

Fluoridation is Unproven, Unnecessary and Unethical

Completed for City of Windsor Council Fluoridation Meeting, January 28, 2013
CITY OF WINDSOR
COUNCIL SERVICES

Unproven

JAN 25 2013

Safe at 'Optimal', Harmful at ??

RECEIVED

- Endorsements of fluoridation safety come with the disclaimer 'at optimal levels'. Everyone agrees ingesting 'too much' fluoride causes harm. Currently, the recommended "optimal concentration of fluoride in drinking water for dental health has been determined to be 0.7 mg/L for communities who wish to fluoridate."¹ Notice that this endorsement is for the concentration and not for dose, it shows the supposed optimal dilution of fluoride in our water but not how much individuals should drink to get the benefit without the harm.
- Looking at old copies of the Ontario's Drinking Water Quality Objectives for fluoride shows that the recommended optimal concentration has steadily been lowered:
 - 1992 1.2-1.4 mg/l
 - 1994 1.0-1.2 mg/l
 - 1996 0.8-1.0 mg/l
 - 2000 0.5-0.8 mg/l
 - 2010 0.7 mg/lIn a 2011 News Release², CMOH Arlene King states "When they [fluoride chemicals] are added to water at levels recommended in Ontario and across the country, studies have not linked fluoride to cancer, bone fractures or intelligence levels." How do we know the dose of fluoride we're getting FROM ALL SOURCES? How many glasses should a small child drink vs. a large man? Surely the safe dose isn't the same for them both? The USDA recognized the importance of monitoring our daily fluoride intake and in 2004 provided a database³ of fluoride content in many readily available foods.
- Currently WUC fluoridates to a level of 0.65 mg/L.⁴ However, a May 2006 WUC report⁵ submitted to council states "It should be noted that The Windsor Utilities Commission reduced the level of fluoride from 1.2 mg/l to 0.65 mg/l several years ago." Meaning that for several decades WUC customers were receiving twice the concentration of fluoride that we're told today is 'optimal'.
- "In Canada, actual intakes are larger than recommended intakes for formula-fed infants and those living in fluoridated communities. **Efforts are required to reduce intakes among the most vulnerable age group; children aged 7 months to 4 years.**"⁶
- Segments of the population are unusually susceptible to the toxic effects of fluoride. They include "postmenopausal women and elderly men, pregnant woman and their fetuses, people with deficiencies of calcium, magnesium and/or vitamin C, and people with cardiovascular and kidney problems."⁷
- The Canadian Paediatric Society cautions parents not to use fluoridated water when mixing baby formula⁸. And the American Dental Association has advised its members "If using a product that needs to be reconstituted, parents and caregivers should consider using water that has no or low levels of fluoride"⁹.

Safety Protocol – How do we know for certain that silicofluorides are safe to ingest?

- Ontario's CMOH Arlene King, states in an April 2012 report¹⁰ "fluoride additives must meet rigorous standards of quality and purity before they can be used." If this is true for water fluoridation chemicals – what is done to the raw slurry, hydrofluorosilicic acid (and its contaminants of lead, arsenic, mercury, radionuclides...), for this rigorous purity to happen?
- The Safe Drinking Water Act¹¹ is clear that **all water systems must meet licensing requirements.** "The owner of a municipal drinking water system shall apply to the Director..., for a drinking water works permit and a municipal drinking water licence for the system." *Safe Drinking Water Act 2002, c. 32, s. 33. This license¹² requires that chemicals used in our drinking water system must meet the standard NSF60. "All chemicals and materials used in the alteration or operation of the drinking water system that come into contact with water within the system shall meet all applicable standards set by both the American Water Works Association ("AWWA") and the American National Standards Institute ("ANSI") safety criteria standards NSF/60 and NSF/61." Safe Drinking Water Act, Section 31(1), Municipal Drinking Water Licenses (MDWL), Schedule B, Section 14. This standard (NSF60) requires that the chemical undergo toxicological evaluation, to ensure that it is safe for human ingestion.*
- What does NSF say about this safety standard requiring toxicological studies: "The NSF standard requires that the chemicals added to drinking water, as well as any impurities in the chemicals, be supported by **toxicological evaluation.**" *Stan Hazan, General Manager, Drinking Water Additives Certification Program, NSF*
"A toxicology evaluation of test results is required to determine if any contaminant concentrations have the potential to cause adverse human health effects" *NSF Fact Sheet 2008*
- NSF International (formerly National Sanitation Foundation) admits that **trace amounts of other contaminants are often mixed in with the silicofluoride 'batches' dumped into drinking water. Those trace contaminants can include lead, arsenic, beryllium, cadmium, mercury, vanadium, uranium, and radium, among others.** Does Health Canada require all water utilities to specifically test for, and then remove, any of the batch contaminants that NSF admits could be in any tanker delivery of hydrofluorosilicic acid?

