoridation could be used to justify adding tranquilizers, vitamins, antibiotics, contraceptives and various other drugs to the water supply.*

*That principle is that the state is sovereign over the mind and the body of the individual. However benevolent the principle, it nonetheless remains totalitarianism."*

Morin P.J., *Submission*, 8-2-90, pp 37-38.

### **Federal National Party Policy**

In a letter of 9 May, 1990 the Leader of the National Party in Australia, Pat McNamara, M.P., stated:

*"The National Party policy on this issue is that fluoride should not be added to water supplies without a referendum of ratepayers in each waterworks district."*

### **Wise Words - Wrong Actions**

The Declaration of Liberal Party Beliefs 1988 states:

*"We believe in the fundamental freedoms: ... to choose, to be independent. ... We believe in the individual. We stand for the free man and the free woman, their initiative and personality responsibility."*

Words of wisdom that the majority of people, no matter how they vote, would agree with. It is unfortunate that they are not practised by the Liberal Party, which has promoted fluoridation and maintained it as official policy at State level. The same is largely true of the Labor Party.

The following statement was made by a man identified only as Hector, a Board Member of the Foundation for the Preservation of Human Integrity, Holland. His words are relevant in the fight against compulsory artificial fluoridation in the ACT.

*"The proponents maintain that decisions concerning fluoridation are reached by a democratic process, namely by a majority vote in the Municipal Council. This is nonsense! We, the citizens, have never given our voted representatives in council or parliament the authority to decide, by a majority vote or otherwise, what we are allowed to do with our private lives, what we want to eat or drink, how we want to dress or which religion we wish to follow, or which medical treatment we will adopt.*

*... It is therefore naive for the proponents to think that we, their inexorable [relentless, unyielding] opponents, fight only against fluoridation. The main issue of our combat is of a higher order. What is at stake is human personality. The infringement on that personality could be called the crime of our century."*

**Fluoride: The Freedom Fight**, p 112.

### **Liberty of The Individual To Choose is Ignored**

*"The real issue is the right of the individual to determine what shall be done to and with his body, dead or alive, as long as in the exercise of that right he does not impinge upon the equal rights of his fellows."*

Dr L.A. Alesen, M.D., Past President, California Medical Association, Memb., House of Delegates, American Med., Assn. When Doctors Disagree, p 17.

**Summary:** Australian residents and citizens ought to be entitled to choose whether or not to ingest fluoride with each glass of water. Some may not wish to.

## SECTION 3: INEFFECTIVENESS OF ARTIFICIAL FLUORIDATION

*"It is true that children's caries rates have fallen dramatically in the past 15 years. The improvement has been **equally great in both fluoridated and unfluoridated communities.**" [my emphasis] Whether the reason is improvement in nutrition, the advent of fluoridated toothpaste, better dental hygiene, the widespread use of antibiotics, or the emergence of immune antibodies to the plaque bacteria, the only certain conclusion to be drawn at this time is that water fluoridation can not be the explanation."*

Dr John Lee, M.D. *Submission*, 14.1.90.

\* Refer to graphs in appendix.

Both sides of the fluoride debate agree that dental caries in children have quite markedly decreased in nearly all developed countries throughout the world during recent decades. Though not specifically stated, the general publicity by promoters of fluoridation would imply that this was caused by artificial fluoridation.

Over 95% of people in the world, however, are **not** artificially fluoridated! Nor do proponents usually report any of the scientific and statistical evidence which shows that in developed countries throughout the world, tooth decay has decreased in **both** fluoridated and unfluoridated regions, at about the same rate. In undeveloped countries it is seen that the increase in dental caries corresponds with an increase in the importation and use of sugar.

### **Finding Sponsored by over 1600 Physicians, Dentists and Scientists**

*The Medical-Dental Committee on Evaluation of Fluoridation*, whose findings are sponsored by over 1,600 physicians, dentists and scientists, reported:

*"Fluoridation entered the public health scene with two insistent uncertainties: is it safe? - does it reduce tooth decay? Its safety to health is discussed elsewhere ... But 14 years of fluoridation have failed to substantiate its sole proclaimed purpose of '65% reduction in dental decay.' Indeed there is yet to be undertaken one single experiment designed to scientifically determine the dental benefits of fluoridation. There is no uncertainty however about its dental harmfulness: with unfailing certainty fluoridated water will produce a crop of permanently mottled teeth in every new generation of drinkers."*

**When Doctors Disagree**, Warnings by Physicians, Dentists and Scientists Around the World On the Known Dangers and Possible Hazards Of Fluoridation, June, 1967. Pub. Greater N.Y. C'tee Opposed to Fl, Inc.



## Better Teeth Before Fluoridation

In New South Wales, the Health Commission reported that children's teeth in Sydney had greatly improved between 1961 and 1967. (from 8 per cent 'decay-free' up to 58 per cent). **However, it should be noted that Sydney wasn't fluoridated till 1968!**

*Poison on Tap*, pp 30-33. Lawson J.S. et al. (1978), *Medical Journal of Australia*, Vol 1, pp 124-125.

## Sydney Study (fraud)

When misleading or false statements are made about artificial fluoridation to suggest benefits that do not exist, many people are given a view that conceals the ineffectiveness and dangers of fluoridation.

## The Statement

An example is the following statement by the Victorian Labor shadow Minister for Health Mr Roper: (*Hansard*, 9-9-80, p 65):

*"In the Medical Journal of Australia, dated 11th February, 1978 in which it is suggested that in 1960, more than 90 percent of children in Northern Sydney had active dental decay, honorable members should bear in mind that northern Sydney is one of Sydney's most affluent areas, and that dental health there would be better than the average in Sydney - compared with less than 25 percent in the same community at the present time."*

Leaving aside the fact that the study used no control group, this statement is still misleading. Firstly, the "present time" referred to was not 1978, as you would reasonably be expected to believe from Mr Roper's statement, but 1974. The data, you see, had been collected four years earlier.

## The hidden data

Secondly, the data from Table 1 of the paper in the Medical Journal shows a 60% improvement in children's teeth between 1961 and 1968, **before** fluoridation of Sydney's water supply.

Fluoride was added to Sydney drinking water supplies in 1968. In the following four years, the improvement in children's teeth was **only** 2% - rising from 60% in 1968 to 62% in 1972.

## The cover-up

In an effort to boost the percentage of improvement after fluoridation, the Dental Survey Team *selected* children with above average numbers of sound teeth from the 80,000 children in the age group area. Their sample amounted to 1810 children, just 2.2%.

The **Medical Journal** paper stated:

*"However it should be noted that considerable improvement in dental health took place before the fluoridation of water supplies in Sydney in 1968. The caries-free figure of 58% in these northern suburbs in 1967 was equal to the figure obtained in Tamworth after 9 years of fluoridation of water supplies."*

This highlights the weakness inherent in the claim that artificial fluoridation reduces tooth decay. As we have seen, while it is true that there has been a widespread improvement in children's teeth throughout most of the world, it has occurred not only in unfluoridated and fluoridated areas at a similar rate, but it was also occurring *before* fluoridation began.

The point here is that **before** fluoridation we observe that teeth were already improving. After fluoridation, there was **less** improvement, but this is used by proponents to suggest that artificial fluoridation prevents dental caries. The factors (though not necessarily known) which caused the improvement in children's teeth before fluoridation are ignored, and the improvement (though less) is put down to artificial fluoridation.

This demonstrates the possibility that factors other than artificial fluoridation might influence dental caries.

The Sydney study and its use are examples of a type of fluoridation propaganda used by some to mislead people into believing that fluoride is effective in reducing dental caries.

### **The Canberra Study - Unsatisfactory Procedures**

*"The Canberra study was conducted by the Commonwealth Chief Dental Officer, Dr L.M. Carr, [in 1976]. It commenced in 1964, but no attempt was made to employ a control city, although Dr Carr, eleven years earlier (Carr, 1953) had written that there were two ways of conducting such a study, by the use of a 'control' community, or by comparing the pre-fluoride caries rates with those in the same community at various periods after the commencement of fluoridation. He wrote that the second method:*

*'... is not as accurate as the former because there would be no way of knowing that any changes in DMF rates were not due to factors other than fluoride.'*

*In his study in Canberra he used this less accurate method, not using a control, although readily identifiable 'factors other than fluoride' occurred during the course of the project, in particular, a great increase in the dental treatment provided free to children by the expansion of school dental services.*

*In 1978, Dr R. Ziegelbecker, a mathematician at the Institute of Environmental Health, Graz, Austria, examined the data published in 1966, 1972 and 1977 by Dr Carr. Ziegelbecker said that this showed that:*

*'The dental care of the children was considerably improved during the experiment.'*

*For instance, in 12-year-old children, the ratio of filled to decayed teeth, F/D, was 1.387 in 1964 at the beginning of the experiment, 2.637 in 1970, and had markedly increased to 4.722 in 1974, the final year of the study. He said that the reduction in caries prevalence reported by Dr Carr, must '...not be ascribed to the fluorides in the drinking water'.*

*This finding demonstrates the unreliability of a study which does not have a control, which would reveal any effect on caries prevalence resulting from factors other than fluoride, such as an increase in dental treatment.*

*Not only did this project have no control, but there was no provision for eliminating examiner bias or for estimating examiner error, nor were the results subjected to statistical significance testing, they were shown merely as percentage changes, the method which Dr James Dunning, a prominent fluoridation promoter, condemned in 1950.*

*Dr Carr's attitude to fluoridation was expressed in 1953 when he wrote:*

*'In attempting to impress the public, as well as those persons responsible for the decision to fluoridate water, it is an advantage not to underestimate the expected dental benefits, as the DMF - teeth system appears to do.'*

*One of the other points which Dr Ziegelberger [1978] demonstrated, was the decrease in caries rates shown by the statistical process of trend analysis. From those calculations he concluded that:*

*'In essence, the caries reduction in Canberra is undoubtedly not due to the water fluoridation but to other measures.'*

*He concluded:*

*'From the presented analyses and calculations based on the caries examination results in Canberra published by Mr Carr (it) can be concluded with great probability that the fluoridation of the water supply introduced in 1964 could not have any - or at least not any essential caries preventing effect and that the observed caries reductions have other causes. A termination of the drinking water fluoridation would probably not cause any rise of caries provided that the other measures were maintained.' (Ziegelbecker, 1978).'*

**Freedom From Fluoridation Federation, Submission.**

### **The Mystery of 'The National Oral Health Survey'**

The following is a letter I presented to the ACT Inquiry Committee at one of our meetings. It arose from a claim by dentists that there had been a 'National Oral Health Survey' done of children's teeth.

I feel strongly that claims made by both sides of the debate should be substantiated, particularly when they are major claims, and given in evidence before our Parliamentary Inquiry. I had requested the details of the survey in 1989. When the months went by with no details forthcoming, I tabled this letter in Committee. I wrote:

*The ACT Legislative Assembly  
Social Policy Committee*

**26th July, 1990**

*The Committee Chairman - Bill Wood*

*Re: National Oral Health Survey - Request for details.*

*The Australian Dental Association (ADA) in 1989 stated that the results of a 'National Oral Health Survey' they had conducted, had revealed that there were less dental caries in the teeth of children in fluoridated areas in Australia than in unfluoridated areas.*

*You will recall that during an early hearing of our Committee, such a survey was **used by witnesses from the ADA as evidence of beneficial effects of fluoridation**. At that hearing I indicated that I was unaware of any evidenciary details of a 'National Oral Health Survey'. The reaction to this by a number of members of the ADA appearing before the Committee seemed to suggest one of surprise that I was not well acquainted with their survey.*

*Indeed, I also stated that I **knew of no one in Australia who was aware of the details of such a survey**, and asked that the full details be given to the Committee. As I recall, the ADA representatives agreed that they would supply such details to the Inquiry forthwith.*

*As you are aware, such details of the National Oral Health Survey were not forthcoming.*

*During the many months since then, you will also be aware that I have, on a number of occasions, raised the matter during Committee hearings and that some months ago, requested that a formal letter be sent the Australian Dental Association, once again asking for full details of their survey.*

*I am still not aware of any details of the survey being forwarded to this Committee, nor even of any letter being received from the ADA acknowledging our formal request.*

*As the survey has been **given in evidence** by representatives of the ADA to suggest fluoridation benefits, I consider it most important that this Committee, on behalf of the Citizens of Canberra, have the opportunity of examining the documentation and details that comprise the survey results.*

*I would request that we yet again ask the ADA to urgently forward to us full details of their survey. Perhaps we should also make mention of the long delay in such evidence being submitted to this Committee and the*

*importance of it to demonstrate the validity, which obviously cannot be substantiated without the evidence, of their claims that the survey proved benefits had resulted from fluoridation.*

*I believe that the minimum details that we would need to be able to conduct a professional evaluation of the ADA's National Oral Health Survey would be as follows;*

- 1. Who (specifically) commissioned the survey?*
- 2. When was the survey; a) commissioned, b) begun, c) completed?*
- 3. What were the full 'terms of reference' of the survey?*
- 4. How exactly were the examiners selected?*
- 5. How many examiners were there in Australia, and in each of the individual States and Territories?*
- 6. Did they receive specific training as examiners? If so, what training was received?*
- 7. Were the examiners trained to recognise, or requested to look for dental fluorosis? If they were not told to look for dental fluorosis, in the light of widespread concern about fluorosis, may the Committee be advised of the reason this opportunity was not taken?*
- 8. How exactly were the selections made of the people to be examined?*
- 9. Where were the examinations done?*
- 10. What equipment was used to carry out the examination?*
- 11. How many people were examined in Australia and in each of the individual States and Territories?*
- 12. What questions were asked during the examinations?*
- 13. The full statistical results of all examinations.*
- 14. What (specifically) was the examination that was done? (What was looked for?)*
- 15. Were the examinations 'blind' controls (or were the examiners fully aware of whether or not the children examined had a history of being dosed with fluoridation)?*
- 16. Have the details of the National Oral Health Survey been published in any refereed scientific journal? If not, is there any reason why this has not been done? If any such paper has been forwarded but not yet been published, could the Committee be informed of the particular journal and the date the paper was forwarded (and probable date of publication).*

*May I reiterate the importance of obtaining the full details of the claims made by the Australian Dental Association for their 'National Oral Health Survey' so that this Parliamentary Committee investigating claims made about fluoridation, may indeed be able to investigate such claims by the ADA.*

*I emphasise a concern that many months have passed since the Committee has requested this information which has not been forthcoming. Perhaps, in the interests of justice in this matter and to allow the ADA to substantiate their claims, we will now see the ADA take swift action to supply details that they said they would make available, but as yet haven't.*

*Signed: Dennis Stevenson MLA" [my emphasis added through letter]*

No evidence of a 'National Oral Health Survey' was submitted to the ACT Inquiry or obtained by it (Details of a Tasmanian study were submitted and said to be part of a national survey).

If such a survey was available and gave proof that children's teeth have benefited from artificial fluoridation in Australia, is it not strange that it was not submitted?

### **Errors in Early Fluoridation Trials Exposed**

Professor Sir Arthur Amies, Dean of Melbourne's Dental School, and Dr Philip Sutton, a highly qualified and respected dental scientist, published a paper in the *Medical Journal of Australia*, in February, 1958, titled: "Some statistical observations on Fluoridation Trials".

In 1959, Sutton published an expanded study: "*Fluoridation - Errors and Omissions in Experimental Trials*", as a monograph published at the Melbourne University Press.

This explored the key projects: Grand Rapids, Newburgh, Evanston, and the two tests at Brantford. It clearly showed the existence of defects in experimental methods, the questionable handling of statistical data, the omitting of important information and data, the issuing of conflicting reports, and numerous mis-statements. This left the studies with no real value.

It should be emphasised that the Evanston, Grand Rapids, Brantford and Newburgh projects STILL constitute the prime source of "evidence" used in promoting fluoridation.

Particular attention should be drawn to the latest results from Evanston and Oak Park that were presented to the *Eighth International Conference on Oral Biology*, Tokyo, Japan in June 1980. These showed that there was no difference in the prevalence of dental decay, after twenty-five years, between those in Evanston who drank fluoridated water from birth to those in Oak Park who commenced drinking fluoridated water at the age of six to eight years.

However, there was:

*"a significant difference between the mean fluorosis scores of the two groups, with the Evanston group (fluoridated) demonstrating more fluorosis than the Oak Park (unfluoridated) participants."*

The two fluorosis scores were: Oak Park, 0.03, and Evanston, 0.68 (**22 times as much**). Therefore the Oak Park subjects had a great deal less fluorosis, presumably because they were not exposed to fluoridated water until the ages of six to eight years by which time the crowns of many of their teeth were formed and were immune to fluoride poisoning.

### **Sutton Acknowledged For His Studies**

Part of the A.D.A. submission (No. 11, p 3) says, under the heading of Poor Quality of Studies, in a letter from Professor J.P. Brown, on 4th December, 1989, that:

*"Although Sutton has made some useful criticisms of water fluoridation prior to 1960 [the early trials] much has been published since then. Singular studies are not so important as the weight of evidence over all."*

### **More Decay in Fluoridated Cities**

The ACT Inquiry Committee asked Dr Colquhoun to comment on evidence presented to it that indicated people in fluoridated Sydney (Australia) had better dental health than people in unfluoridated Canterbury (N.Z.). Dr Colquhoun replied:

*"Actually, unfluoridated Canterbury, as I have shown in a more recent study, has exactly the same decay levels as the fluoridated parts of New Zealand ... So the fact that unfluoridated Canterbury had more tooth decay than fluoridated Sydney does not prove anything, because the fluoridated parts of New Zealand also had more dental decay than fluoridated Sydney. So you are comparing different countries where there were probably very different diagnostic standards practised."*

### **Water Fluoridation unnecessary**

Dr Colquhoun pointed out that if proponents of fluoridation are saying that the reduction in dental caries in unfluoridated areas is due to fluoride from other sources (shown to be an invalid claim because the reductions started well before proponents started promoting fluoride from other sources) then compulsory water fluoridation is obviously unnecessary. He stated:

*"But the point is, it has declined just as much in the unfluoridated places as the fluoridated places. So whether it is due to the topical application or not, or fluoride tooth-paste, or what it is due to, you do not have to have it in the drinking water. That is what it has shown."*

**Submission** 17-5-90 pp 451-453

In 1974, the mathematician, Professor R.S. Scorer studied a report from fluoridated Anglesey, U.K., giving caries data for 13 years before fluoridation, and 17 years after fluoridation. He said:

***"There are certainly no perceptible trends of any kind, and it is quite impossible to detect any influence of fluoridation at all."*** [my emphasis]

Scorer, Statement from Dept. of Maths. Imperial College of Sci. and Tech.

### **Emotional Claims Not Substantiated by Evidence**

The claims made for fluoridation are as glowing as any commercial soap powder promotion. *"With fluoridation your children have 60% to 80% less caries!"*

It's time we examined the claims. Proponents would have us believe that fluoridation is the only thing that saves us from:

*"Children suffering from 'pain and sepsis [blood poisoning]'; 'an average ... of around twelve teeth that had already been affected by caries'; 'gaps resulting from extraction of permanent teeth'; 'unrepaired large holes, brown to black with the evidence of active caries, visible in their smiles'; 'back teeth ... showing rows of amalgam restorations', at least one in twenty-six temporarily incapacitated 'because of pain or infection or treatment needs attributable to dental disease', and in one State, 'Most [expecting] to have false teeth before they are married'; 'teeth so poor, hardly anything can be done'."*

The above claims by proponents were earlier recorded in the ACT Inquiry Report (para's 5.1 to 5.6). But are they correct and are they supported by scientific research and by valid statistics, or are they unsubstantiated anecdotes, which may play on peoples' emotions and mislead them into supporting compulsory medication?