Show me the Safety Study

- The US Environmental Protection Agency, the National Sanitation Foundation and public health admit these **safety studies have never been done.** And so hydrofluorosilicic acid does not meet the legal requirement that it conform to standard NSF60.
U.S. EPA: "In collecting the data for the fact sheet, EPA was not able to identify chronic studies for these chemicals."
Stan Hazan, General Manager, Drinking Water Additives Certification Program, National Sanitation Foundation (NSF) in 2004 deposition: "NSF failed to follow its own Standard 60 procedures" and "I would say that the HFSA submissions have not come with the tox studies referenced."

- Dr. Heimann Windsor, Essex County Medical Officer of Health in Community Water Fluoridation presentations to local councils: "Since 1962, toxicity and adverse health impacts have tested fluoride rather than fluorosilicates (hydrofluorosilicic or fluorosilicic acid)" and "...no research has focused on the direct consumption of fluorosilicic acid outside of occupational settings."
- **The absence of toxicological safety studies means that the endorsement that water fluoridation is safe, at any level, is unproven.** "Tox studies, speaking to hfs in particular, it would appear that they have not carried out those." John Stuart, Chief Operating Officer, WUC Fluoridation meeting held on February 29, 2012¹³,
- **This year, several Ontario municipalities¹⁴ have acknowledged this lack of toxicological safety evidence** and have passed resolutions requesting that Health Canada conduct proper toxicological studies and provide clinical data on the fluoridation chemicals "to reassure citizens that the use of fluorosilicates added to drinking water for the purpose of treating dental decay is safe and what the health effects are."
- **A local dental professional has lobbied for fluoridation claiming that this review is toxicological proof of WUC's safety:** The National Institute Environmental Health Sciences 2001 Review. However when we look at this review, (starting on page 24) we can see there is no data available for chronic exposure.

National Institute of Environmental Health Sciences 2001 Review of Fluorosilicates	
Exposure	Results
9.1.3 Acute Exposure	Health harm demonstrated
9.1.4 Short-term and Subchronic Exposure	No data were available
9.1.5 Chronic Exposure	No data were available
9.1.6 Synergistic/Antagonistic Effects	Decrease in calcium, magnesium, phosphorous and blood sugar levels in blood serum
9.1.7 Cytotoxicity	No data were available
9.2 Reproductive and Teratological Effects	No data were available
9.3 Carcinogenicity	No data were available
9.4 Initiation/Promotion Studies	No data were available
9.5 Anticarcinogenicity	No data were available
9.6 Genotoxicity	No data were available for H ₂ SiF ₆
9.7 Cogenotoxicity	No data were available
9.8 Antigenotoxicity	No data were available
9.9 Other data	Harm to skin
10.0 Structure-Activity Relationships	Decreased growth rate, fecundity Increased mortality