### **Just how much better are teeth supposed to be with fluoridation?**

*"The difference is a fraction of a cavity, if there is a difference at all ... we are talking about a fraction of one cavity per child more in Canberra on average."*

**Submission:** Dr Mark Diesendorf, Mathematician, Australian National University.

### **Claims by Proponents in Error**

The benefits claimed for fluoridation have commonly been for a 50 - 60% reduction in dental caries. These claims are contradicted by the evidence which shows that though there has been a reduction in dental caries in most countries, such reductions have occurred in both **unfluoridated and artificially fluoridated** areas without any statistically significant difference between the two. Sometimes there are slightly less caries in the unfluoridated regions, and sometimes there are slightly less in the artificially fluoridated regions.



## National Institute of Dental Research Reluctant to Release Study

The most recent claim by dentists for the improvement in dental caries in the U.S. is now only 18% - down from their previous guarantee of 60-80%. This resulted from the 1985 U.S. National Institute of Dental Research (NIDR) study of 39,207 children from 84 communities.

This is a remarkable story because the NIDR kept quiet about the study results after and didn't make them public. It was only when they were forced to do so under freedom of information legislation, that they released the details.

Once forced to do that, the NIDR claimed the study showed an 18% reduction in caries. Upon evaluation, it was shown that the NIDR study included both fluoridated and unfluoridated communities. This meant that the, admittedly slight, reduction in caries, ***could have come from areas that were unfluoridated!***

*"The argument heated up in 1988 when the (U.S.) National Institute of Dental Research (NIDR) published its second national survey on children's dental health. As soon as the data were in, (Dr) Yiamouyiannis demanded that NIDR turn them over. Carlos (James Carlos, NIDR's chief epidemiologist) refused. Yiamouyiannis appealed and under the Freedom of Information Act, got the files."*

The Fluoride Debate: One More Time, *Science*, Vol 247, 19-1-90, p 277

Dr John Yiamouyiannis and fellow researchers showed that even this alleged slight reduction was false, and in fact, there was *no* significant difference in regions that were artificially fluoridated, when compared to unfluoridated regions.

The result of the independent evaluation by Yiamouyiannis was supported by statements by NIDR researchers, as follows:

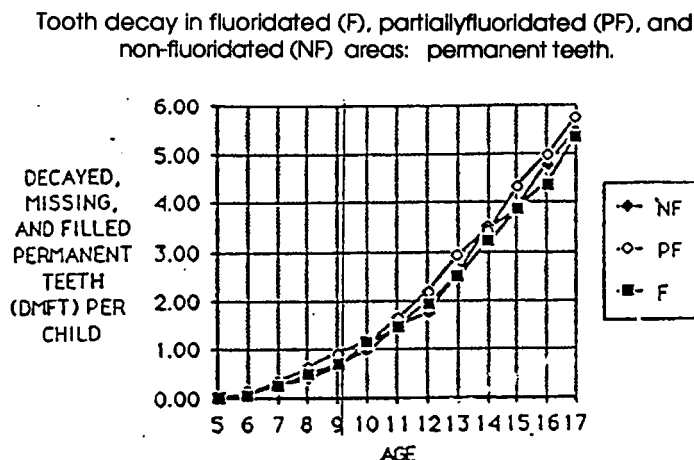
*"Stanley B. Heifetz and co-workers at NIDR note in the April ('88) issue of the **Journal of the American Dental Association** that "the current reported decline in caries in the U.S. and other Western industrialized countries has been observed in **both fluoridated and nonfluoridated communities**, with percentage reductions in each community apparently about the same."*

*C&EN*, 1-8-88, p 31.

Again and again we see that a few senior Government authorities are prepared to either alter or give misleading research data. This greatly hinders the right and need of the public to know the truth about the ineffectiveness and health risks of artificial fluoridation.

In the USA, Dr John Yiamouyiannis published the following preliminary report based on data obtained under the Freedom of Information from the National Institute of Dental Research on the abovementioned NIDR study of 84 cities. As illustrated in Figure 1, there is no significant difference in average tooth decay between the fluoridated and unfluoridated cities.

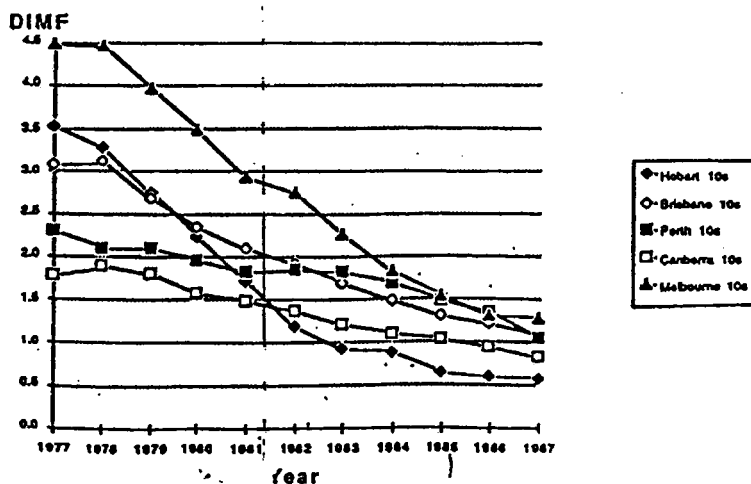
Figure 1: Tooth decay levels in the USA for various ages



Fluoride and Tooth Decay, *Community Dental Oral Epidemiology Journal*, 1989.

The proponents of fluoridation say correctly that since fluoridation there have been large declines in tooth decay in fluoridated communities. What they omit to say is that there have also been large declines in most unfluoridated communities in the western world. Some of the results for 10-year-olds in Australian capital cities are shown in Figure 2. Specifically, tooth decay in unfluoridated Brisbane has declined by 65% over the 10-year period.

Figure 2: The decline in tooth decay in 10-year-olds in Australian capital cities



Diesendorf *Submission* & Published in the *Journal Nature*, July, 1986.

## **Quebec Government Inquiry Rejects Fluoridation**

One of the leading scientists in Quebec, Canada, Dr Pierre J. Morin, Doctor of Experimental Medicine, in a major submission to the ACT Inquiry, stated, (p 3):

*"... fluorides are relatively toxic and their efficacy in the prevention of dental decay cannot be certified. Several authors (annexes 1 to 5) and ourselves have examined the data presented in a large number of publications and have concluded that water fluoridation does not decrease dental decay by a significant amount. In fact, some observations recently made in our country tend to demonstrate the opposite. For example, **the area in our country with the highest incidence of dental decay is a fluoridated area while the best dental status can be observed in a non-fluoridated area.**"*

Dr Morin was one of ten prominent scientists commissioned by the Quebec Government to conduct an inquiry into fluoridation. In his submission (p 4), Dr Morin said:

*"In our attempt at gaining an insight into the field of chronic fluoride toxicity, we first focused our attention on the effects of fluorides on cancer mortality and the incidence of congenital diseases; two chronic toxic effects related to possible damage of the nucleic material of cells. **We reviewed just about the entire world literature pertaining to these subjects** [my emphasis] and came to the same conclusion as Judge Farris, the presiding Judge during the Houston [U.S.] trial, who stated:*

*"... Artificial fluoridation of public water supplies such as is contemplated by City Ordinance No 80-2530 may cause or contribute to the cause of cancer, genetic damage, intolerant reactions and chronic toxicity including dental mottling in man; that the said artificial fluoridation may aggravate malnutrition and existing illness in man; and that the value of said artificial fluoridation is in some doubt as to the reduction of tooth decay in man". (annexes 9 and 10).*

*There is also some recent evidence to the effect that chronic fluoride ingestion can interfere with collagen synthesis in humans. This can create articulations [to do with joints] problems, accelerated ageing symptoms in the population and the appearance of chronic diseases at an earlier age that is the case presently."*

***The social and medical costs of this increase could well be staggering in future years.** [my emphasis]*

### **Conclusions by Inquiry:**

*The very large study carried out by our group (\*annex 7) has convinced us that fluorides are widespread in nature and that recent changes in agriculture have increased the quantity absorbed by the population from food. There have also been increases in the amount of fluoride present in air and water. All these increases may have brought the amount absorbed daily from the different sources to a toxic level. The time may*

*have come to attempt decreasing the total amount of fluorides ingested daily. It should be pointed out in that respect that water fluoridation doubles the amount of fluorides that an individual is exposed to each day."*

Morin P.J., *Submission*, 8-2-90.

**\*N.B.** *Annexes included with Submission by Dr Morin.*

### **Caries Reduction Not Linked to Fluoridation**

*The First International Conference on the Declining Prevalence of Dental Caries was held in Boston, U.S.A., during June, 1982. The following are examples of papers delivered at the dental research conference, demonstrating the widespread decline in dental caries, mostly in unfluoridated countries:*

#### ***"Denmark: NOT FLUORIDATED***

*Decrease in Caries Experience in Danish Children and Young Adults in the 1970's*

*Studies of all available records reveal a marked decline in the prevalence of dental caries. This improvement in dental health is also apparent in young adults.*

#### ***England: 7 PER CENT FLUORIDATED***

##### ***The reduction of dental caries prevalence in English School Children***

*Large reductions, ranging from 32 to 75 per cent have been observed in the caries prevalence of 5 and 12 years old English school children over a period of 10 to 15 years. ... These changes have taken place in fluoridated and non-fluoridated areas in urban and rural locations and in all tooth and surface types.*

#### ***New Zealand [PARTLY FLUORIDATED]***

*Evidence of a substantial decrease in dental caries in New Zealand school children is available from a number of surveys extending over a period of 30 years. This decline has occurred both in areas with and without water fluoridation ...*

#### ***Norway: NOT FLUORIDATED***

*Marked caries reductions in children during the last 10 years can be demonstrated ... Little conclusive evidence is available to explain the causes ...*

#### ***Scotland: NOT FLUORIDATED***

*Levels of caries in children have decreased by between one-quarter and one-third ... The reason for overall decrease ... cannot yet be identified.*

**Sweden: NOT FLUORIDATED**

*... during the past 30 years caries prevalence has dropped by 50 percent ... it is not easy to account for the factors responsible ...*

**U.S.A.: 40% FLUORIDATED**

***... Changes in Caries Prevalence in Two Massachusetts Towns***

*The observed decreases in caries prevalence approximated those expected if the water had been fluoridated. ... These changes occurred in the absence of fluoridation and organised preventive programs.*

***A Dental survey of Massachusetts School Children***

*Dental examinations were carried out in a sample of 9000 children selected at random from all pupils attending schools in Massachusetts. Comparisons of results show a 50 percent decline in the prevalence of caries. The changes are apparent in areas with and without fluoridation.*

**The Netherlands: NOT FLUORIDATED**

***Evidence of Decrease in Prevalence of Dental Caries in The Netherlands Between 1965 and 1980.***

*Epidemiological data from 4, 6 and 11 year old children in several Dutch municipalities [unfluoridated] revealed a caries reduction of about 50 percent between 1970 and 1980."*

The following concluding study by Konig suggests that the problem of dental caries is mainly caused by sugar intake. The real problem would seem to be one of diet!

*"There can be no doubt that at least in certain third world countries enormous problems may emerge due to increased consumption of sweets."*

The Impact of Decreasing Caries Prevalence Implications for Dental Research, Konig, Netherlands, "Problems Specific to Developing Countries", p 1379.

*"The Commission has noted that caries is a disease which can be prevented. The basic cause of caries is the consumption above all of sweet foods. The repeated consumption of sugar and sugar containing products between meals is particularly liable to cause caries. Thus the prevention of caries must be based on dietary and mealtime habits."*

Reply by Swedish Government to ACT Inquiry, SOU 1981:32

## Teeth Better in Unfluoridated Areas

Delivering his paper to the Eleventh Biennial Conference of the New Zealand Dental Association in July, 1982, Professor G.N. Davies stated,

*"Even in non-fluoridated areas there has also been a substantial reduction in the prevalence of caries in recent years. In (unfluoridated) Brisbane, for example, we have found a 50 percent reduction in caries experience over a 20 year period."*

*Dental Journal*, Vol 61, 1982.

Dr Colquhoun, during his world tour to study fluoridation for the N.Z. government, found evidence which contradicted his belief that fluoridation was effective. He said:

*"I was in Geneva and I went to the World Health Organization, Oral Health Data Bank where they have records of all dental caries surveys from all over the world carefully collected on a computerised oral health data bank ... and also ... water fluoride level surveys so that we could have a look and see whether there was a connection ...*

*... in not one of these countries [that Colquhoun researched] was there a fluoride/caries relationship evident ...*

*... in N.Z. there is only one study presented to claim a difference in permanent teeth for fluoridated and unfluoridated areas. That was carried out in Hawke's Bay - not national figures, just one area and they compared all the nine year old children in fluoridated Hastings ... Of course, you are immediately comparing different populations. ... Actually, if you take all the children in the surrounding area, they had better teeth than in fluoridated Hastings ... (However) they quote only the two groups where they can claim a benefit for fluoridation."*

Colquhoun *Submission*, 17-5-90.

## Delayed tooth eruption

Many reports in the scientific literature have suggested that there is a delayed eruption of permanent teeth amongst children living in fluoridated areas. Krook and Maylin reported a similar finding in cattle affected with chronic fluoride poisoning. They pointed out:

*"Fluoride arrests resorption of deciduous teeth roots and of supporting bone. ... By inducing one disease, (fluorosis) fluoride delays the manifestations of another (tooth decay). Delayed eruption, and alterations to the sequence of eruption, could cause malpositioning of the teeth, leading to orthodontic problems."*

*Poison on Tap*, p 110.

## **How the Hastings, N.Z. Fluoridation Study was Invalidated**

Hastings, N.Z., was a study that proponents of fluoridation throughout the world have long used to promote fluoridation. Dr Colquhoun and an associate, Dr Mann, researched the N.Z. government files and discovered that the claimed results in caries reduction had been achieved fraudulently. In evidence to the ACT Inquiry Committee.

Dr Colquhoun stated:

*"It was a [N.Z.] Medical Research Council study carried out under the direction of a fluoridation committee of the Health Department ... [chaired by] a representative of the N.Z. Dental Association."*

Dr Colquhoun, using Freedom of Information, obtained the minutes and correspondence of the entire study. In his evidence he revealed a remarkable scientific deception:

*"... we found ... instructions given to dental therapists to change their diagnostic standards after the experiment started - after the initial examination of children's teeth were carried out ..."*

## **Data Hidden from Dentists**

Dr Colquhoun stated that these instructions to change the diagnostic procedure were:

*"... never published [by proponents] in the published versions [of the Hastings study] which are in all the text books that dentists read!"*

Dr Colquhoun explains that the results were falsified by changing the way dental nurses select teeth for repair:

*"At the commencement of the Hastings Study and throughout New Zealand at that time, the school dental service honoured a very thorough method of treatment. At the slightest softening ... If you find it starting to decay ... drill out the softened part and put in a filling."*

## **Caries Reduction Achieved by New Examination Procedure (Holes aren't holes)**

Dr Colquhoun explained the new procedure that dental nurses were instructed to follow:

*"... it was not classed as decay until the softening or the disintegration went right through the outer enamel of the tooth."*

*Now, the minutes of this committee [show] ... an instruction was given in 1954, after the initial examinations, to dental nurses, to stop putting in what we call prophylactic [disease preventing] fillings."*

We have the integrity of Dr Colquhoun to thank that this major artificial fluoridation trial has been exposed as fraudulent. This exposure of scientific fraud remains unrefuted and was fully evidenced when published in the leading international scientific journal, *The Ecologist*.

This evidence of contrived research results would be startling enough by itself, without the following:

*"... two years after fluoridation in Hastings water, they found that the younger children's teeth in the (unfluoridated) control town had less decay than in the town that they had put the fluoride into. This caused a lot of embarrassment. The files show they tried to hush it up and they thought they had better come clean. So, they then told the public that they had discovered there was a trace element in the soil of the control town, because it had had an earthquake 20 years before and there was recent marine soil and the vegetables grown in this soil, being eaten in that town, had caused the children to have less dental decay.*

*... the substance, they decided was molybdenum, and that was the reason - so they said, "We won't have a controlled study anymore, we'll have the experiment with just a before and after result" and so the control was abandoned!"*

Dr Colquhoun - *Submission*, pp 438 - 445.

Dr Colquhoun said that since that time, nobody had ever suggested adding molybdenum to our soil or vegetables. It would appear that the story had served its purpose.

### **Is Fluoridation Putting Dentists out of Work?**

*The Australian* newspaper in 1983, reported that dentists were top money-makers.

*"Some dentists are taking in up to \$300,000 a year, according to professional sources.*

*The high cost of complex equipment and several staff [fully tax deductible] must come out of that gross, but dentists are said to be among the top earners in the professions.*

*The sources indicated that dentists narrowly beat doctors, veterinarians and solicitors in the professional field."*

*The Australian*, 11th Jan, 1983.

*"... when the actual costs of dental care delivered in similar cities are compared, residents of fluoridated cities seem to reap no economic benefit from fluoridation. In the study, reported in a February, 1972 article in the Journal of the American Dental Association, the cost of dental care in five unfluoridated cities in Illinois was compared with costs in five similar cities with naturally fluoridated water. Even though*



*dentists' fees and the nature of the treatments in the two groups of cities did not differ significantly, the cost per patient and the average number of visits to the dentist per year were greater in the fluoridated communities."*

C&EN 1-8-88, p 31.

An article in ***The People's Doctor*** refers to evidence presented by Dr Philip Sutton:

*"The number of dentists in the original three artificially-fluoridated cities (Grand Rapids, Michigan; Newburgh, New York, and Evanston, Illinois) has increased. "These three cities, after approximately 25 years of artificial fluoridation, had more than twice the number of dentists per hundred thousand people as was the average for the whole U.S."*

***The People's Doctor***, Vol 2, No 9, p 6.

## WHO PROFITS FROM ARTIFICIAL FLUORIDATION?

It is usual, when someone becomes aware of: a) the horrendous health dangers of artificial fluoridation: b) the fact that it has not been shown to be effective, and: c) the violation of human rights, to ask, *"But why would they use it if it wasn't any good?"* Much can be gleaned when one looks at the history behind artificial water fluoridation.

### The History of Fluoridation

The following extracts are from a pamphlet entitled, 'Fluoridation - a glimpse behind the scenes' published by the medical group ***Midwest Physician's Committee Studying Fluoridation***, John J. Shea, M.D., FACA, Secretary, 3600 E. Third Street, Dayton, Ohio, 45403, U.S.A.