- Fluoridation promoters claim fluoridation is safe but when confronted with the fact that there are no safety studies, as required by standard NSF60, they claim these toxicological studies aren't required because the chemical dissociates¹⁵. According to the WUC administration report from 2012 10 26, this dissociation depends on the water PH, temperature and fluoride concentration, so while dissociation is likely to occur at the water treatment plant where is the evidence that the chemical doesn't reform at WUC customer's tap (where chemistry and temperature varies), when water is used to reconstitute orange juice (changing the PH), when boiled to make soup (increasing the fluoride concentration) or when it is in our stomachs? This is why the safety studies are necessary – so we know what the health effects are after this chemical is ingested.
- Harvard School of Public Health performed a systematic review and meta-analysis of published studies to investigate the effects of increased fluoride exposure and delayed neurobehavioral development.¹⁶ They reviewed 27 studies “ the authors say that this risk should not be ignored, and that more research on fluoride's impact on the developing brain is warranted.” And “Fluoride seems to fit in with lead, mercury, and other poisons that cause chemical brain drain,” Grandjean says. “The effect of each toxicant may seem small, but the combined damage on a population scale can be serious, especially because the brain power of the next generation is crucial to all of us.”¹⁷
Can the benefits of water fluoridation really be worth the unknown risk to our children's brains?

Unnecessary

- Public Health dental health statistics show no significant benefit to water fluoridation. Local fluoridation promoters have claimed that Dorval PQ,¹⁸ Grey Bruce and Simcoe Muskoka¹⁹ statistics prove water fluoridation is effective. In the Grey Bruce Oral Health Status Report a graph shows that by age 13, children in this non-fluoridated community had less dental decay than the Ontario average. Statistics from the Simcoe Muskoka health unit shows that the un-fluoridated communities have less than one cavity more than the fluoridated communities being compared. Despite heavy lobby, Orillia council went on to reject fluoridation – not convinced that less than one cavity was worth subjecting their constituents to the risks of silicofluorides. Both Grey Bruce and Simcoe Muskoka health units had a figure titled Relationship Between Oral Health and Percentage of Population with Fluoridated Water by Ontario Health Unit which showed that barely fluoridated Kingston has the best decay rates of all. And the non-fluoridated Niagara region has better dental decay rates than nearly all of the fluoridated communities.

- Scientific evidence proves fluoridation is not effective at preventing tooth decay. When communities end artificial water fluoridation, dental decay rates do not increase.

1) **“The prevalence of caries decreased over time in the fluoridation-ended community while remaining unchanged in the fluoridated community.”** Maupome G, Clark DC (co-author of Health Canada Review 2007), Levy SM, Berkowitz. Patterns of dental caries following the cessation of water fluoridation. Community Dent Oral Epidemiol 2001; 29:37-47

2) "This meta-analysis of available research demonstrates that **cavity rates remained the same or continued to decline in communities which discontinued artificial water fluoridation.**"

Azarpazhooh A, Stewart H (Chief Dental Officer for Toronto). Oral Health; Consequences of the Cessation of Water Fluoridation in Toronto 2006

3) "The effect of fluoridation on caries in these communities was not evident" "We found virtually **no difference in caries prevalence or severity between 7-year-old children from schools in non-fluoridated Caledon and schools matched on socio-economic factors, in fluoridated Brampton.**" Ito D (Past-President of Ontario Association of Public Health Dentistry).; Determinants of caries in adjacent fluoridated and non-fluoridated cities. IADR/AADR/CADR 85th General Session and Exhibition March 21-24, 2007 # 2757.

4) "The few studies of communities where fluoridation has been withdrawn **do not suggest significant increases in dental caries.**" Ontario Ministry of Health 1999 study: Benefits and Risks of Fluoridation, Dr. David Locker of the Faculty of Dentistry, University of Toronto

5) "**Health Canada's review of fluoridated water²⁰ failed to identify even one double-blinded, randomized prospective clinical trial to prove the fluoridation works.**" Dr. Hardy Limeback PhD, DDS Professor and Head, Preventive Dentistry University of Toronto

- "Good oral health is crucial to our overall health"; this is true, but refers to periodontal disease and not tooth decay²¹. Fluoride lobbyists are not crediting ingested fluoride with preventing periodontal disease. **Ending artificial water fluoridation will have no negative health impacts on WUC customers.**
- Even mainstream news outlets are writing about the statistical evidence that proves artificial water fluoridation is not effective Globe and Mail, Fluoridation may not do much for cavities and New Studies: Fluoridation Fails to Reduce Cavities in New York City and Nationally
- The CDC is the most often cited organization by fluoride promoters. At one time they named water fluoridation as a top 10 public health measure of the 20th century BUT more recently the **CDC conceded, in a 1999 report²², that "fluoride's predominant effect is *post-eruptive and topical.*"** The agency repeated that position in 2001²³. Translated, ingested fluoride is not required during early formative stages of tooth development, and **any measurable benefit from fluoride is gained by applying it directly onto the tooth surface (such as by toothpaste).** When water fluoridation began, fluoridated toothpaste was not readily available. Today we have access to fluoride tablets, fluoridated mouthwash, fluoride dental treatments and fluoridated toothpaste – there is no need to have it in municipal drinking water and force it on those who are sensitive to fluoride.

Water Fluoridation – Effective at causing Dental Fluorosis

- A 2010 CDC report²⁴ announced that, **41% of adolescents in the U.S. have dental fluorosis, a clear sign of fluoride toxicity.** The 2007-2009 Canadian Health Measures Survey²⁵ affirms this statistic for Canadians “Canadian adolescents appear to have nearly equivalent oral health to those in the United States”²⁶ and “59.8% of the children have teeth with no signs of fluorosis.”²⁷ This survey found fluorosis on 40% of the children surveyed despite looking at **twice as many non-fluoridating communities as fluoridated ones.**
- Peer-reviewed published Canadian study proves that water fluoridation increased dental fluorosis rates, the visible sign of fluoride poisoning: **‘When fluoride was removed from the water supply the prevalence and severity of dental fluorosis decreased significantly’** Clark DC, Shulman JD, Maupome G, Levy SM. Changes in dental fluorosis following the cessation of water fluoridation. Community Dent Oral Epidemiol 2006; 34:197-204²⁸
- **“In Canada, we are now spending more money treating dental fluorosis than we do treating cavities.** That includes my own practice.” Dr. Hardy Limeback, B.Sc., Ph.D in Biochemistry, D.D.S., former head of the Department of Preventive Dentistry for the University of Toronto, and past-president of the Canadian Association for Dental Research
- Dental fluorosis treatments are not covered by most dental insurance plans nor by the provincially funded programs Healthy Smiles and Children In Need Of Treatment – all of which cover topical pharmaceutical grade fluoride treatments administered by a professional as well as the dental decay fillings.
- Fluoridation proponents claim dental fluorosis is not a problem because it is only cosmetic. How dare we accept that permanent scarring and disfiguring of our children’s teeth as ‘only cosmetic’. To a dentist, the fix is a cosmetic one – expensive microabrasion, bleaching and veneers are the only treatments that can cover up this damage but to a toxicologist that understands that teeth are a window to our bones, dental fluorosis is the visible sign of fluoride poisoning. We can’t see our bones, brains and other tissues like we can our teeth and we have no way of knowing the unseen damage.

“It is illogical to assume that tooth enamel is the only tissue affected by low daily doses of fluoride ingestion.” Dr. Hardy Limeback, Head of Preventive Dentistry, University of Toronto²⁹

“Common sense should tell us that if a poison circulating in a child’s body can damage the tooth-forming cells, then other harm also is likely” Colquhoun J. (1997). Why I changed my mind about Fluoridation. Perspectives in Biology and Medicine 41:29-44.³⁰

“Like bones, a child’s teeth are alive and growing. Fluorosis is the result of fluoride rearranging the crystalline structure of a tooth’s enamel as it is still growing. It is evidence of fluoride’s potency and ability to cause physiologic changes within the body, and raises concerns about similar damage that may be occurring in the bones.” Environmental Working Group March 2006³¹

“Certainly, the assumption that ‘very mild’ and ‘mild’ forms of fluorosis are acceptable, which underlies much current thinking about fluoridation, may need to be reconsidered.” And **“Clearly, the simplest way of reducing the prevalence of fluorosis in child populations is to cease to fluoridate community water supplies.”** Benefits and Risks of Water Fluoridation, Ontario Ministry of Health, Locker 1999³²

Unethical

- With safety unproven and no significant benefit as proven by science and public health statistics how can adding a chemical, classified as hazardous waste, to a population’s drinking water be considered ethical?