#### 1900 to this day:

*Numerous law suits against aluminium, steel, fertilizer and brick industries. Fluoride escapes from chimneys, poisons vegetation, livestock and humans. Factories dump fluoride waste into rivers and streams. Many law suits settled out of court to avoid publicity.*

#### 1915

*Scientists search for cause of a permanent irreparable defect of tooth enamel called 1930 mottling, "Texas Teeth" or "Colorado Brown Stain."*

#### 1931

*Discovery that fluoride in water causes this defect in varying degrees at concentrations as low as one part of fluoride in one million parts (1ppm) of water and below. Mottling is considered the first sign of systemic poisoning.*

**1933-1940**

*Dr G. J. Cox studies dental caries, supported by Sugar Institute Inc., Buhl Foundation.*

**1934-1935**

*H. T. Dean, D.D.S., Director of Dental Research U.S. Public Health Service (P.H.S.) asserts that fluoride at any level in water is harmful to some people. Health authorities advise elimination of all fluoride from water because of its hazard to health.*

**1938-1939**

*Dr Dean makes extensive surveys of natural fluoride communities to establish the fluoride level which provides minimum mottling and maximum prevention of tooth decay (See also Oct. 20-22, 1955).*

**1939**

*Leading aluminium company, faced with litigation for disposing of fluoride waste into waterways, commissions U. [University] of Pittsburgh, bio-chemist G. J. Cox to solve their problem. Sept 20, 1939, Cox proposes to Johnstown, Pa., city council addition of fluoride to water supply to level of 1 ppm to prevent tooth decay. Only meagre evidence available of its efficacy, none of its safety. In April, 1950, Cox calls mottled teeth an "esthetic problem" to be solved by "porcelain facings, jacket crowns or even dentures" (JADA, page 448).*

**Oct, 1944**

*JADA [Journal American Dental Association] editorializes "drinking water containing as little 1.2 to 3 ppm will cause osteosclerosis, spondylosis, osteoporosis and goiter."*

**Feb - May, 1945**

*Experimental addition of sodium fluoride to water supplies in Grand Rapids, Michigan, and Newburgh, NY, without prior tests on animals. Observations on teeth and general health were to last 12 to 15 years. To date, no anticipated P.H.S. studies on individuals with kidney disease, diabetes and the elderly have been made.*

**1947**

*Oscar Ewing, formerly Washington, DC, counsel for Aluminium Co. of America (ALCOA) becomes U.S. Social Security Administrator in charge of P.H.S. [Responsible for public health].*

**1948**

*Dr Robert Weaver and others in England determine that fluoride in water delays rather than permanently prevents tooth decay.*

**1949**

*Ewing officially instructs P.H.S. to promote fluoridation, although permanent teeth of children born under fluoridation in experimental cities had not yet erupted.*

**1950**

*Sugar Research Foundation, Seventh Annual Report, recognises sugar as major cause of tooth decay. Furnishes research grants to Harvard School of Public Health and University of Rochester, NY School of*

*Dentistry to solve tooth decay problem without restricting sugar consumption (i.e. by advocating fluoridation). Report establishes this foundation as the originator of the idea that fluoride prevents tooth decay.*

**July 7, 1951**

*"Chemical Week", mouthpiece of chemical industry: "...the (fluoridation) market potential has fluoride chemical makers goggle-eyed."*

**Nov 2, 1951**

*American Medical Associations political body give qualified endorsement at instigation of two state health officials.*

*AMA members neither informed, nor consulted.*

**Dec, 1952**

*Dr F.F. Heyroth surveys literature, cites mainly reports in support of fluoridation. His institution, the Kettering Laboratory, Dept of Public Health, University of Cincinnati, receives its major financial support from 9 corporations involved in or threatened with litigation due to air pollution by fluoride.*

**April, 1954**

*Alfred Taylor, Ph D., University of Texas, reports 9% shorter life span of large groups of cancer-prone mice drinking 1 ppm fluoridated water than in control mice. Rations of both groups practically fluoride-free.*

**1954**

*ADA suspends two North Carolina dentists, Drs R. P. and D. I. for 1 year because they oppose fluoridation publicly.*

**Oct, 1954**

*Dr J.R. Blayney, head of Evanston, Illinois, fluoridation experiment shows that persons with kidney disease eliminate only 2/3 as much fluoride as those with normal kidneys, when both groups drink fluoridated water. Details of study remain unpublished.*

**Feb, 1955**

*First detailed case report of poisoning from artificially fluoridated water in the Internat.. Archives of Allergy and Applied Immunology, page 70.*

**Sept 17, 1955**

*Federal Court, Portland, Oregon, establishes first 3 cases of poisoning in humans by fluoride-polluted air. "Serious injury to their livers, kidneys and digestive functions" from eating "farm products contaminated by (fluoride) fumes".*

**Oct 20-22, 1955 & May, 1960**

*Dr Dean acknowledges under oath that his conclusions drawn from his surveys, which constituted the basis for fluoridation, are invalid; that his surveys failed to meet the standards which he himself had set up.*

**Jan, 1956**

*In Journal of AMA, page 21, P.H.S. statistical survey on 900 Newburgh, NY children alleges no harm to kidneys after 10 years of fluoridation. A single sentence renders the study valueless; "Children with a history of clinical illness, no matter how mild during the previous two weeks, were eliminated from the study."*

**July, 1956**

*Official P.H.S. Grand Rapids statistics show 3 year delay in tooth decay; no permanent benefit. Unerupted teeth are tabulated as "sound".*

**Oct 15, 1957**

*Seven aluminium, metals and chemical companies join Reynolds Metals Co, in an 1957 attempt to obtain reversal of Sept, 17, 1955, decision that three humans were poisoned by fluoride-polluted air. U.S. Court of Appeals upholds decision (6-6-58).*

**Nov, 1962**

*P.H.S. reports in Journal of ADA, 20% of white and 40% of negro Grand Rapids children have mottled teeth after 16 years of fluoridation.*

**Nov 21, 1963**

*C.V. Kidd, Associate director National Institute of Health, says Universities "can't say 'No' when strings are attached to the money (research grants)."*

**1963**

*Kettering Laboratory, Cincinnati, sponsored by nine corporations with fluoride problems, issues a "Selected" Bibliography; distributes it widely to the medical profession as a powerful propaganda tool. Bibliography omits important research unfavourable to fluoridation.*

**May, 1965**

*New research by Alfred Taylor, Ph D., proves 1 ppm fluoridated water accelerates growth of cancer in mice.*

**May 13, 1965**

*Every Detroit dentist assessed \$20 for fluoride promotion, under threat of expulsion and loss of group liability insurance (if they don't pay).*

**Sept, 1966**

*57 year old Hampshire, England, man develops chronic fluoride poisoning with complete paralysis and extensive skeletal disease. Fluoride proven the cause although his water supply was nearly fluoride free. Fluoride in tea considered the most likely source of his fluorosis.*

**Nov-Dec, 1966**

*Canadian National Research Council scientists, in Journal of Food Science, report significant increase in fluoride content of food processed with fluoridated water. The average daily fluoride consumption from such food alone, increases from 1 - 1.5 mg to 3 - 5 mg.*

**Aug, 1967**

*AMA Pres. M. O. Rouse M.D. recognizes that persons can be allergic to fluoride; recommends distilled water.*

## **The Father of Fluoridation**

Dr H. Trendley Dean, the acknowledged "father of fluoridation (perhaps in retrospect, an ill-fated accolade)", made a statement nearly 50 years ago, that remains true to this day. Dr Dean stated:

*"The same amount of fluorine that causes a mild toxic reaction in one individual may cause a severe reaction in another. In other words we are dealing with a low-grade chronic poisoning of the formulative dental organ in which case some individuals may show a more severe reaction than others having a comparable fluorine intake."*

**When Doctors Disagree**, Warnings by Physicians, Dentists and Scientists Around the World On the Known Dangers and Possible Hazards Of Fluoridation, June, 1967.

## **Australia Calls for Artificial Fluoridation Before Experiments Completed**

In 1950, the New South Wales branch of the Australian Dental Association, the faculty of Dentistry of the University of Sydney and the Sydney Institute of Dental Research submitted a report to the Australian Government calling for action to be taken to introduce artificial fluoridation to Australia, even though they had no adequate medical or scientific evidence to show that the measure was safe or effective.

The world's first experiments on artificial fluoridation were begun in 1945 and by the 1950 endorsement of artificial fluoridation by the above-mentioned groups, such experiments were only half way through.

## **U.S. Select Committee Report - No Fluoridation Before Trials**

The Official Report of the House of Representatives Committee states:

*"None of the witnesses was irrevocably opposed to the principle involved, but it can be said that a number of scientists are opposed to the program at this time. In substance, their position is that there are too many unanswered questions concerning the safety of the measure. It is their view generally, that recommendations for universal fluoridation of water supplies should not be made until further research into the effects of the ingestion of fluoridated water by adults, the aged and the ill is completed and final results of the studies in progress known."*

*When a highly toxic substance such as fluorine is recommended for inclusion into the Nation's water supplies, so that every person, regardless of his age, state of health, or possible reaction to fluorine is required to drink it, affirmative evidence beyond a reasonable doubt should be presented that no-one will be injured."*

**Poison on Tap**, pp 153-154.

## **Who Benefits from Artificial Fluoridation**

There are three major industrial groups which benefit from artificial fluoridation and the marketing of fluoride products:

**Multi-national commercial concerns which produce fluoride wastes in their factories.**

**The sugar/confectionery Industry**

**The toothpaste Industry (and allied fluoride products).**

Other beneficiaries include:

**Dental schools**

**Dentists**

**Researchers**

**Countries receiving grants for artificially fluoridating their populations**

**Irresponsible parents**

From its financial beginning in the U.S.A., artificial fluoridation, not to be confused with science or medicine, has enjoyed the highest cost of promotion and propaganda of any chemical or drug in history. Its main endorser has always been the U.S. Department of Health, Education and Welfare.

## **Industrial Fluoride Polluters**

The promotion of fluorides as a benefit for children's teeth has been used to persuade people that fluoride is a 'friendly' chemical. Many believe that if it is added to our drinking water, it must be O.K. When the truth of the dangers of fluoride become more widely known amongst responsible people, industry will be forced to stop polluting the atmosphere, our rivers, oceans and inland seas. This will cost industry millions of dollars, and there will be the almost certain result of legal action being taken against them and all other people and organisations responsible for fluoride damage done to members of the community, their crops and livestock.

On 7th July, 1951, an article had appeared in the influential publication ***Chemical Week***, under the heading: "Water Boom for Fluorides". In part it read:

*"All over the country, slide rules are getting warm as waterworks engineers figure the cost of adding fluoride to their municipal supplies. They are riding a trend urged on them by the U.S. Public Health Service, the American Dental Association, the State Dental Health Directors, various State and local health bodies and vocal women's clubs from coast to coast.*

*It adds up to a nice piece of business on all sides and many firms are cheering the U.S. Public Health Service and similar groups as they plump for increasing adoption of fluoridation."*

The beneficiaries named in the article included: General Chemical, Harshow Chemical Company, American Agricultural Chemical Company, and the Aluminium Company of America (ALCOA).

### **Artificial Fluoridation Pushed by Multi-nationals**

*Another likely beneficiary of the public health image of fluoride is the aluminium industry, which funded some of the early American research on the alleged relationship between tooth decay and the natural levels of fluoride in town water supplies. Subsequently, the industry advertised its fluoride for use in water fluoridation programmes in the U.S.A. However, the indirect financial gains to the industry from fluoridation may be considerably greater than those from selling the fluoride. Indeed, it is only in the past six years or so that discussion of fluoride pollution from aluminium smelters has started to become "respectable" in Australia.*

*Not that this is a deliberate conspiracy between dentists and big business. Most people have the best of motives, and there is no reason to question that bodies such as the DHERF [Dental Health Education and Research Foundation] and their donors wish to improve children's teeth. It is sufficient to identify the links between elite dental researchers on one hand and the sugary food and aluminium industries on the other, and to point out that the dental researchers may be in a position of inadvertent conflict of interest. The existence of innocent participants does not weaken the hypothesis that the primary pressure for fluoridation originates from the sugary food and aluminium industries. Dentists and to a lesser extent doctors and health administrators play the role of unwitting "cadres" who perform both the research and the promotional campaigns for fluoridation. These activities are funded in part from the additional profits which fluoridation brings to the primary pressure groups."*

Diesendorf M. & Sutton P., *The Ecologist*, Vol 10, No 6, 1986, p 241.

## **The Sugar/confectionery Industry**

### **The Sugar/Dental school Connection**

Fluoride is promoted as a kind of magic bullet which is supposed to prevent tooth decay regardless of how much junk food children eat. Clearly the promotion of fluoridation and other fluoride products is most beneficial to the manufacturers of foods containing large amounts of sugar and other refined carbohydrates.

*"One of the principal fluoridation-promoting bodies in Australia, the Dental Health Education and Research Foundation (DHERF), is associated with the University of Sydney. The 1979 Annual Report of the DHERF contained a list of financial donors, the "Honour roll of contributors". These included the Coca Cola Export Corporation, the Wrigley Co., the Australian Council of Soft Drink Manufacturers, the Colonial Sugar Refining Co., Arnotts Biscuits, Cadbury Schweppes, Kelloggs, and Scanlens Sweets.*

*From the DHERF's total expenditure of \$199,000 (Australian dollars) in 1979, \$43,000 was explicitly designated for "Fluoridation promotion". Out of \$97,000 designated for "Research and educational programmes" and "Publications and films" a large part was also devoted to fluoridation. The promotion of good nutrition including the avoidance of sugary foods, appears to play a very minor role in DHERF's educational and research programmes. Yet it is just these foods, not a so-called "fluoride deficiency", which comprise the principle cause of tooth decay."*

Diesendorf M. & Sutton P., *The Ecologist*, Vol 10, No 6, 1986, p 241.

### **"It's Cane Sugar That Gives Dentists a living"**

*"Cane sugar is a dead food. It contains no protective body-building elements. It perverts the appetite and it rots the teeth," said Dr C.D. Hearman, Lecturer in Dentistry at the Melbourne University, when addressing the 12th Australian Dental Congress at Sydney University.*

*Dr. Hearman said that if people banned refined cane sugar from their diet, they would practically eliminate dental decay. The average Australian diet contained too many acid-forming refined carbohydrates which helped initiate dental decay.*

*There is no real need for refined sugar in the diet. Contrary to general belief, this sugar does not provide energy unless certain vitamins are present in sufficient quantity to compete metabolism," said Dr Hearman.*

*The human body could obtain all sugars it needed from fresh fruits, vegetables, milk and honey."*

News item which appeared in *The daily News*, Perth, Australia, 22-8-53.

In an article titled, "Sour facts on eating sugar", a Dental Service Consultant stated:

*"... figures provided by S.A. Dental Health Service show people with a sweet tooth could well be consuming that amount of sugar every day [100 teaspoons of sugar]. As for teeth, a sweet tooth is likely to become a decayed tooth if sugar is left on it. Ms Pech (S.A. Dental Service Consultant) said a major problem was tooth decay in infants and toddlers. Children used [to taking] ... a sweet liquid, such as fruit juice or cordial. Because they are frequently sucking on a bottle their teeth decay."*

Sour Facts on Eating Sugar, *Brisbane Sunday Mail*, 3-9-89.



## **The toothpaste Industry (and allied fluoride products).**

Over 90% of the toothpaste now sold in America, Australia and Britain contains fluorides. One key selling point is that fluoride toothpastes are endorsed and recommended by the dental profession, and in turn one finds fluoride toothpaste manufacturers financially supporting the dental organisations.

One could wonder how a responsible profession was persuaded to endorse a toiletry product promoted as a genuinely researched therapeutic agent. Let us look at a history that few know of:

*"On 6th January, 1956, Colliers Magazine ran a feature story on the development of a fluoride toothpaste, the product would, Colliers suggested: "make tooth decay a thing of the past".*

*Three weeks later, the massive American detergent and toiletry manufacturing group, Proctor and Gamble, took a full page advertisement in the New York Times, to announce:*

### **TRIUMPH OVER TOOTH DECAY.**

*The advertisement proclaimed their new fluoridated toothpaste CREST to be the only toothpaste that could make a major reduction in tooth decay possible, in people of all ages.*

*CREST was described as: "An Important Milestone in Medicine".*

*It was compared with Jenner's discovery of vaccination, Morton's discovery of ether, and Fleming's discovery of penicillin.*

*One month later, the American Dental Association coldly announced that they had NO evidence that fluoride toothpaste would be of any value at all; indeed, they suggested that such a paste could result in the user getting chronic fluoride poisoning. (Hillerbrand H., Independent Newspaper, Long Beach California).*

*The U.S. Food and Drug Administration was equally unenthusiastic and insisted that any of the paste sold in fluoridated areas MUST carry a WARNING that in no circumstances should the paste be used by children under six years of age. A number of studies have shown that young children can swallow up to a third of the paste they put on the brush. Fluoridated paste contains 1,000 ppm, thus any youngster using three grams a day, could swallow one milligram of fluoride from toothpaste alone. This is four times the dose from all sources now suggested by the Council on Dental Therapeutics of the American Dental Association, for children less than two years old, and twice the dose for children aged two to three years. Add this amount to the child's dosage from water, particularly if it is fluoridated, the air, food and beverages, and it is obvious that overdosage is certainly likely. For eight months all tubes of CREST sold in fluoridated areas carried this warning; then it vanished, never to reappear.*

*Proctor and Gamble, it seems, had discovered that the F.D.A.'s control over toothpaste was limited - the product was officially classified as a*

*toiletry, NOT a pharmaceutical. Thus, toothpaste can make medicinal claims, but is not subject to the legislation which controls the marketing of medicinal products.*

*During the next three years, a massive advertising campaign gave CREST 33% of the toothpaste market in the United States; and other manufacturers rushed to climb aboard the second fluoride bandwagon.*

*In August 1960, at the height of the controversy over Amies and Sutton's dissection of the data of the fluoridation experiment, the American Dental Association officially endorsed and approved CREST as an effective anti-decay dentifrice. In New York, Proctor and Gamble stock rose by \$8 a share, and by May 1961, the sales of CREST had doubled.*

*The "miracle" ingredient in CREST was stannous [containing tin] fluoride.*

*In 1962, two leading British researchers, G. L. Slack and W. J. Martin, put it to the test at the London Dental Hospital. Two years later, they terminated the experiments, explaining (British Dental Journal, 117, 275, 1964):*

*"Evaluation over two years failed to show ANY effect of the dentifrice under test."*

*British research in the mid and late 1960's looked at four different brands of fluoride containing toothpaste, three of the pastes had NO SIGNIFICANT effect in reducing decay in the users; the fourth "appeared" capable of reducing decay by "0.8 surfaces of a tooth per child over a three year period" [a tiny amount].*

*... a family sized tube of toothpaste contains sufficient fluoride to kill an eight pound baby. Of course, babies do not swallow tubes of toothpaste, but it has been demonstrated that children up to six years old swallow about a third of the paste they put on the brush, and some much more, especially when it is flavoured with some artificial sweet substance.*

*When the American Dental Association officially endorsed CREST ... the way was open for manufacturers to develop and unleash a whole range of fluoride containing products; all marketed under the guise of health products. Now we have fluoride mouth-washes, rinses, paints, gels and varnishes; tablets, chews, drops, fluoridated vitamin supplements and chewing gums, even fluoride impregnated toothpicks and dental floss."*

## **Dental schools**

See above section, 'The Sugar/Dental School Connection'

## Dentists

*"An international conference on diet and tooth decay, held at the Royal Dental Hospital, Melbourne, at the weekend, was sponsored by a confectionary company.*

*Mars Confectionery of Australia - makers of Mars Bars ... spent about \$50,000 to finance the conference.*

*... One speaker said that decay induced by eating chocolate could be controlled by the method of eating it. Professor Neil Jenkins, an American visiting professor at the University of West Cape, South Africa, said:*

*"Some people dissolve chocolate in saliva and keep the solution in their mouths for a long time."*

*Dr H.A. McDougall of the department of conservative dentistry in Melbourne University said it was now firmly established that taking fluoride at a level of one part per million in water substantially reduced decay but it was still not fully understood why this happened."*

*The Age.*, Melbourne, Australia, 10th May, 1982.

## Mars Fund Sugar Row

*"The General Dental Council has pulped 8,000 copies of a handbook it published which it now considers gives inadequate information on the dangers of sugar.*

*A thousand copies were distributed earlier this year before the handbook was withdrawn from sale.*

*The booklet was sponsored by the Mars Health Education Fund - which is financed by Mars Ltd. - and the author claims that his original references to sugar were changed."*

*The Observer*, (Australia) 2-12-1980

## Researchers

A handful of dental and medical researchers prepared to distort and misrepresent scientific evidence in return for liberal funding, patronage and professional advantage.

Dr Philip R.N. Sutton, D.D.Sc., L.D.S., F.R.A.C.D.S. Academic Associate University of Melbourne, Senior Research Fellow, Chairman Biometric Society of Victoria, was Senior Lecturer in Dental Science at the University of Melbourne. Dr Sutton stated:

*"I hoped to undertake research, but, during my more than ten years at the Dental School, all my applications for research grants, and*

*apparatus to investigate fluorides and other subjects, were rejected, despite being supported by Sir Arthur Amies [Dean of the Dental School]"*

**Submission**, 21-2-90, p 2.

Dr Sutton, with the highest dental qualifications, a history of research into fluorides, supported by the Dean of the Dental School, was never to receive any grants for research. Such would appear to be the fate of any scientist who discovers evidence which doesn't support artificial fluoridation - and has the scientific integrity to report it. It should be remembered that considerable research grants are paid for by our taxes, but allocated by organisations such as the N.H. & M.R.C. who are strong advocates of fluoridation.

Dr Sutton said that since retiring from his University post in 1974:

*"Although I have published many papers on a variety of subjects not related to fluoride ingestion, my main activity since that time has been to study fluorides and fluoridation, and to write papers designed to bring out the truth about this controversial subject."*

### **Countries receiving grants for artificially fluoridating their populations**

Dr Moolenburgh says that U.S. Public Health Service (P.H.S.) gives money (grants) to countries to promote fluoridation - under the title 'U.S. P.H.S. grants to countries where fluoridation is being promoted'.

Dr Moolenburgh reported:

*"The Netherlands also received from the United States Public Health Service, \$521,701 for the promotion of water fluoridation over the years 1958, 1960 and 1963. ... Year after year you could see the same organisations benefiting ..."*

Moolenburgh, *'Fluoride: The Freedom Fight'*, p 168.

### **Irresponsible Parents**

*"The principle at stake in the fluoridation battle, rightly understood, emerges as the most vital of all principles in the conduct of human life. Children's teeth are decaying mainly because of the weakness of many parents (i.e. in not controlling the intake of refined carbohydrates by their children) and the avarice of commercial interests in exploiting the weakness of the parents and the sweet tooth of the children. It is imperative that this evil be tackled at the source."*

**Good Intentions, Bad Principle**, Dr R.V. Sampson

Parents may wish to take the time to determine whether the fluoride they allow their children to ingest, is a real benefit, or may actually cause harm.

## Referendums on fluoridation

Sir Stanton Hicks, former director of Nutrition of the Australian Armed Forces during World War II, writes in the Medical Journal of Australia:

*"... as an often misquoted opponent of fluoridation of public water supplies ... I am not ... and never have been, opposed to the use of fluoride either internally or externally for dental purposes. I am however, opposed on principle to the deliberate addition of any substance whatever to a public water supply with the avowed intention of influencing any physiological function of the human body.*

*When I ask my dental friends why they do not advocate the supply to and use by parents of fluoride tablets, and the control of the dental effect by the school dental service, I am invariably told that parents could not be relied upon to co-operate. How do they know? I am unaware of any intensive campaign having been undertaken to advocate such a procedure in Australia.*

*I attended an address to a recent Australian Dental Congress in Adelaide by a leading fluoridation expert of the United States Department of Health. He advised his listeners to press for fluoridation by influencing councils and governments. He warned them not to permit the subject of fluoridation to become a matter for public debate because, he said, plebiscites were invariably against the proposal owing to the influence of crackpots. In itself this is a remarkable tribute to the influence of crackpots, and at the same time a contemptuous insult to the intelligence of the average citizen. It discloses, moreover, what in my opinion is a dangerous trend in our day and age. This is the tendency of the pseudo-scientific expert to use authority to impose his views.*

*It is my conviction that if a medico-social measure cannot be sufficiently clearly explained to one's fellow men to win their conference that it is honestly presented and that there is no other alternative to its adoption, there is something wrong somewhere. If we cease to base important social actions on argument with our fellow man and cease to accept each our individual share of responsibility - even in the matter of our children's teeth - we are merely proving that Kruschew's contempt for a free society is thoroughly deserved, and we may as well resign ourselves to being more than symbolically clubbed on the head with his shoe."*

Letter to Medical Journal of Aust., 11-11-61.

## Keep Fluoridation From Going to a Referendum

Dr Francis Bull, Wisconsin State Dental Health Officer, was a leading promoter of artificial fluoridation, and keynote speaker at the U.S. State Dental Directors' Conference in 1951. In discussing how to handle the fluoridation campaign and referring to public opposition, Dr Bull (who was well aware of what happens when the people can decide whether they should be medicated via their drinking water) said,

*"Keep fluoridation from going to a referendum."*

## Polls Overwhelmingly Against Fluoridation

*"The Australian Dental Association supported by the National Health and Medical Research Council and the Health Departments of Australia are against democratic community polls on fluoridation to assess "the will of the people" and the "rights of the people".*

*The "will of the people" has been overwhelmingly expressed in the following ...:*

1979	Gold Coast	Fluoridation plant stopped.		
1970	Portland	86 percent against fluoridation.		
1971	Hamilton	68	"	"
1974	Ararat	64	"	"
1978	Ballarat	94	"	"
1978	Buninyong	93	"	"
1978	Grenville	89	"	"
1978	Horsham	85	"	"
1988	Deniliquin	80	"	"
1988	Howlong	97	"	"
1988	Moree	96	"	"
1988	Pallamallawa	98	"	"

*At the same time the following Councils rejected the introduction of artificial fluoridation into their drinking water supplies. Wodonga removed their fluoridation plant, Ballina, Brisbane, Casino, Coffs Harbour, Gosford, Kempsey, Lismore [Poll - 85% against], Port Macquarie, Rous County and Tumut.*

*In Victoria there are only a few small artificial fluoridation plants outside Melbourne. The Councils, the people and the Unions have stopped all major country cities, Geelong, Ballarat, Bendigo, Warnambool, Portland, Mildura, Wodonga, from fluoridating their drinking water supplies."*

Freedom From Fluoridation Federation of Australia, **Submission** No 15, 26-2-90.

The following motion was passed at the May, 1985 State Council of the Tasmanian Labor Party:

*"That this Council opposes the compulsory pollution of the State's water supply with the poisonous chemical sodium fluoride, and calls for the immediate removal of this mass medicant until each community exercises their democratic choice by referendum and that the matter be referred to the Health Policy Committee."*

The Victorian Health Minister W.A. Borthwick, in writing to a constituent on 16th December, 1981 stated:

*"... the legal power for an Authority to conduct a poll of rate payers, pursuant to Section 307A of the Water Act 1958, was repealed by the*

*Health (Fluoridation) Act 1973. Accordingly, should the Health Commission believe that the introduction of fluoridation in a certain district is in the interests of public health, it is not obliged, or in any way required, to take into account the views of the residents."*

Simply put, according to these public servants, the majority will of the taxpayers is irrelevant. Is this not an excellent example of the need for citizen's to be able to petition for referenda, the results of which are binding on public servants?

### **The ACT Inquiry (Majority View) of Citizens and Referendums**

In the ACT Inquiry Report (12.7) it states (quoting Murray, J.J.):

*"... In essence, the phenomenon of the public's voting against its own interest is explained by a number of factors: (1) ignorance and confusion on the part of the public about the dental health benefits of fluoridation ..."*

### **Voter's Veto - Democracy in Action**

I believe that citizen's referenda is an important Constitutional safeguard against unwarranted political interference, and that it should be used more regularly, as it is in some other countries (e.g. Switzerland). Not only at the Federal level of government, but also at the municipal and State levels.

Few would disagree that there are times when politicians enact legislation which is against the will of the majority of the voters. The above data on referendum results in Australia is an indication that the majority of people seem to be against artificial fluoridation. This is also the case in the ACT by a moderate majority (surveys done through 1990 by myself and members of our independent group). If Voter's Veto was legislated, the people could call for a vote on fluoridation, e.g., "Should we have fluoridation of our drinking water?"

Voter's Veto would give citizens the legal right to petition for a binding referendum. Any individual or group concerned about an issue could initiate a petition. When a set number of signatures are collected, say 3% of the voters (2 - 5% is the range in countries where people have this right), the petition would then be submitted to government (State, local or Federal). Government would then be required to put the question to a referendum. The referendum would be held on one or two set days each year. It is obvious that an election poll would always be used as one of the times for referendum questions to be put.

Perhaps the main benefit of the Voter's Veto referenda is not only that the people can have a say, but that the result is binding on government.

The principle of citizen's referenda operates in some way in Austria, Italy, Denmark, 24 States and the District of Columbia in America and throughout Switzerland, where it has operated for over 140 years.

It is not surprising that the idea has great appeal with voters.

I have pledged to introduce a Voter's Veto Bill into the ACT Parliament. If Canberrans want the right to a voter's veto, they will have the opportunity to ask their elected representatives to support the Bill in Parliament.

It is neither politicians, doctors, dentists, or bureaucrats that are the cause of any of our problems. It is the fact that we have not accepted our own responsibility to ensure that we are genuinely represented. We people have the power to make the necessary changes, if only we have the will.

#### **Total Intake Study Should be Done**

*"The W.H.O. says that before fluoridating a water supply, authorities should determine the prevailing fluoride intake from all sources, including drinking water, food and the general environment."*

W.H.O. *Letter*, 16-5-86.

So, authorities in Australia willingly accept the statements of overseas authorities, except when it doesn't support fluoridation. Is this a responsible practice by the Victorian Health Department, or yet another example of refusing to accept any evidence that may not favour fluoridation?

**Summary:** Many authorities, institutions and well meaning individuals either through ignorance or laziness, support what is in fact a drive to maintain sales of fluoride.



## SECTION 4: ENVIRONMENTAL POLLUTION.

The environmental dangers of fluorides were explained in many submissions to the ACT Inquiry Committee.

### **Fluoride Destroys Tasmanian Farm**

*"For almost 13 years John Braim and his wife, Sylvia, believed they were bad farmers.*

*Trying to set up a Poll Hereford stud at Nicholls Rivulet in southern Tasmania, the couple were continually surprised and discouraged by huge stock losses. They used the best genetic material but a 20 per cent fatality rate persisted among their cattle. The farm was plagued by still-births, spastic calves, premature calves, weak calves that died shortly after birth and animals with abnormal livers, kidneys, hearts and lungs.*

*Farmers on neighbouring properties had stock losses of less than 2 per cent.*

*But on September 15, 1987, when Mr Braim found the corpse of two sheep in their paddock, the mystery of the deaths and disabilities began to unravel. He noticed the grass was covered in a white powder that had escaped from a shed owned by the Rivers and Water Supply Commission. It was part of a fluoride plant servicing the water supply for the nearby town of Cygnet.*

*Veterinary examinations found the cud of the sheep contained enough fluoride to kill the animals four or five times over.*

*In the Supreme Court in Hobart on Monday (4th Dec, 90), the Braims received \$65,000 in damages from the Commission, plus costs, and a promise that the shed would be removed by January 4 [1991].*

*It is small solace to the Braims. They say the 13-year nightmare has destroyed all hope of establishing a Poll Hereford stud. "All my dreams and aspirations have been finished - I'm shattered," Mr Braims said."*

***The Australian***, Wed 6th Dec, 1989, 'Farmers win fluoride damages'.

Since the time that fluorine was first identified in 1771 and until the 1940's, it was always something to keep out of the environment (Outerbridge T., *The Fl. Campaign*, *Ecol.*, Vol 16.) From 1900 to the early 1940's widespread stock and crop poisoning by industrial fluorine wastes in the U.S. alone resulted in damages payouts of millions of dollars. The Aluminium Corporation of America (ALCOA) itself faced legal claims for millions (Exner F. *Econ. Motives Behind Fl.* Seattle, Wash. 1961.)

In Australia, many claims have been made against industrial companies that produce fluoride wastes. One recent example in Western Australia, was the Middle Swan School closed by the Environmental Protection Agency (*Aust. Fluoridation News*, May/June, 1990.) because of fluoride pollution from the local Brickworks.

### **Pollution Control Commission Indicts Fluorides**

Amid growing concerns about the environmental threat to the Hunter Valley region from industrial fluoride pollution, the N.S.W. State Pollution Control Commission, reported:

- \* *Fluoride has been shown to impair most of the processes which are involved in plant reproduction.*
- \* *The mutagenic properties of fluoride have been ascribed to interference with DNA replication.*
- \* *It has been shown that fluoride transfers and accumulates through the food web, particularly in insects and carnivores.*
- \* *The effects of fluorides in soil chemistry and biology are almost unknown, Groth has asserted that soil bacteria can, in the presence of fluoride, generate fluoracetates which are highly toxic to animals.*
- \* *A number of plants are known to produce fluoracetate during exposure to fluoride and this could produce widespread response from a number of animals.*
- \* *Fluorides have caused more damage to livestock than any other air pollutant.*
- \* *Animals exposed to excessive amounts of fluoride develop fluorosis, which occurs in both acute and chronic forms.*
- \* *The stock most frequently affected by chronic fluorosis are cattle and sheep exposed to moderate fluoride levels over long periods."*

*Pollution Control in the Hunter Valley with Particular Reference to Aluminium Smelters", July, 1980.*

### **Flower Growers Warned about Fluoridation**

*"Commercial cut-flower growers are the latest industry to be hit by the damaging effects of fluoride and are warning their members to install filters on fluoridated water supplies in which cut flowers are kept prior to marketing.*

*According to Dr Rod Jones of the Knoxfield Horticultural Research Institute [Melbourne, Victoria], fluoride concentrations as low as one part per million - the same amount as in public water supplies - has*

been shown to damage cut gerberas and gladioli to such extent that they become unsaleable only two or three days after harvest.

Fluoride also damages roses, tulips, freesias and poinsettias, he said.

"The most effective way of preventing fluoride damage is to make sure fluoride-sensitive flowers are never placed in tap water," said Dr Jones."

Helmi Bond, *The Independent*, Tue, Oct 2, 1990.

## **Airborne Fluoride Pollution**

*"The emission of fluorides by industry is an important source of environmental pollution, both in the atmosphere and in the work place for employees in certain types of plants. (Wiseman A. Effects of inorganic fluorides on enzymes. Handbook of experimental pharmacology, Springer Verlag (editor) (New York, 1970), Vol 20, part 2, pages 48-97.)*

## **Effects on animals**

*Domestic animals fed on fodder containing fluorides eventually show signs of the poisoning known as fluorosis (Krook L. and Maylin G.A., Industrial fluoride pollution. Chronic fluoride poisoning in Cornwall Island cattle, Cornell Vet, 69 Suppl. 8, 1979, pages 1-70)*

*... Fluorine taken in excessive amounts causes fluorosis, symptoms of which appear in various disorders of increasing severity. The effects of fluorides vary according to the intensity of the poisoning. Where the emission of fluorides is greatest, the animal's teeth decay and wear out completely; they are no longer white but yellow or brown. The animals become incapable of grinding food. The teeth work loose and finally fall out; as a result, the animals die. In addition to these dental disorders there are others: digestive difficulties, dystrophy [defective development or degeneration] of the bone in the young (rickets) and in adults (osteomalacia).*

*After a period of time, which varies according to the intensity of the poisoning, locomotor [to do with moving from place to place] disorders appear in cattle and gradually the animal is unable to move. The limbs swell, lacteous [milky] secretion diminishes and pregnant females frequently abort. Finally there is a progressive cachexia [general debility] which is fatal to the affected animals.*

*... Losses incurred as the result of the poisoning of domestic animals can be enormous for agricultural producers. As an example, we can mention the case of ALCAN in Arvida, where l'Union des Producteurs Agricoles claimed and obtained from this aluminium plant, from 1951 to 1973, compensation amounting to \$2,868,953 paid to 319 farmers. (Cox W.R., Hello test animals. Chinchillas or you and your grandchildren. Milwaukee, Wis, The Olsen Pub. Co., 1953) There have been some improvements but total compensations paid in 1977 and 1978 still come to more than \$250,000. More than 3,000 head of cattle suffered from poisoning from fluorides during these two years.*

*Another ecological and toxicological result of fluorine pollution is the marked deterioration of the entomo-fauna [relating to insect and animal life]. In fact, fluorine is highly poisonous for most insect life. Bees are especially sensitive to it and no apiary can survive in an area where this pollution exists.*

*... Other studies on the toxicity of fluorides on fish have shown that trout eggs do not hatch normally if 1.5 ppm of fluorides are present; adult trouts are killed by concentrations of 2.7 to 4.7 ppm if they are exposed for several days. (Rapaport I. A., Les opacifications du cristallin mongolisme et cataracte senile, Rev Anthropol Series, 2, 3:133, 1957.)*

*... From Studies conducted by H.L. Richardson, pathologist at the University of Oregon, it has been shown conclusively that fluorides in a concentration of 1 ppm can sterilize chinchillas on a farm. This concentration of fluorides may cause a weakening of the intestines, abortion, a high rate of still birth, weakness in the newborn and the death of the mother at the time of expulsion. All breeders had the same problem: an extremely low rate of productivity and a high mortality rate in the newborn (72 percent in Lelowna). (Berry W.T.C., A study of the incidence of mongolism in relation to the fluoride content of water)."*

Bundock J.B., Graham J.R., Morin P.J., Water Fluoridation, *Science and Public Policy (Journal)*, June, 1982, p 137.

### **Fluoride Listed as Contaminant**

In a letter of 3 May, 1990, Andrew McCutcheon, the Victorian Minister for Planning and Urban Growth, wrote:

*"Fluoride is also listed ... as a contaminant which is monitored in both rural and urban water supplies. While no specific reference is made to Fluoride in the text, the report clearly states, on page 264, that:*

*Drinking water quality monitored in Victoria has failed to adequately report on a range of organic and inorganic contaminants that can affect human health - especially THMs, and pesticides and herbicides. It is of serious concern that such monitoring is not [being] undertaken, and that the baseline conditions for these contaminants have not been determined."*

It was submitted by many that in the light of the overwhelming evidence of the toxicity of the fluoride chemical, it would be wise to work towards its reduction in the environment. Certainly, commonsense dictates that chemicals known to be toxic to vegetation, livestock, and human cells and tissues, should not be artificially added to the community drinking water supplies.

**Summary:** Toxic chemicals (such as fluoride) spread into the environment and are tagged as pollutants. Is not water part of the environment? Is not fluoride a toxic chemical?

## SECTION 5:

## CARIES NOT CAUSED BY FLUORIDE DEFICIENCY

### Why do teeth decay?

The entire and only justification given for the mass medication of entire populations with fluoride chemicals, is that our teeth have too many holes in them. So, is it a lack of fluoride in our diet (teeth) which causes the problem?

We find that the accepted scientific reason for tooth decay was best put by Dr R.V. Sampson, D.Phil., of the Dept. of Politics, Uni of Bristol, when he said:

*"Sickness, suffering, pain are frequently nature's warning symptoms that wrong ways of life cannot be pursued without paying a price. To seek by spurious mass application of chemicals to encourage the public in the belief that easy, morally effortless, remedies are available to enable us to escape the consequences of our own folly is to do incalculable damage. There are never such easy escapes available. To encourage people in such a delusion is to lead them to further moral debilitation."*

*The principle at stake in the fluoridation battle, rightly understood, emerges as the most vital of all principles in the conduct of human life. Children's teeth are decaying mainly because of the weakness of many parents (i.e. in not controlling the intake of refined carbohydrates by their children) and the avarice of commercial interests in exploiting the weakness of the parents and the sweet tooth of the children. It is imperative that this evil be tackled at the source. It would be a grave social crime to attempt by spurious remedies to conceal this profound social evil in our midst. What is urgently needed is a vast educational campaign at many levels on the essentials of health."*

Is there proof that wrong diet is the cause of tooth decay, and conversely, correct diet prevents decay? The answer is a resounding "Yes".

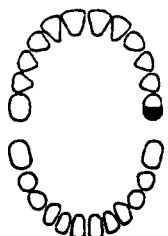
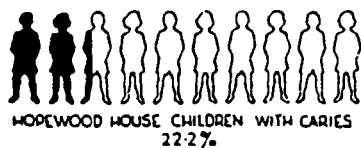
### The Hopewood Story.

The most detailed dental research study in Australia that gave conclusive evidence that a sensible diet prevents tooth decay, was the famous study conducted at the Hopewood Health Centre at Bowral, New South Wales.

The study was overseen by senior Government scientists. The story is best presented in, *The Hopewood Story - A gift of Health*, which states:

*By 1947 there were 82 children at [Hopewood]. Quite unexpectedly, Dr N.E. Goldsworthy, M.D., director of Dental Research in NSW contacted Bailey with a request to visit Hopewood and inspect the children's teeth. This was the beginning of eleven years of research, during which a mobile clinic was set up. Dr F.W. Clements, who was in charge of research into Child Nutrition at Sydney University, was later introduced to the project, his team keeping records for some nine years. Thus the natural regime at Hopewood was tried, tested and found to be true.*

## HOPEWOOD HOUSE OBSERVATIONS — DIET & DENTAL CARIES

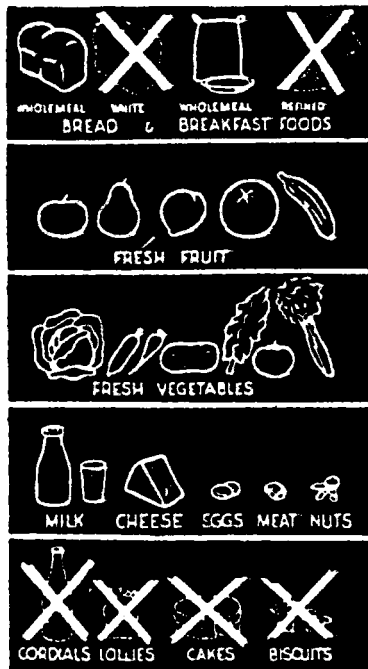


HOPEWOOD HOUSE CHILDREN 4-9 YEARS  
1 CARIOUS TOOTH BETWEEN 2 CHILDREN

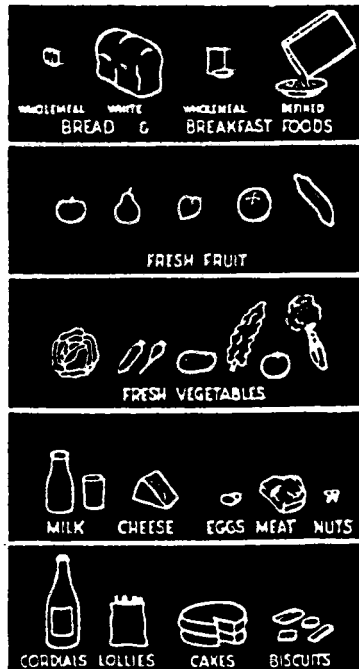


SYDNEY CHILDREN 4-9 YEARS  
10 CARIOUS TEETH PER CHILD

### HOPEWOOD HOUSE DIET



### AVERAGE SYDNEY DIET



—By courtesy, The Journal of the Commonwealth Department of Health

*The results of this research were documented and published in dental and medical journals, both in Australia and overseas, from 1947 to 1958. Many medical and dental authorities visited Hopewood to study results first hand. One of these was Lord Mellanby, a physician to the royal family. The Hopewood children had a world record for dental health. Doctors in Sydney and Brisbane gave lectures on the general health of the children, which was outstanding. The researchers were quoted as the project drew to a close:*

*"In as much as the experience of Hopewood proves beyond any reasonable doubt, that by using similar dietary regime children can be relatively free of dental caries and their health generally improved, why aren't these beneficial methods adopted more widely in the rest of Australia and indeed in the rest of the world?"*

*A Pamphlet entitled 'Every Doctor a Dietician' was produced as a result of this comprehensive research and distributed to medical and dental practitioners.*

*The Hopewood children's dental charts\* are still on display in the Institute of Anatomy in Canberra, bearing startling witness to what can be achieved through correct diet from birth. The Canberra display is also testimony to the fact that eventually the 'authorities' came to respect Bailey's work and the ideas on which that work was founded."*

*The Hopewood Story, C. Raymond, Pythagorean Press, 1987.*

## **Sugar and Tooth Decay**

*"For the first time ever, the frequency of dental caries is greater among children in Third World countries than in industrialized countries. So writes Dr Aubrey Sheiham of the University of London Dental School ... Citing data from the World Health Organization, Sheiham reports that "the average number of (permanent) teeth with caries per 12-year-old child as assessed by the DMF (D=decayed, M=missing, F=filled) was 4.1 for Third World countries in 1982 and 3.3 for industrialized countries. Twenty years ago the index was less than 1 DMF for most underdeveloped countries and as high as 10 DMF teeth for developed countries.*

*According to various studies reviewed by Sheiham, the principal reason for the huge rise in dental caries in underdeveloped countries appears to be the large increase in the consumption of sugar and high-sugar diets that has occurred. "In some underdeveloped countries, sugar is (now) the second largest food item imported.*

*In all [underdeveloped] countries where the DMF index has increased, the mean annual per-capita consumption of sugar has also increased. ... Those [underdeveloped] countries where the dental caries rate has declined have, with the exception of Fiji, reduced their sugar consumption.*

*Similarly, in many Western industrialized countries, decreases in dental caries have also been associated with reductions in sugar consumption."*

Changing Trends in Dental Caries, *Internat. J. of Epidemiology*, Vol 13, pp 142-147.

## **Toothpaste**

*"Fluoridated toothpaste contains 1000 parts per million fluoride. A family-sized tube of fluoridated toothpaste (7 ounces) contains enough fluoride to kill a small child of up to 20 pounds if the entire tube is consumed. While most children will not consume an entire tube of toothpaste, consumption of smaller amounts of toothpaste certainly presents a health hazard. It has been found that a 4- to 6-year-old child will consume 25% to 33% of the toothpaste put on his brush. ..."*

*Fluoride: The Aging Factor*, p 16.

A statement was made in a *Newsweek* article on fluoride. The article stated:

*"And even if drinking fluoridated drinking water is slightly risky, there is no hint that fluoridated toothpaste - as long as you don't swallow any - is dangerous." [my emphasis]*

Begley S., *Newsweek*, February, 1990, p 65.

## **Can we have confidence in the Medical Approval of Fluoridation?**

Dentists are well trained and they are permitted by law to treat some diseases of the mouth, they are not trained in the recognition, nor are they allowed to treat diseases involving the rest of the body. The safety of mass medication with a potentially dangerous chemical is something which lies outside the scope of the dentist to treat.

So then, who do we turn to? Obviously physicians and medical researchers have the necessary qualifications. However, we must ask the question, *"Can we accept, with confidence, the medical statement that artificial fluoridation is absolutely safe?"*

## **Individual Responsibility Eroded**

This statement relates to compulsory artificial fluoridation exactly. The following statement by Swarth gives us an indication of where we went wrong in responsibility for our own health:

*"... rather subtly the individual citizen was taught to forgo the major responsibility for maintenance of his own health. To wit, no individual, as was the custom before World War II, could have a follow-up on such a simple matter as his urinalysis without first consulting a physician. This exerted considerable impact in destroying an individual's ability to care for himself. Likewise a mother was taught to no longer go to the*



*drug store for ten cents worth of camomile tea or dried raspberries to control her baby's colic and instead to consult a pediatrician ... In other words, by limiting the means by which persons might deal directly with their own illnesses, we have bestowed a real monopoly of health care upon physicians and at great social and economic costs."*

Wolf, B.B. Berle., *Limits of Medicine*, 1976, Plenum Press, p 45.

## **The 1968 Tasmanian Inquiry**

*"The Tasmanian Royal Commission took place between 1966 and 1968. Science does not stand still; in fact scientific knowledge is now doubling every fifteen to twenty years. Sometimes we learn from our errors of the past, often we don't.*

*However, it is worthy of note that the Tasmanian Report is never used in Court Cases or Government Inquiries in overseas countries. It has no scientific standing in world literature."*

*Poison on Tap*, p 87.

## **The 1979-80 Victorian Inquiry**

The three members appointed to the Victorian Inquiry were Dr D.M. Myers, Dr V.D. Plueckhahn, and Dr A.L. Rees.

*"An Engineer, a Medical Pathologist and a Physicist, respectively.*

*None of them was expert in the three most essential fields required for a study of fluoridation - dentistry, clinical pharmacology, and statistics."*

*Poison on Tap*, p 93.

The 1979/80 Victorian Government Inquiry sat for 18 months, but only managed to interview two people.

On page 203, the Victorian Inquiry Committee stated:

*"A vast amount of evidence is available as to its value, and as to the possibility of harmful results."*

## **Fluoride Not an Essential Element**

If fluoride is an essential element, it could be used as an argument for fluoride supplementation. On page 135 of the Victorian Report, their reference 117 is selected to endorse their statement from the U.S. Food and Drug Administration (FDA) which:

*"... identified fluoride as an essential element."*

Reference 117, is "U.S. Food and Drug Administration in U.S. *Federal Register* 38; 20713, No. 148, Washington, D.C. August 2, 1973."

This FDA reference for 'essential' was *deleted* from the FDA *Federal Register* by five subsequent updated (1973 - 1979) classifications of fluorides, all made before the completion and presentation of the Victorian Inquiry Committee Report to the Victorian Parliament.

This deletion was the immediate result of the 1978 Court deliberations. (Federal Register, 3.16.79, p 16006.) It now rests in the FDA category as "*not generally recognised as safe*". (Page 23249.)

Why was a greatly outdated and erroneous classification used to falsely report that fluoride is an essential element?

### **Incorrect by 172,000 times**

The Victorian Inquiry Committee dismissed any environmental fluoride concerns. On page 17 they state that the:

*"... most susceptible plants can tolerate up to 100 ppm (parts per million) HF (hydrogen fluoride) from the atmospheric sources".*

*"In 1980 a paper by R.J. Unwin, Agricultural Development and Advisory Service, London was published in the ADAS Quarterly Review "Atmospheric Fluoride Pollution in the United Kingdom and Possible Effects upon Agricultural and Horticultural Crops".*

*This paper sets out the damage to plants, trees and crops from fluoride pollution.*

*The Author's conclusions, suggest that 2 ppb (parts per billion) fluoride will damage many plants, also, the West German pollution control standard is 2.0 ug/m<sup>3</sup> F (2.3 ppb) but even at this concentration many trees would be damaged and a reduction in soft and stone fruit could be expected.*

*A search of the literature fails to find any other claim that the "most susceptible (plants) can tolerate up to 100 ppm HF".*

*The author of the London paper states:*

*'... levels (less than) 0.58 ppb (parts per billion) can cause damage.'*

*That is 172,000 times less than the Victorian Committee claim of 100 ppm fluoride."*

### **Misleading Data Given to Promote Fluoridation in Geelong:**

Geelong, Victoria, has long been a battle-ground between those who promote fluoridation and those who stand for freedom of choice in medication. The following article in the *Age* newspaper on 15th July, 1986 casts an important light on how proponents try to have fluoridation introduced:

*"Scientific evidence cited recently to pave the way within the next month for the fluoridation of greater Geelong's water supplies - serving about 200,000 people - is wrong, according to an American Scientist.*

*Professor Donald Taves, a leading researcher on fluorides, has strongly challenged evidence which was quoted approvingly by the 1979-80 Victorian Government inquiry on fluoridation.*

*The evidence, which helped the three-member Victorian Inquiry decide in favor of fluoridation of the State's water supplies, is based on a paper by two American scientists. Leon Singer and W. D. Armstrong, published in the 'Journal of Applied Physiology' in 1960.*

*But in a phone call from his home in Rochester, New York. Professor Taves told 'The Age' that the conclusions reached by Singer and Armstrong in their paper were "wrong and misleading". Until 1983, Professor Taves was an associate professor in the Department of Radiation and Biology at Rochester University.*

*Other scientists have described the 1960 paper as "erroneous", agreeing with Professor Taves that it was based on an analytical method superseded long ago.*

*One of the members of the 1980 Victorian inquiry, Professor Vernon Plueckhahn, who has recently acted as the State Health Department's chief adviser on the fluoridation issue at Geelong, declined to comment [my emphasis] when contacted by 'The Age'.*

*The Geelong Water Board last Wednesday voted 5-4 to accept a letter sent to it by the Health Department ... The letter cited the Singer and Armstrong evidence to support the Health Department's decision not to survey the prevailing blood plasma fluoride levels of Geelong residents.*

*(Blood plasma is the most reliable indicator of the fluoride content of body fluids and in normal blood about three quarters of the total blood fluoride is in the plasma.)*

### **World Health Organisation Ignored**

*... The Health Department's decision not to test for blood fluoride levels goes against the recommendation of the World Health Organisation, which both the 1980 Victorian inquiry and the Health Department have acknowledged as an authority on fluoridation."*

**Poison on Tap.**

### **Erroneous use of Scientific Studies**

*The [Victorian] Committee use as a reference to support their study, a Report on Fluorides by the U.S. National Academy of Sciences, Washington D.C.1971 and using the prefix "Vostal, J.J. et al." (Dr J.J. Vostal was Chairman of the Committee that wrote that Report.)*

*These facts began to amount into what appeared an exercise in dangerously "ill-informed" scientific data supplied to the Parliament of Victoria by their Committee of scientists so the Author spoke by telephone to Dr J. Vostal at his office in the U.S.A.*

*Dr Vostal was advised that he had been quoted by the Victorian Committee as the authority "that the most susceptible plants can tolerate up to 100 ppm HF from atmospheric sources". He was surprised at such a reference because he said the Academy had not mentioned parts per million (ppm) in their 1971 Report relating to atmospheric Hydrogen Fluoride concentration.*

*Consider the statement by the three Victorian scientists in their indepth study into fluorides and fluoridation supporting their pronouncements with a "claimed" reference from the Report "Vostal et al".*

*But this is what Vostal et al. state on p 237 of their Report:*

### **Summary and Conclusions**

*"Accumulation of atmospheric fluorides by plants can result in changes in metabolism, production of foliar lesions, and alteration in growth, development, and yield. Plants may be grouped in three general classes, according to their response to fluoride exposure: susceptible, intermediate and resistant. In addition to differences among species and varieties, the duration of exposure, stage of development and rate of growth, rate of accumulation of fluoride, environmental conditions, and agricultural practices are important factors in determining the susceptibility of plants to fluorides.*

*The following threshold concentrations for atmospheric fluorides are based primarily on research, rather than on field studies.*

*For exposure periods of 1 day, the threshold for foliar markings is between 3 and 4 ug/m<sup>3</sup> for the most susceptible species and 10 ug/m<sup>3</sup> or higher for species of intermediate susceptibility; for exposure periods of longer than a month, the threshold is about 0.5 ug/m<sup>3</sup> for susceptible and between 1 and 3 ug/m<sup>3</sup> for some intermediate species.*

*The Victorian Report has decreed that even "the most susceptible" plants can survive in an atmosphere containing 100 ppm Hydrogen Fluoride - [However, the truth is ...] At such concentrations no living thing could survive."*

*Poison on Tap, pp 14-15 & 309-312.*

Since the 1979/80 Victorian Inquiry Report, the above false information remains on public view as a supposedly valid scientific statement with no correction being made, even though the matter was later referred to the Victorian Government.

The Geelong story had a happy ending. Geelong residents, to this day, are not compelled to ingest fluoride.

## U.S. Court Finds Fluoridation Guilty

This case was one of the most extensive examinations of the scientific arguments for and against artificial fluoridation conducted anywhere in the world. The details of the case, including the existence of 2,800 pages of transcript, were made known to the Victorian Inquiry Committee who replied on the 5th June, 1979 that they would obtain copies which would then be "*studied and assessed.*"

However, a search of the Victorian Government archives, after the conclusion of the Inquiry, revealed that the Victorian Committee did not obtain the transcripts that they had said they would.

What the Victorian Committee did do was state (p 104) that the Court decision had been reversed. Someone reading the Victorian Inquiry Report could be misled into believing that the findings of that Court were overruled and all the scientific evidence against fluoridation rebutted and reversed.

This is an entirely misleading statement. The matter simply concerned the jurisdiction of Judge Flaherty's Court. No scientific evidence from the Court case against artificial fluoridation has ever been overruled and still stands unchallenged in its entirety. The Court decision was overruled on the technicality of jurisdiction only.

Judge Flaherty comments on the case and the matter of jurisdiction;

*"... I entered an injunction against the fluoridation of public water supply for a large portion of Allegheny County, Pennsylvania. I did this after a very lengthy series of hearings on the issue. The trial brought into my Court experts on the subject of fluoridation, and I meticulously considered the objective evidence. In my view, the evidence is quite convincing that the addition of sodium fluoride to the public water supply at one part per million is extremely deleterious to the human body, and, a review of the evidence will disclose that there was no convincing evidence to the contrary.*

*... involves merely the jurisdiction of the Court, it does not involve substantive merits of the case. Prior to my hearing this case, I gave the matter of fluoridation little, if any, thought, but I received quite an education, and noted that the proponents of fluoridation do nothing more than try to impugn the objectivity of those who oppose fluoridation.*

*I seriously believe that few responsible people have objectively reviewed the evidence."*

**John P Flaherty**  
**Justice**  
**Supreme Court of Pennsylvania"**

The Victorian Committee refers (p 104) to a letter from Judge Bowman, dated 21st February, 1979. A more recent letter from Judge Flaherty on 5th September, 1979 was apparently ignored by the Victorian Committee who then gave a misleading report that suggested that the Judge's finding that fluoridation was a carcinogen was incorrect.

The suppression, by the 1979/80 Victorian Government Inquiry, of evidence proving a cancer-fluoridation link may be summed up in the words of Dr George Waldbott: (*P.O.T.*, p 67):

*"Omission of pertinent scientific data is at best a demonstration of poor scholarship; where the health of millions is at stake, however, it is intolerable."*

### **The Victorian Inquiry - Fair or Flawed?**

The Premier of Victoria Rupert Hamer, in tabling in Parliament the Report of the Victorian Inquiry into Fluoridation, claimed (*Hansard*, 9-9-80, p 65.) that data from Bacchus Marsh, a small Victorian country town, with a population of about 5,000 persons, proved the effectiveness of artificial fluoridation.

Mr Hamer said:

*"At the last Dental Survey of school children at Bacchus Marsh where fluoridation began in 1962, the dental decay rate had already been reduced by half, more than 20 percent of children being completely free of decay."*

This statement by Mr Hamer is incorrect.

The last Government Dental Health Survey in Bacchus Marsh at that time was Survey No. 6 of 1978. In this survey, only fourteen year old children were recorded. There is *no* reference to 20% of children being completely free of decay.

The Health Department did claim an increase in caries-free fourteen year olds when they wrote:

*"The percentage of children with no sign of decay has increased from 2 percent to 15.8 percent during this period, (1963 - 1978)."*

This sounds impressive until you check the data. In 1963 two children had caries-free teeth, but in 1978 the number was three. The difference is only one child.

As the 1978 survey did not include younger children, let us take the *previous* Health Department Dental Survey of Bacchus Marsh conducted in 1975. The following is a graph showing the results of fluoridation after thirteen years in Bacchus Marsh. This clearly shows that no child at the age of fourteen had teeth free from decay.

It is ironic that the Victorian Premier used Bacchus Marsh to claim effectiveness of artificial fluoridation. While children usually have more dental caries as they grow older, how effective is artificial fluoridation after 13 years in Bacchus Marsh when the number of children with holes in their teeth *increased* dramatically from five year-olds to 14 year-olds.

## **Concluding Comments on the Victorian Inquiry**

The data presented in this Dissenting Report on the fraud that was the 1979/80 Victorian Government Inquiry is but a minute selection of the errors, omissions, false reports and misleading data presented in the official Report of the Victorian Inquiry.

The true story behind the scandal that was the 1979 Victorian Government Inquiry into Fluoridation would fill a book. In fact, not one, but two books have been written about the Victorian Inquiry:

\* *The Fluoridated Watergate - Victoria 1981*, by Kay Dupuy.

\* *Poison on Tap*, (1982) by Glen Walker,

Glen Walker has a distinguished world-wide, scientific background. In 1968 he was the first Australian to be made a Fellow of the Institute of Metal Finishing, London, an international society, entry into which is controlled by technical and scientific examination.

He is an Emeritus Member of the Electrochemical Society, U.S.A., having been a member for over 50 years.

He has represented Australia many times at international scientific conferences.

During World War II, he acted as a consultant to the Australian Army, Navy and Air Force, the American Air Force, Government Ordinance Factories, and sub-contractors to the Ministry of Munitions.

He was a member of a Sub-Committee of the War-time Ministry of Munitions which controlled the use and supply of strategic metals. He was also a partner in a chemical company that manufactured special chemicals for war-time use.

He has written many papers for local and overseas journals.

After the war he was the proprietor of a chemical laboratory which held the highest qualification in Australia - registration by the N.A.T.A. (National Association of Testing Authorities).

The author and the staff of this laboratory pioneered the determination of trace impurities in electrolytes, using the Atomic Absorption Spectrophotometer which was invented by the C.S.I.R.O. This is now universally used throughout the world.

He was a voice in the wilderness as an early advocate for the control of industrial pollution, and proper effluent treatment plants, which he studied and presented details of to the Commonwealth Government, in the 60's. Unfortunately for all of us, his representations to the Federal and State Governments and their departments resulted in complete indifference.

Glen Walker is the only full-time researcher on fluorides in Australia, a unique distinction he has held for 20 years. Walker was not invited to appear before either the Tasmanian Royal Commission or the Victorian Government Inquiry into Fluoridation, nor has he ever been invited to make submissions, either verbal or written, to the inquiries of the N.H. & M.R.C. Indeed, Walker, at one time spent a year seeking scientific data from the N.H. & M.R.C. under the Freedom of Information Legislation, finally going before the Commonwealth F.O.I. Tribunal.

### **Fluoridation Proponents often Reluctant to Debate**

Advocates of fluoridation often refuse to debate with scientists, doctors or other professionals opposed to fluoridation. A symposium on fluoridation was held as part of The Australian and New Zealand Association for the Advancement of Sciences' (ANZAAS) annual conference in 1984, held at Monash University, Melbourne. Though ANZAAS is the senior scientific body of its type in Australasia, both the National Health & Medical Research Council and the Australian Dental Association refused, though given nine months notice, to send anyone to the debate on fluoridation. As the conference is open to the public, this refusal denied the public from hearing what would have been a rare opportunity to hear both sides of the debate. At the symposium, the lack of effectiveness, health dangers, and political and vested interest aspects of compulsory fluoridation were presented by Dr Diesendorf, Dr Sutton and Wendy Varney.

Perhaps the following event may illustrate why. During the fluoride debate in the ACT, the ACT President of the A.M.A., Dr John Donovan and the Queanbeyan Chairman of the A.D.A., Carmelo Bonano were perhaps its most vocal proponents. I, as a layman, challenged both to a formal public debate. The debate was held before some 400-500 people. It was noteworthy that even the pro-fluoride newspaper, *The Canberra Times* (1-11-89) acknowledged on the front page that I had won the debate. Perhaps they revealed their bias, however, by suggesting that nonetheless, I was wrong.

The A.M.A. President and the A.D.A. Chairman didn't lose the debate because they were unintelligent. They lost because their argument was untenable.

### **The Australian Dental Association**

*"Delta-Sigma-Delta (DSD) is a society of dentists, exclusively male, with English Free-masonry connotations. It is led by a Grand-Master, displays its own coat of arms and requests its members to take an oath of secrecy. Membership is by invitation only and the society does not produce a public membership list.*

*Delta-Sigma-Delta originated in America in 1882, and now has chapters throughout the world. In Australia they number around 250 in membership. ...*



*Small enough it's true. But what is interesting is that although they are small in numbers, they are inordinately represented on the advisory boards or 'syndicates' that indirectly advise the Minister on dental health policy.*

*DSD has heavy representation on the Federal and State Councils of the Dental Association, and the State Dental Boards. As such, it is a very powerful body.*

*And such strategy could lead one to suspect that DSD is partly concerned with obtaining a controlling interest in the aims and direction of dental health.*

*Before one is accused of paranoia, it should be said that others have shown concern about this organisation. Members of the Dental Association itself are disturbed by the existence and activities of DSD. They claim they dislike the secretiveness associated with the society and say it could be divisive within the Dental Association.*

#### **Society Not in Best Interests of Dental Association**

*The President of the Victorian Dental Association, Dr Vic West, said that any organisation which chose to operate in secrecy would have the potential to divide the profession and was not in the best interest of the dental association."*

*... Whether Delta-Sigma-Delta is simply a social organisation or a powerful lobby group in the health policy process is uncertain. But the potential for professional manipulation within such a system appears enormous."*

Gay Hudson, *Labor Star*, December, 1982.

#### **Child Refused Dental Treatment**

The Hon. H.S. Thomas asked a question in the Victorian Parliament about a seven year old boy who was banned from the school dental health program because his mother would not let him be treated with fluoride gel at school. The answer on the 6th May, 1980 from Lou Lieberman, the Assistant Victorian Minister for Health stated:

*"Her action in not permitting her son to have the topical fluoride section of the treatment program effectively excluded him from participating in the program."*

Thus public money is used to either force fluoride treatments or prevent any normal dental treatment being received by children whose parents believe in the possibility of their children being poisoned by a highly concentrated fluoride chemical gel [check with your physician about what would happen if the child accidentally swallowed the gel]. It is remarkable that such a dangerous practice as treatments with fluoride gel are permitted at all in artificially fluoridated Melbourne.

## **The National Health & Medical Research Council**

The National Health and Medical Research Council of Australia has the responsibility to advise the Federal Government on all matters concerning the health of the people.

The N.H. & M.R.C. has endorsed the safety and effectiveness of artificial fluoridation, and the promoters of the measure have used this endorsement as a major selling point in their push to fluoridate Australia.

When the N.H. & M.R.C. were officially asked to look into the matter, their report was published on 4th December, 1953 (still before the end of the first fluoridation experiments). While endorsing fluoridation, it states:

*"There is no conclusive evidence that any deleterious systemic effects will follow the habitual use of water containing 1 ppm fluorine.*

*Although this Council can see no reason why the dental benefits of fluoridation of water should, at this stage, be denied to the Australian people, it is emphasised that concurrent research is essential in order to assess the results of treatment of the water and to determine accurately the optimal concentration of fluorine under Australian condition."*

### **N.H. & M.R.C. Gives Rules for Fluoridation**

*Any plan to fluoridate the domestic water supply must be subject to the following conditions:*

- a) The need for increasing the concentration of fluorine in the water supply must be established.*
- b) A large proportion of the community should desire that fluoride be added to the water supply, or alternatively, a substantial proportion of the community does not oppose the addition of fluorine to the water.*
- c) The water supply must be amenable and subject to strict supervision and control by qualified engineers and chemists.*
- d) The amount of fluorine to be added must be carefully determined and adjusted to meet climatic and environmental changes.*

The endorsement by the N.H. & M.R.C. played a major role in the fact that artificial fluoridation was commenced, without proof of safety or effectiveness, and that now over 70% of all Australians are regularly and compulsorily dosed with fluoride.

Upon what evidence did the N.H. & M.R.C. conclude scientifically and medically that artificial fluoridation was safe and effective?

### **N.H. & M.R.C. Ignores Own Rules**

Did the N.H. & M.R.C. ensure that the "conditions" they list (above), that they say "must" be followed before fluoridation, were in fact followed?

Let us look. The first of the four items: "a)", requiring "need" has never been followed in Australia because no "total intake" studies have ever been done here.

The second point: "b)", which indicates that the public, who are actually subjected to the medication, should have the right to a say as to whether they are artificially fluoridated or not. Far from being followed, the idea that the public should have a say in their lives with regard to medication, has been strongly rejected by Governments and promoters of artificial fluoridation. (refer to 'Referendum' section.)

The fourth point: "d)", has been ignored by Governments and even rejected by the N.H. & M.R.C. itself. This is evidenced in their various reports over the years and the current two "Interim" Reports where they have failed, yet again, to at least recommend the reduction of the amount of fluoride added to the water supplies, when they are fully aware of the increase in "total intake".

The ACT Inquiry, at least recommended that because of the build up of the total intake of fluorides, the amount added to the ACT water supplies should be reduced from 1 ppm to 0.5 ppm.

### **Failure to Recommend Fluoride Reduction**

The N.H. & M.R.C., could, in the light of the obvious increase in total fluoride intake, at least recommend a reduction (as has the ACT Inquiry), if not the total removal of fluoride from our drinking water.

### **No Controlled Study Done**

In 1953, its Dental Research Advisory Committee, on which it based its support for fluoridation, resolved that:

*"A properly controlled national study of water fluoridation under Australian conditions should be instituted immediately."*

Now, nearly forty years later, no "properly controlled" study, employing "control" towns throughout the study, has ever been attempted in Australia!

### **Parliament reveals lack of Fluoride Research**

Australians who are compelled to ingest fluoride probably assume that the safety claims for artificial fluoridation have been based on sufficient research in Australia. The position was revealed by the following question in Parliament:

*"What research has been carried out by the Commission of Public Health, the Australian Medical Association, the Australian Dental Association, the National Health and Medical Research Council and the*

*World Health Organization, respectively in relation to fluoridation of public water supplies?"*

The Minister answered:

*"No original research has been carried out by any of the bodies named. They are not research organizations but each has set up groups which have studied the voluminous literature on the subject published in many countries of the world."*

**Hansard**, Victorian Legislative Assembly, Question 524, 20-11-73.

The A.M.A., A.D.A., N.H. & M.R.C., WHO and the Public Health Commission have been promoting artificial fluoridation as safe for over 30 years, without ever having carried out a *single* original research study!

## GOVERNMENT CORRUPTION

### Government Head of Department Gives False Data to Council

During 1984 the people of Moree, NSW, though strongly opposed to artificial fluoridation, were facing the prospect of their Council voting to fluoridate the town water supplies. The Council invited two Government advocates of fluoridation to visit Moree and speak, in confidence, to Council. One was Dr Joyce Ford, New South Wales Health Commission Cancer Register, and author of a study on the fluoridation/cancer link.

Dr Ford, during her address to Council, and her official advice to the councillors, said:

*"... Dr Tony McMichael and Dr John Potter of the Division of Human Nutrition and Industrial Research Organisation (CSIRO), two cancer epidemiologists, have done studies into diet and cancer in Australia, and they have not at any time shown any relationship between fluoridation of water supplies and cancer, excess cancer, or the development of any of the cancers."*

*Within approximately one hour after that statement on March 4, 1985 the Council voted 7 to 5 to fluoridate the Moree drinking water.*

In following up the statements of Dr Joyce, the journal of the Freedom from Fluoridation Federation of Australia wrote to Drs McMichael and Potter quoting Dr Ford's statement.

*On May 7th, 1985 Dr Potter replied as follows:*

*"What was said by Dr Ford is absolutely true that we have found no link between fluoride and cancer - but she neglected to mention that we have never looked for such a relationship either.*

*We have no plans at present to work in this area of research."*

*In a letter of May 8, 1985 the President of the Moree Council stated:*

*"Neither councillors nor the staff of Council have the basic scientific training that would enable ... [them] to critically examine the technical, health and safety aspects of fluoridation of public water supplies. They have to rely upon the health authorities and professional associations to have the expertise required to evaluate the issue, for advice on which to base their decision."*

*It would appear that the decision of seven councillors was influenced at least to some degree, by the statement of Dr Ford, presenting what was interpreted as a proper study by highly qualified scientists in CSIRO, showing no relationship between fluoridation and cancer.*

*Yet no such study had been undertaken!"*

*The Aust. Fluoridation News, Vol 20, No 4, July-August, 1985.*

Notwithstanding the seriousness of Dr Ford's misleading statements to Council, it seems that no action was taken against her. It appears that proponents of artificial fluoridation can make false and misleading reports with impunity from departmental or legal action.

## **COURT CASES**

Until 1978, much had been said, documented and claimed on the pros and cons of the artificial fluoridation of public drinking water supplies. While debates had taken place on public platforms and in newspapers, the top protagonists and antagonists had never been brought together to debate the issue under properly controlled rules.

The following data has been taken from *Poison on Tap*, one of the most detailed books ever published on fluoridation. Exact quotes are in *italics*.

A Court Case has many advantages over a debate. In Court the witnesses give evidence under oath and are subject to strict and minute cross-examination for which unlimited time is allowed. Basically, this requires that witnesses have to answer the questions put to them, and these answers must accord with scientific understanding.

For this reason, the Pittsburgh Court Case of 1978 can never be over-estimated because both sides had unlimited scope for placing before a Court of Law every piece of evidence they could gather to prove their scientific statements in this field.

During the case, two thousand eight hundred pages of transcript was taken of the evidence given to the court by thirteen of the world's top scientists debating the issue.

Judge Flaherty, a Senior Judge in Pennsylvania, was the presiding Judge. Subsequent to this particular Court Case, he was elevated to a Justice of the Commonwealth Court of Pennsylvania.

### **Courts Role to Safeguard Citizens**

In his official opinion on the Case (16-11-78, pp 3-4), Judge Flaherty described the official status of his Court:

*"This Court sits in equity, thus, as a chancellor, and, in ancient parlance, "the keeper of the King's conscience." In the development of our law, that which govern's man's interaction with man, it has developed that a court of equity intervenes where there is no adequate remedy at law or administratively. In the free society, no governmental official, whether he be executive, bureaucrat or learned judge, has the right to decide what is "good" for the people, especially when that alleged "good" is seriously disputed. Too often governmental officials lose sight of whom they are working to serve; it is not the "State", some institutional anonymity, it is the citizens who are supposed to be the masters. "Public servants" must consider the true meaning of that term.*

*In this context, the chancellor in a court of equity has an important role to play. He is the ancient "keeper of the conscience of the sovereign", i.e., the people. The "conscience" of the sovereign provides remedies where the complex apparatus of our statutory system breaks down and provides no remedy for a wrong being imposed upon the citizens of the country."*

In the Pittsburgh Court, a challenge was made to the right of the local authority to add fluoride to the public water supplies. Evidence was taken from both sides, over a five month period.

### **The Witnesses**

Key witnesses in the action to halt fluoridation were -

*Dr Dean Burk, one of the world's leading Biochemists. His classic paper co-authored with Dr Lineweaver on "Lineweaver - Burk Enzyme Kinetics" is cited more extensively than any other paper ever published in the history of Biochemistry. The Yiamouyiannis - Burk Study showing a link between fluoridation and cancer, triggered full scale hearings (1977) before Congressman L. H. Fountain's Congressional Sub-Committee. An expanded curriculum vitae on Dr Burk is printed in another section of this report showing his 35 years with the National Cancer Institute, his 50 years research on cancer, and his many awards for cancer research.*

*Dr John Yiamouyiannis, aged thirty-six years, became Science Director of the National Health Federation in 1974. With a Ph.D in Biochemistry, he was formally an Associate Editor of **Chemical Abstracts**, Columbus, Ohio, the world's largest chemical information publication, until forced out because he questioned fluoridation.*

*Dr George Waldbott, M.D., Warren, Michigan, world famous allergist who reported the first deaths from penicillin, author of several scientific books and a co-founder of the International Society for Fluoride Research, and editor of the organisation's journal, **Fluoride**.*

*Professor Ali Mohamed, Ph.D, Acting Chairman of the Biology Department of the University of Missouri, Kansas City.*

*Judge Flaherty determined that the sole issue before the Court, was whether or not fluoride may be a cancer causing agent. (p 6, Judge Flaherty's Opinion.) The issue of whether fluoride protects children's teeth was not before the Court. No testimony or other evidence was permitted on the question of whether fluoride in the prevention of dental caries, since the Court ruled that no action to prevent a non-fatal dental condition could be justified if such action might result in even one death.*

*Professor Ali Mohamed demonstrated and described his series of experiments which showed the capacity of fluoride, even at low concentrations, to induce or accelerate genetic damage, tumours and cancer in experimental animals, plants and insects under controlled laboratory conditions. Most of his evidence was not challenged and the remainder was not refuted.*

### **Evidence that Fluoridation Causes Cancer Unchallenged**

*Dr George Waldbott, a specialist in Internal Medicine and one of the world's leading experts on the toxicity of fluorides, explained why water fluoridation could cause accumulations of fluoride in the human body and lead to cancer. He testified that one part per million fluoride in water can induce cancer in humans. None of his evidence was even challenged!*

*Dr Waldbott, who has seen more than 400 fluoride-sensitive patients in his practice, testified on the toxicity of fluoride, and revealed that it has lead to eventual death in a number of cases. **The defendants made no attempt to refute Dr Waldbott's testimony.** [my emphasis]*

*The Yiamouyiannis - Burk Epidemiology Study covered the cancer-fluoridation experience of 18 million Americans over thirty years. It revealed that at least 10,000 more persons die of cancer each year due to fluoride ingestion. This was a pivotal part of the testimony.*

*The scientists opposing the artificial fluoridation of the drinking water supplies, testified that fluoride poisoning has caused death, that fluoridation produces cancer, causes mutagenic changes, and is responsible for other physical disorders to persons who are sensitive or allergic to fluoride.*

*In a decision that rocked the establishment, Judge John Flaherty ordered the West View Water Authority to stop adding fluoride to the system serving the Western Boroughs of Pittsburgh, Pennsylvania, because he found that the evidence produced in Court indicated that it causes cancer.*

*Experts who gave evidence for the defendants (pro-fluoridationalists) included: Dr Marvin Schneiderman, then Director of the National Cancer Institute; Professor Leo Kinlen, Regius Professor at Oxford University, and a member of the Royal College of Physicians, England; Professor D.J. Newell, Medical School, University of Newcastle-upon-Tyne, England; Professor Donald Taves, University of Rochester; and Dr George Martin of the National Institute of Dental Research.*

### **Royal College of Physicians Report Condemned**

The Royal College of Physicians' book - Fluoride, Teeth and Health 1976, is the most widely referred to endorsement of fluoridation. This largely relied on Kinlen's 1975 paper "*Cancer Incidence in Relation to Fluoride Level in Water Supplies*" as proof that there has been no increase in cancer in fluoridated areas.

In 1976 The Royal College of Physicians give their conclusions on cancer on page 60 of that book which states:

*"There is no evidence that fluoride increases the incidence or mortality of cancer in any organ,*

then on page 59:

*... and if anything, the opposite was the case."*

### **Physicians Falsely Claim Studies Were Original**

Doll, Kinlen, Newell and Oldham, and the Royal College of Physicians, claim their studies were ORIGINAL. However, before a Court of Law and Congressional Inquiry, it was discovered that these scientists had no original data on which they made their claims.

It was admitted they obtained their faulty data from the National Cancer Institute of U.S.A. and not from examining the original data ... Their problem in copying statistics from the National Cancer Institute was that the NCI made errors and omitted data, and these deficiencies were repeated exactly by each of the English scientists from the prestigious Royal College of Physicians and the Royal Statistical Society.

This is not an example of the objectively conducted scientific search for truth.

In a telling critique of the Report of the Royal College of Physicians, the late Lord Douglas of Barloch pointed out:



*"The Report is not an original contribution to research, but is merely an evaluation of pre-existing information.*

*Its value depends solely upon the skill and impartiality of the evaluation. Careful perusal reveals that it does not conform to the scientific standard required. Much of it reads like a piece of propaganda in favor of fluoridation. This appears in the very first sentence which says: "It has been shown in many parts of the world that the amount of dental caries in the population varies inversely with the amount of fluoride in the drinking water".*

*This is simply not true.*

*On the contract, it has been shown that with equal amounts of fluoride in the water supply, there can be great variations in the amount of dental caries. Millions of people have had perfect teeth although the fluoride in their water was negligible. It has never been proven that fluoride is an essential trace element in human nutrition. If any is needed, the quantity is so small as to be supplied by an ordinary diet. Tooth decay is caused by eating unsuitable foods, especially large quantities of sugar and refined carbohydrates.*

*The case for fluoridation rests upon the assumption that it will substantially reduce the incidence of tooth decay. This assumption is based on statistics. It is clear that the authors of this Report have had no competent advice on how to assess and handle such data.*

*It is notable that this Report does not set out clearly the results of the officially conducted British experiment.*

*Briefly, this study showed that at age 8, the number of decayed teeth per child was a fraction of a unit less in the fluoridated areas than in the controls. After that age, the number of decayed teeth increased equally in both areas.*

*The net result was to delay decay in one tooth for one year. This is an insignificant contribution to solving the problem of tooth decay.*

*The Report does not attempt to specify what daily intake from all sources is important. Its estimates of intake from food are based on data which is thirty years out of date."*

The previous section on Court Hearings as mentioned was drawn from **Poison on Tap**, by Walker. This book can be highly recommended by any student of government corruption in general and artificial fluoridation specifically.

### **How Canberra was artificially fluoridated**

Canberra was fluoridated in 1964 by Act of Parliament. There simply was no reference to the people. A committee finally presented to the Parliament a report on the fluoridation of Canberra's water supply. This report to the Australian Federal Parliament, *Hansard* (16-4-64, p 1140) records some interesting comments.

Mr Jim Killen said:

*"That report has been described variously as being critical, exhaustive, and extensive and as appraising every known facet of fluoridation.*

*Nobody could accuse it of being desperately long-winded. Even Moses needed 319 words to set out the ten commandments. But this sub-committee of the Advisory Council dealt with this great issue in five paragraphs, or in 124 words.*

*Each of the paragraphs represented a proposition not supported by one skerrick of evidence. This powerful, 124 word document, brushes to one side, almost with obscenity and certainly with indecency, the considerations of both philosopher and scientist."*

It was 1964. The Australian Federal Government **Fluoridation Report** consisted of 124 words.

Dr Gibbs, not only a member of Parliament, but also a medical practitioner, in addition to his statement given at the start of my Dissenting Report, also highlighted the inadequacy of the 1964 Fluoridation Report, saying; (*Hansard*, 16-4-64, p 1146):

*"I must refer briefly to the so-called critical examinations of fluorine in many reports. These examinations are not critical, in that they do not bring up any of the matters I have raised. In fact they simply quote and reiterate again and again that fluorine is in fact innocuous. The surveys conducted are not critical and results which allegedly prove the innocuousness of fluorine are not included in scientific papers listed in the Index Medicus. All reports I have quoted have been listed in the Index Medicus, not one paper listed in the Index Medicus conclusively proves the innocuousness of fluorine."*

## **SCIENTISTS AGAINST FLUORIDATION\***

\* See appendix for lists of scientists, doctors, dentists, etc., opposed to fluoridation.

### **Nobel Prize Winners**

The following Nobel Prize Winners have expressed doubts about the safety of artificial fluoridation of public water supplies:

#### **Nobel Prize winner in chemistry**

**Adolf F.J. Butenandt**, D.Phil., director, Max-Planck Institute of Biochemistry; professor of physiological chemistry, Munich University; president, Max-Planck Society.

#### **Nobel Prize winner in chemistry**

**Hans K.A.S. von Euler-Chelpin**, professor of biochemistry, emeritus, Stockholm University, president, Chemical Society, Stockholm; director, Institute for Research in Organic Chemistry.

**Nobel Prize winner in medicine**

**Walter Rudolf Hess**, Dr Med; Dr Phil., D.Sc., professor of physiology, emeritus and former director of physiological institute, University of Zurich; president of XV1 International Congress of Physiologist.

**Nobel Prize winner in medicine**

**Corneille Jean francois Heymans**, M.D., professor of pharmacology, pharmacodynamics and toxicology and director, J.F. Heymans Institute of Pharmacology and Therapeutics, University of Ghent.

**Nobel Prize winner in chemistry**

**Sir Cyril Norman Hinshelwood**, O.M; M.A; D.Sc; F.F.R.S.

**Nobel Prize winner in medicine**

**William P. Murphy**, M.D., D.Sc., lecturer on medicine, emeritus, Harvard Medical School; consultant in hematology, Peter Bent Brigham Hospital, Boston; consultant in internal medicine, Melrose, Quincy, and Concord (Emerson Hospital). Mass. hospitals, and Delaware State Hospital in Farnhurst, Del.

**Nobel Prize winner in chemistry**

**Giulio Natta**, Dr.Chem.Eng., professor and director, Industrial Chemistry Research Center, Polytechnic Institute of Milan, Italy.

**Nobel Prize winner in chemistry**

**Sir Robert Robinson**, O.N., D.Sc., F.R.I.C., F.R.S., M.I.C.E., director, shell Chemical Company; former Waynflete Professor of Chemistry, Oxford University; past president, Chemical Society.

**Winner of the Nobel Prize**

**Nikolai Nikolaevitch Semenov**, D.Sc., director, Institute of Chemical Physics, Moscow; professor, Lenigrad Polytechnic Institute and of Moscow State University; member USSR Academy of Science, Chemical Society of England, and Royal Society of England.

### **Nobel Prize winner**

**James B. Summer**, formerly Director of enzyme Chemistry, Department of Biochemistry and Nutrition, Cornell University.

### **Nobel Prize winner in medicine**

**Hugo Theorell**, M.D., professor and director, Biochemistry Department, Nobel Medical Institute, Stockholm; president, Swedish Medical Association; and . (Hugo Theorell has not withdrawn his statements as to the hazards of fluoridation made in a report by them to the Swedish Royal Medical Board.)

### **Nobel Prize winner in chemistry**

**Professor Artturi I. Virtanen**, director, Biochemical Institute, Helsinki; president, Finnish State Academy of Sciences and Art.

*"The Committee [Victorian Inquiry] also failed to mention the important resolution brought to its notice by the International Society for Research on Nutrition and Vital substances. Its Scientific Council consisted of more than 450 members, 60% of them being professors from 75 countries. They opposed artificial fluoridation."*

*Poison on Tap*, p 25.

## **STATE OF NATIONS**

Though it collected information from a number of countries, the ACT Inquiry gave no evaluation of the current artificial fluoridation of community water supplies in other countries throughout the world, I therefore include this *State of the Nations* Report collated from *submissions* to the ACT Inquiry; *Poison on Tap*; and *Well-Being*, 'Fluoridation - a time for reassessment' (Issue 3 - 1990) for your information.

**Austria - No Fluoridation**  
'Will not be carried out'...

**Albania - No Fluoridation**

**Belgium - No Fluoridation**  
Previously one small fluoridation plant, but now discontinued.

**Bulgaria - No Fluoridation**

**Canada - Fluoridated - about 40**

See Quebec for the Canadian option of Artificial Fluoridation, also the official documents by the National Research Council of Canada warning about the dangers of fluorides.

**Czechoslovakia - Fluoridated - about 33%**

**Chile - No Fluoridation**

Chile was fluoridated in 1953 but this practice was discontinued in 1977, after 24 years. Professor Schatz foreshadowed the health problems facing the population in his research published 1976.

**Cyprus - No Fluoridation**

**Denmark - No fluoridation**

"Forbidden by law in food and water"...

**Egypt - No Fluoridation**

U.S. pressure to fluoridate was rejected by the Egyptians.

**Finland - One small plant only - 1.5%**

One small experimental plant has been in existence since 1959, involving only 1 1/2% of the total population.

**France - No Fluoridation**

"Government does not allow fluoridation as safety not sufficiently proven"...

**Great Britain - Fluoridated - less than 10%**

Legislation designed to enforce fluoridation of public drinking water supplies has never been introduced into the British Parliament.

**Greece - No Fluoridation**

No programmes have ever been introduced.

**Holland - No Fluoridation**

Discontinued in 1976 after 23 years of experiments involving 9,800,000. On August 31, 1976, by Royal Decree, all permission to fluoridate were withdrawn.

**Hungary - No Fluoridation**

**India - No Artificial Fluoridation**

Endemic fluorosis occurs with varying intensity in many parts of India because of pollution. The removal of fluoride from the water is a major public health problem. Defluoridation units are functioning in parts of India.

**Iran - Fluoridated - degree unknown**

**Ireland - Fluoridated - about 65%**

**Italy - No Fluoridation**

In some areas public drinking water supplies are defluoridated.

**Japan - No Fluoridation**

"Government does not favour or encourage fluoridation"

**Korea - No Fluoridation**

**Lebanon - No Fluoridation**

**Luxembourg - No Fluoridation**

"The method is a naive Utopia without practical effect."

**Malaysia - Fluoridated - about 60%**

**Malta - No Fluoridation**

**Netherlands - No Fluoridation**

**New Zealand - Partly fluoridated**

**Norway - No Fluoridation**

Legislation designed to make fluoridation compulsory laws rejected by the Norwegian Parliament in 1975.

**Pakistan - No Fluoridation**

**Portugal - One small experimental plant only**

**Romania - No Fluoridation**

**Scotland - No Fluoridation**

**Singapore - Fluoridated - unknown degree**

**South Africa - No Fluoridation**

**Spain - Less than 1% Fluoridation**

**Sweden - No Fluoridation**

Forbidden by law. Discontinued in 1969 after 10 years of artificial fluoridation. The World Health Organization was asked by the Swedish Medical Board to produce evidence to support the W.H.O. claim that "Fluoridation is safe." No evidence was ever produced. To this day, that is still the situation. Accordingly, the Swedish Parliament declared fluoridation illegal on 18th November, 1971.

**Switzerland - Less than 4% Fluoridated**

One experimental city since 1959 involving only 4% of the total population. In December, 1975 the Health Department of Basle advised the Basle-Stadt City Council to stop fluoridation..."Due to its ineffectiveness"...

**Turkey - No Fluoridation**

**United States of America - Fluoridated - less than 40%**

After 33 years of experiments on their people and millions of dollars spent on promoting artificial fluoridation, the USA has less than 40% of their population drinking artificially fluoridated water. Referendums in the USA disclose that artificial fluoridation is not the choice of the people, and Los Angeles (third biggest city in the USA) cast an overwhelming vote against fluoridation. Honolulu voted it out 4 to 1 and other towns and cities vote against it when the opportunity occurred. There is no Federal compulsory fluoridation legislation in the USA.

**U.S.S.R. - Fluoridated - believed to be small %**

**West Germany -No Fluoridation**

Discontinued in 1971, after 18 years of continuous use... "For health and legal considerations."

**Australia - Fluoridated - 70-80%**

Compulsory Fluoridation Acts have been passed in the States of Victoria, Western Australia and Tasmania. The decision to artificially fluoridate in other States is made by local authorities. Australia is apparently the most heavily artificially fluoridated country in the world (70-80%). Meanwhile, the world's most scientifically socially more advanced countries have discontinued, outlawed, or have not even contemplated artificial fluoridation.

**SUBMISSIONS RECEIVED BY THE ACT LEGISLATIVE INQUIRY INTO FLUORIDATION (1989-1991).**

The following is a list of the submissions which the Committee received. Some were used in the Committee Report, but most were not. All submissions are available for reading.

In the belief that a dispassionate observer might be curious enough to wonder why some representations were deemed by the majority of the Committee to be more persuasive than others (e.g. approximately 25% of all references listed in the ACT Inquiry Report and much of its content, were taken from the reports of the 1968 Tasmanian Royal Commission, and the 1980 Victorian Inquiry, being 22 years and 11 years old respectively), and might wish, to just note those submissions in favour of and against artificial fluoridation.

I reproduce the whole list (below) without further comment.

	<b>NO Fluoridation</b>	<b>FOR Fluoridation</b>
<b>Submissions from national associations</b>		
Australian Dental Association		<b>Yes</b>
Freedom From Fluoridation Federation (Aust)	<b>No</b>	
Natural Health Society of Australia	<b>No</b>	
<b>Submissions from the Australian Capital Territory</b>		
ACT Dental Hygienists' Association		<b>Yes</b>
ACT Electricity and Water (Neutral)		
S. Andrello	<b>No</b>	
Australian Dental Assn - ACT Division		<b>Yes</b>
Australian Medical Association		<b>Yes</b>
L.J. Ball	<b>No</b>	
Dr J.W. Bennett	<b>No</b>	
Mr I. Berick	<b>No</b>	
C. Besant	<b>No</b>	

Dr C. Bonanno		Yes
Les Butterworth	No	
Mrs A. Carpenter	No	
Dr L.M. Carr		Yes
Mrs B. Cornhill	No	
Mrs T. Cox	No	
Mr Michael P, Day	No	
Department of Health		Yes
G. De Silva	No	
I. De Silva	No	
Mrs D Devir	No	
Mrs G Dixon	No	
Dr M. Diesendorf (4 submissions)	No	
Dieticians Assn of Aust, Canberra Branch		Yes
J. Evans	No	
Mrs Ruth Fearnside	No	
Mrs Marguerite Gloster	No	
Mrs Anne Greig	No	
Mr G. & Mrs M.B. Hajdu	No	
Mrs Carmen Hamilton	No	
Mrs Maureen Harney	No	
Alison Hill		Yes
Mr and Mrs J.B. Hindmarsh	No	
Mrs W.J. Jay		
Mr Noel Kelly	No	
Mrs Dorothy Kent	No	
Dr Bill Kerrigan		Yes
Mrs J Knife		Yes
Mrs F. Lawson	No	
Mr J. Lawson	No	
Mr Charles Maclean	No	
Mr Donald A McDowall DC	No	
Christine McKegg	No	
Rowena McKeon	No	
J. McNeill	No	
Mrs B. Meyer	No	
P Miethke	No	
Mr B.M. Mor and J.L. Werner		Yes
Nancy Morgan	No	
Mr L.J. Murlley	No	
Mr Gus Petersilka	No	
R Pfeiffer	No	
Gina Pinkas	No	
Beverley Prince	No	
A. Quinn	No	
T. Quinn	No	
G. & M. Quixley	No	
Mr R. Redmond	No	
Mrs E. Reynolds	No	
Mr Ian Riggs	No	
Birthe Ross	No	
M Rouse	No	
Mr & Mrs R. Saxton	No	
Mr Greg Scott	No	
E. Simon	No	



Soroptomists Int. of Canberra		Yes
Dr G.C. Southwell		Yes
Mr J.C. Stannard	No	
Mr Peter Strazdins	No	
G. Styles	No	
J. Sullivan	No	
Louise Sullivan	No	
Jacqueline Talip	No	
Mrs Helen Teagle	No	
Dr A.K. Tebecis	No	
Lianne Thomas	No	
Mr Adrian Trapp	No	
H Turyn	No	
Kamala Udakandage	No	
Nissanka Udakandage	No	
(Couldn't decipher signature)		Yes
G. Vollmer	No	
G.K. Whittaker	No	
Mrs Z. Williams	No	

#### Submissions from New South Wales

Australasian Health & Healing (J. Alt. Med)	No	
City of Queanbeyan Council		Yes
Mrs Roma Fisher	No	
Mrs B. Gauci	No	
Hastings Anti- Fluoridation Assn.	No	
Mr A.S. Hill	No	
Mr P.M. Malone	No	
Mr Geoffrey Morgan-Smith	No	
Nambucca Valley Association	No	
Safe Water Assn. of N.S.W.	No	
Mrs R. Slazenger (Queanbeyan)	No	
Mrs E. Smythe	No	
Mr C.J. Thompson	No	
Wendy Varney	No	
Well-Being Health Magazine	No	
Mr & Mrs Whitworth (Queanbeyan)	No	

#### Submissions from Victoria

Mrs N.R. Albrecht	No
N.C. Archibald	No
Ballarat Anti-Fluoridation Assn.	No
Mrs B.J. Caddell	No
H. Clapp	No
C. Cray-Robinson	No
Mr C.J. Daroch	No
Mr H. Dickinson	No
Miss L. Esler	No
Geelong Assn. Against Compulsory Fl.	No
Dr William W. Guthrie (3 submissions)	No
Louise Hicks	No
J. Jenkins	No
M. Jenkins	No

Mrs R. Leopoldseder	No
Mr K.S. McLean (2 submissions)	No
Mrs K. McKinnon	No
N. Patterson	No
Mrs Pamela Sirkel	No
Dr P.R.N. Sutton (2 submissions)	No
Mr G. Smith	No
M. Smith	No
Mrs A. Watson	No
Mrs B. Wilkes	No

#### **Submissions from Queensland**

Hon (Dr) D.N. Everingham	No	
Mrs Joanne Lee	No	
Mr C.A. Phillips (2 submissions)	No	
Dr L.P. Ryan		Yes
T.G. Huygens Tholen	No	
Mr M. Wallace-Mitchell (2 submillions)	No	

#### **Submissions from the United States of America**

Professor J.P. Brown		Yes
Professor A.W. Burghstahler	No	
Mrs L. Escobar	No	
Mr R.F. Fahey	No	
Mrs S. Graves	No	
Mrs P.N. Jacobs	No	
Isabel Jacobs	No	
Mr D.C. Kennedy	No	
Professor Lennart Krook	No	
Dr J.R. Lee	No	
Mr W. Miller	No	
Mountainview Medical Assoc., Nyack, N.Y.	No	
New Jersey Citizens Opposing Forced Fl.	No	
New York State Coalition Opposed to Fl.	No	
Planning & Conservation League, Berkeley	No	
Population Renewal Office, Kansas City	No	
Safe Water Coalition of Washington State	No	
Dr M.B. Schachter	No	
Dr D.E. Winkler	No	

#### **Submissions from the United Kingdom**

Mr Clavell Blount	No
Mr D.J. Edmonson	No

#### **Submissions from New Zealand**

Dr J. Colquhoun	No
Concerned citizens of Waimairi District	No

#### **Submissions from Sweden**

Dr J. Sallstrom	No
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#### **Submissions from South Africa**

Dr Frank Bertrand	No	
<b>Submissions from Canada</b>		
Dr Pierre Morin	No	
John Remington Graham	No	
<b>Submission from The Netherlands</b>		
Dr Hans Moolenburgh	No	
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<b>Total</b>	<b>141</b>	<b>19</b>

## CONCLUSION

Halsbury's Laws of England, (Vol 18, para 25), state:

*"A [medical] practitioner may be liable in damages if he is negligent in failing to inform the patient of the risks involved in the treatment and if the patient, having been so informed, would not have consented."*

Given the information in this report, would we consent to compulsory artificial fluoridation?

Water fluoridation involves the regular and compulsory dosing of every man, woman, child, animal, plant and even fish with one of the most noxious poisons known to man. It is dangerous, needless, and it violates your freedom of choice. The community even pays to fluoridate the water you wash your car and water your lawn with.

The earlier words of Dr Colquhoun are worth repeating:

*" ... if you do not know who to believe ... [and experts cannot agree among themselves] we should not be imposing it compulsorily on the whole population ..."*

Dr C.G. Dobbs, Ph D., A.R.C.S., Senior Lecturer, Mycology (the branch of biology that deals with fungi), University College of North Wales, Bangor, England, stated:

*"To use the public water supply as a means of giving fluorides to children is simply asking for trouble. It invades a dozen spheres more important than preventative dentistry. It is of doubtful legality. It offends against deep convictions concerning doctoring without consent, against the functions of a public water supply as a general utility, and of a local government, against sane economics (since it is doubtful whether children drink one-thousandth of a public water supply) against the considered opinions of eminent nutritional biochemists, physiologists,*

*pharmacologists, allergists, toxicologists and some dentists, as well as many experienced general practitioners, and above all, against natural caution and common sense. This is the trouble; the case against fluoridation is so voluminous that no one has ever presented it in full."*

**When Doctors Disagree**, Warnings by Physicians, Dentists and Scientists Around the World On the Known Dangers and Possible Hazards Of Fluoridation, June, 1967. Pub. Greater N.Y. C'tee Opposed to Fl, Inc.

Professor Arvid Carlsson, advisor to the Swedish Government on Pharmacology said,

*"I am quite convinced that water fluoridation, in a not-too-distant future, will be consigned to medical history."*

Carlsson A., *Current problems relating to the pharmacology and toxicology of Fluorides*, University of Goteborg, 1978.

Sir Edward "Weary" Dunlop, at a public meeting at Melbourne Town Hall, on 4th June, 1975, said:

*"The question ... [of safety] is all the more disturbing when one notes the fact that in areas of endemic fluorosis serious effects are much more common after 40 years of exposure - in other words, there is a slow and subtle process in which fluoride, once put into the body, is hard to get out."*

Dunlop, Sir Edward, C.M.G M.S. F.R.C.S., F.R.A.C.S., F.A.C.S. Extracts of *speech* given at Melbourne Town Hall, 4-6-75.

In 1975 Professor Sir Arthur Amies, Pro-Vice Chancellor of Melbourne University, Dean of the Faculty of Dental Science, Australia's top dental training establishment, perhaps the leading dental scientist in Australia.

Professor Amies, who was also a Doctor of Medicine, stated:

*"The case against fluoridation medically requires only such evidence as is necessary to support a reasonable doubt. Where the public's health is concerned no reasonable doubt can be ignored. I submit that the doubt here is more than reasonable, it is considerable."*

Professor of Dental Medicine Arthur Amies, Kt. G.M.G., D.D.Sc., D.L.O. (Melb.) F.R.C.S. (Edin.) F.R.A.C.S., F.R.S.E., F.D.S.R.C.S. (Edin. and Eng.) F.R.A.C.D.S., C.M.G., Hon. LL.D.(Glas.).

## RECOMMENDATIONS

The zealot would jump to conclusions. The conservative would believe the Establishment. What is the inquiring mind to do?

I suggest that if sufficient experts are saying that the water hole is poisoned, perhaps it would be wise to refrain from poisoning it until the matter is settled.

We should: (a) **Stop adding fluoride to the ACT water supplies.**

(b) **Establish a Inquiry into scientific corruption and fraud.  
If not us, then at least other Australian authorities should.  
The importance of this cannot be over-estimated. Science must  
be free of bias and influence from vested interests.**

If Fluoride is not stopped immediately, then the following should be arranged:

(a) **Supply of filters to ACT citizens upon request, and**

(b) **Initiate a \*study of total fluoride intake from all sources  
(water, air and food) for people living in the ACT.**

(c) **a comprehensive study about the possible harmful effects  
caused to persons by fluoride from all sources.**

\* The control of studies should ensure, at the very least, that examiners do not know whether the patient is drinking fluoridated water or not. If this precaution is not taken, the study is open to charges of examiner bias.

I make these recommendations in the spirit in which I put forward this report; in the firm conviction that although time will prove that it is the correct way to address the problem, time (for some) is running out.

## ACTION TO TAKE!

The final chapter on artificial fluoridation in Australia remains to be written. When it is, with the banning of fluoridation, let us trust that we will have learned a valuable lesson and never again allow compulsory mass-medication, no matter the "benefit" given.

Until then, if you are at all concerned about your own and your children's health, you may be well advised to take the following precautions:

- **DON'T** drink, cool in, or prepare food or drinks (particularly for babies) with fluoridated water. Water filters are available to remove fluoride (and other toxins) but some don't well work so check with someone reliable, or with your nearest Anti-Fluoridation Association.
- **AVOID** all fluoridated toothpaste, tablets, drops, and buy unfluoridated toothpaste - most commonly available in a health food store (as are the filters).
- Under **NO** circumstances use aluminium saucepans or utensils for cooking
- **DON'T** ingest drinks and foods that have been prepared with fluoridated water.
- Write to **ALL** your local Parliamentary representatives and ask them if they are for or against artificial fluoridation. You might give them a copy of this entire report. Then ask them to please do your will and **CEASE** adding fluoride to the public water supplies.

If your local Member of Parliament isn't representing the majority will of your electorate, you have the option to decide not to hire them again, but instead opt for a candidate who is **INDEPENDENT** of control by any person or group other than the electorate.

*"Society everywhere is in conspiracy against the manhood of every one of its members. Society is a joint-stock company, in which the members agree, for the better securing of his bread to each shareholder, to surrender the liberty and culture of the eater. The virtue in most request is conformity. Self-reliance is its aversion. It loves not realities and creators, but names and customs.*

*Who so would be a man must be a nonconformist. He who would gather immortal palms\* must not be hindered by the name of goodness, but must explore if it be goodness."*

Emerson (*From Self-Reliance*).

**Dennis R. Stevenson MLA**  
1st February, 1990

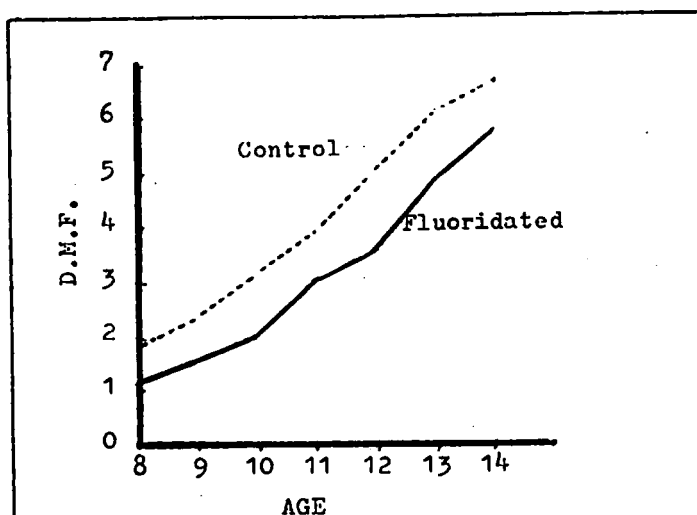


Fig. 1. Curves showing DMF values for children of different ages in fluoridated and control areas.

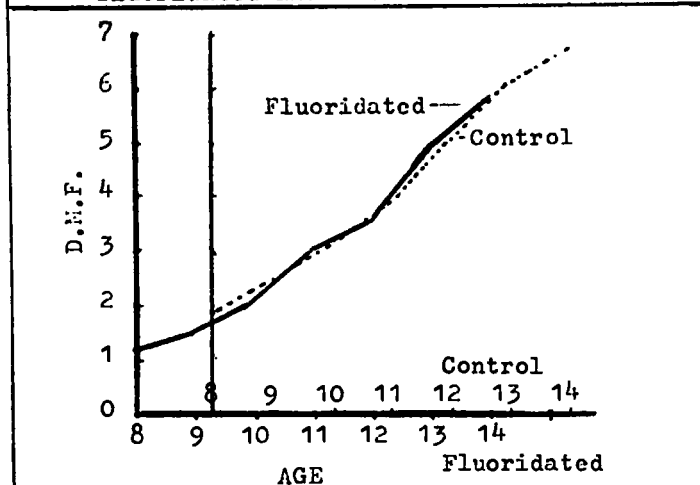


Fig. 2. Curves from Fig. 1 drawn with the control moved to the right to show that caries develops at the same rate in both the fluoridated and control groups.

Fig. 4. This figure is redrawn from two figures published by Professor A. Schatz and Dr J. Martin (1972) which depict D.M.F. values published in 1969 by the British Committee on Research into Fluoridation, which claimed that 'the fluoridation of water supplies at the level of 1 p.p.m. F is a highly effective way of reducing dental decay.' (Table 3, The Fluoridation Studies in the United Kingdom and the Results Achieved after Eleven Years. H.M.S.O., London. 1969).

# SCIENTIFIC WORKERS OPPOSED TO FLUORIDATION

## TO WHOM IT MAY CONCERN

We, the undersigned are all members of the medical, dental or allied scientific professions. We wish to place on record our considered opinion that for one or more of the following reasons, it is wrong to fluoridate public drinking water supplies.

- ★ Published research work has shown that the toxic effect of fluorides, even in trace quantities, may be harmful to people.
- ★ The long term effects of artificial fluoridation have not been sufficiently investigated.
- ★ It is wrong to use the public water supply as a vehicle for the administration of substances aimed at bringing about a physiological change in consumers.
- ★ If fluoride is to be administered, it should be in controlled, individual dosage; not through the water supply, where the dosage will depend on the thirst of the patient.

Signed:

SIR ARTHUR AMIES, C.M.G., D.D.Sc. (Melb.), Hon.LLD. (Glas.), F.R.C.S. (Edin.), D.L.O. (Melb.), F.R.A.C.S., F.D.S.R.C.S. (Edin.), F.D.S.R.C.S. (Eng.), F.R.S.E., Dean of the Faculty of Dental Science, Univ. of Melb. (now retired).  
 SIR CEDRIC STANTON-HICKS, Kt.C.S.I., M.Sc., M.B., Ch.B., Ph.D., M.D., F.R.I.C. Professor Emeritus — Physiology & Pharmacology, Univ. of Adelaide.  
 GLEN C. DETTMAN, B.A., Ph.D., F.A.C.B.S., FR.M.S., M.N.Y.Ac.Sc., M.A.P.M., F.I.S.T., F.M.T.A. (H.K.), F.R.S.H. (Lon.), A.M.I.T.  
 J. B. POLYA, Dip.Ind.Chem., D.Sc., Techn. (E.T.H. Zurich), D.Sc. (Tas.), F.R.I.C., F.R.A.C.I. Associate Professor of Chemistry, Univ. of Tasmania.  
 SIR EDWARD DUNLOP, M.S., F.R.C.S., F.R.A.C.S., F.A.C.S.  
 IAN C. ROSS, M.B.B.S., M.G.O., M.R.C.O.G.  
 K. F. KING, M.B., B.S., F.R.C.S., F.R.A.C.S.  
 D. N. EVERINGHAM, M.B., B.S., Former Federal Minister of Health.  
 R. E. SEAL, M.A., M.B., B.S., F.R.A.C.P., D.P.M., M.A.N.Z.C.P.  
 G. S. WATSON, B.E. (Hons.), M.I.E., M.A.I.R.A.H.  
 P. I. M. CALDWELL, B.A., A.M.I., Mech.E., A.M.A.I.R.A.H.  
 G. KAYE, M.D., D.A., F.F.A.R.C.S.  
 H. B. HATTAM, M.B., B.S., F.R.C.S., M.R.C.O.G.  
 R. D. B. LEICESTER, M.A., M.B., B.Chir. (Cantab.), M.R.C.S. L.R.C.P.  
 R. S. BOYS, L.D.S.  
 O. B. MORGAN, M.B., B.S.  
 R. E. ALLEN, M.D.  
 A. E. HARTKOPF, M.B., B.S.  
 W. H. SIEGEL, M.B., B.S.  
 F. ABRAMSON, M.B., B.S.  
 W. T. GREENING, M.B., B.S.  
 R. CLARKE-JONES, M.B., B.S., D.D.M.  
 J. SIMPSON-SILBEREISEN, M.B., B.S.  
 J. FORBES MACKENZIE, F.R.A.C.S.  
 ANDREW SARGOOD, B.V.Sc. (Old).  
 M. P. EARLE, B.Sc., A.T.N.A., Dip.Dietetics, A.I.M.T.  
 L. M. BEADNELL, M.R.C.S., L.R.C.P.  
 WINSTON S. SMITH, M.B.B.S., F.R.C.S., M.R.C.O.G.  
 G. MAXWELL STUBBS, M.B.B.S., D.O., M.A.C.O.  
 J. M. BELL, M.B.B.S., D.A., F.F.A.R.C.C.S.  
 K. F. RYAN, Dip.App.Chem. (A.G.Inst.Tech.).  
 P. R. N. SUTTON, D.D.Sc., L.D.S., F.A.C.D.S.  
 J. H. BEGG, M.B., Ch.B., L.H.  
 W. T. GIBBS, M.B.B.S., F.R.C.S., F.R.C.S.E. (Former M.H.R.).  
 R. J. RIDDELL, M.B., B.S., M.C.P.A.  
 P. H. COHEN, M.B., B.S., D.P.M., M.A.N.Z.C.P.  
 M. FINKEL, B.Sc., M.Sc., M.Ed., Ed.D. (Univ. of Denver) (Biol. Chem.).  
 MARGARET H. ANDERSON, M.B., B.S.  
 MARY MEREDITH, B.Sc., M.B., B.S., M.C.P.A.  
 B. L. YOUNG, M.B., B.S.  
 C. HENLEY, M.D.  
 D. C. NANCE, M.B., B.S.  
 PUI HOONG LEE, M.B., B.S.  
 J. W. ARUNDELL, M.B., B.S.  
 L. HEMINGWAY, M.B., B.S.  
 A. OKALYI, M.B., B.S.  
 J. A. NATHAN, M.B., B.S.  
 DARRELL O'DONNELL, M.B., B.S.  
 J. W. PIESSE, M.B., B.S. Dip.Obst. (Auck.).  
 P. A. RAWLINSON, B.Sc.  
 G. SPENCER, M.B., B.S.  
 K. COWEN, M.B., B.S.  
 U. H. SHAW, B.Sc.  
 D. G. MACKELLAR, M.B., B.S.  
 D. NIALI, M.B.B.S., M.S.  
 A. G. SERONG, M.B., B.S.  
 R. J. KELLY, M.B., B.S.  
 W. M. S. BOYD, M.B., B.S.  
 NORMAN WILKINS, M.B., B.S.  
 CORALIE WHITBY, B.Sc.  
 W. A. HASTINGS, M.B., B.S.  
 D. GRUNDMANN, M.B., B.S.



Among those who have recently agreed to adding their names to the Cook letter opposing fluoridation are:—  
 Prof. H. E. Watson, D.Sc. (Lond.), F.R.I.C., M.I.Chem.E., Professor Emeritus of Chemical Engineering, University of London.  
 Dr. L. J. Beynon, T.D., L.R.C.P., M.R.C.S., M.B., B.S. (Lond.), Member of the Council of the British Medical Association.

*H. A. Cook*

B.Sc.(Lond.), A.R.C.S., F.R.I.C.

14, St. Alban's Street,  
 Jermyn Street, London, S.W.1.  
 Tel: TRAfalgar 5112

# To Whom it May Concern:

We, the undersigned, all members of the medical, dental, veterinary or chemical professions, wish to place on record our considered opinion that it is wrong to fluoridate public drinking water supplies.

It is our opinion that published research work has shown clearly that the toxic effects of fluorides, even in trace quantities, are such that fluoridated drinking water may be harmful, or even dangerous, to many people, particularly in its long term effects, which have not been sufficiently investigated, and that it is therefore quite wrong to force everyone to consume artificially fluoridated water.

We are quite prepared to accept published evidence that small amounts of fluorides may have some beneficial effect on the teeth of children, but wish to state that, in our opinion, the only methods which may be safely employed for this purpose are those giving the fluoride in measured dosage, such as in tablet form, on medical prescription only, so that its use is completely restricted to the children for whom it is considered necessary.

Yours faithfully,

(Signed) H. A. COOK.

## On behalf of:

- E. C. Barton Wright, D.Sc., F.R.I.C., M.I.Biol.  
 D. R. Livingston, M.B., B.S., M.F.Hom.  
 D. M. Brown, L.D.S., R.C.S.  
 M. Birnstingl, M.S., F.R.C.S.  
 S. G. Askey, M.A., M.D.  
 G. Latto, Ch.B., M.B.  
 S. Rundie, D.Sc., Ph.D., B.A.  
 C. Quick, M.Sc.  
 E. C. Lloyd, C.B.E., M.R.C.V.S.  
 B. C. Parke, B.Sc.  
 E. F. Meyer, M.D., L.R.C.P., L.R.C.S.(Edin.),  
 L.R.F.P.S. (Glas.), M.F.Hom.  
 D. Latto, M.B., Ch.B., D.Obst.R.C.O.G., M.R.C.O.G.  
 J. V. Duckworth, Ph.D., B.Sc.  
 V. H. King, M.B., D.P.H.  
 H. Butler, B.Sc.  
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The above list of signatories is steadily increasing and will, no doubt, continue to do so as more people become aware of the case against fluoridation.

"To be fully effective, fluoride must be absorbed continuously during the whole period of tooth formation and calcification . . . All the three and four year old children in the fluoridation areas had had fluoride for the whole of their lives and during the whole period of foetal development. These children are thus likely to have received the full dental benefits of fluoridation . . ." Quoted from pages 9 and 30 of Ministry of Health Reports on Public and Medical Subjects No 105.

"The Food and Drug Administration" (Department of the United States Public Health Service) "finds that there is neither substantial evidence of effectiveness nor a general recognition by qualified experts that prenatal drug preparations containing fluorides are beneficial to tooth development in the fetus or in the prevention of dental caries in the offspring. Any such drug preparation that is so labeled, represented or advertised will be regarded as misbranded and subject to regulatory proceedings unless such recommendations are covered by a new drug application, including substantial evidence of effectiveness, approved pursuant to section 505 of the Federal Food, Drug, and Cosmetic Act." Quoted from the U.S. Federal Register, Vol. 31, No. 204, October 20, 1966.

"Dr. Goddard, the courageous new head of the American Food and Drug Administration, has been apprised of serious damage to newborn children by fluoride tablets and by fluoride drugs. Fluoride tablets are less toxic than fluoridated water because they are combined with other protective minerals. Therefore, a ban on fluoridated water is bound to come, sooner or later." Stated by Dr. George L. Waidbott, M.D., of Detroit, U.S.A., a leading world authority on artificial fluoridation.

# **A STATEMENT ON FLUORIDATION**

## **Sponsored by Medical-Dental Committee on the Evaluation of Fluoridation**

We, the undersigned are opposed to the fluoridation of public water supplies. As members of the medical, dental, and related public health professions, we are as concerned as anyone over the prevalence of tooth decay, and as anxious that it be prevented; but each of us, for some or all of the reasons set forth here and discussed more fully in the appended memorandum believes that fluoridation of public water supplies is not a proper means of attempting such prevention.

1. Positive proof of the safety of fluoridation is required. None has been offered.
2. The so-called therapeutic concentration of fluoride, arbitrarily established at 1ppm., in drinking water, is in the toxic range.
3. Dental fluorosis, the first obvious symptoms of chronic fluoride toxicity in children is an inevitable result of fluoridation. The evidence reveals that large numbers of the population may be afflicted, and with varying degrees of damage.
4. The determination of whether damage resulting from dental fluorosis is "objectionable" is a matter for the person whose teeth are affected, and not for the arbitrary assertion of public officials.
5. The conceivable role of fluoride as an insidious factor in chronic disease has been evaded by the proponents. A substantial amount of evidence indicates such a possibility. Properly planned long term studies are required to determine the possible comprehensive association of fluoride with chronic disease.
6. Fluoridation imposes an extraordinary risk on certain individuals who by reasons of occupation, environmental circumstances, state of health, dietary habits, etc., are already exposed to a relatively high intake of fluoride.
7. Fluoridation is compulsory mass medication without precedent. Mass therapy cannot ignore the possibility of "mass" side reactions.
8. The function of a public water supply is to provide pure, safe water for everybody, not to serve as a vehicle for drugs.
9. The role and efficiency of fluoride in dental caries reduction is a matter of active controversy; whatever the outcome, there are less hazardous and more efficient ways of obtaining such benefits as fluoride may offer than by putting it into the public water supply.

Copies of this statement are available on request. Other reports including "Synoptic Critique" of the American Medical Association Report of December, 1957, and a review "Current Status of the Fluoridation Discussion 1963", may be obtained by addressing the office of the Secretary:

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