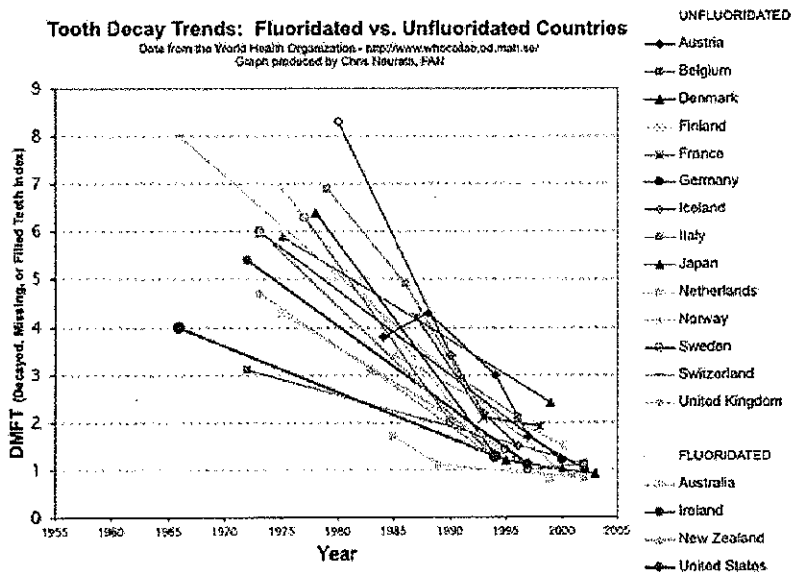
- The WUC administration report of 2012 10 26 has outdated information regarding the ethics of water fluoridation. On page 16 of the report it states “It is interesting to note the Province of Quebec is now actively contemplating fluoridation of the public water supplies in municipalities having populations in excess of 5,000 individuals.”

The Ministry of Health and Social Affairs, in 2006, set an objective to have 50% of the Quebec population getting fluoridated water by 2012 and they commissioned the Public Health Ethics Committee (CESP) to study and comment on the morality of public fluoridation practices. The ministry has, instead, lost ground since setting this objective (less than 3% of the PQ population have fluoridated water) and already this year (2013) another Quebec community, the city of Becancour, voted unanimously to end fluoridation.

In September 2012, Quebec residents elected a new provincial government. The Parti Quebecois had a resolution for the cessation of fluoridation should it take power – and now they have. Several safe water groups in Quebec, Coalition Eau Secours, the Canadian Council, the Front Commun Pour une Eau Saine, are now working together to see this new government’s resolution get implemented.

The current situation in Quebec is FAR from moving to mandated fluoridation – Quebec is already barely fluoridated and is on a path to have fluoridation ceased in the entire province.

- Many countries never started water fluoridation programs and several others have ended the practice of water fluoridation on ethical grounds. According to World Health Organization statistics, these non-fluoridating countries have as good or better dental health than is found in countries that are forcing their citizens to ingest hazardous waste fluoridation chemicals.



Here is an example of the positions of some non-fluoridating countries:

Denmark: banned fluoridation when its National Agency for Environmental Protection, after consulting the widest possible range of scientific sources, pointed out that the long-term effects of low fluoride intakes on certain groups in the population (for example, persons with reduced kidney function), were insufficiently known. Source: National Agency of Environmental Protection, Denmark. February, 1977.

Sweden: rejected fluoridation on the recommendation of a special Fluoride Commission, which included among its reasons that: "The combined and long-term environmental effects of fluoride are insufficiently known." Source: Report of Swedish Fluoride Commission. Stockholm 1981.

Germany: water fluoridation stance can be defined in this quote: "The argumentation of the Federal Ministry of Health against a general permission of fluoridation of drinking water is the problematic nature of compulsion medication."

Czech Republic: ceased fluoridation in 1993. From Dr. B. Havlik of the Ministry of Health: water fluoridation is uneconomical with less than 1% of the treated water being used for drinking; unecological (environmental load by a foreign substance); unethical (forced medication); toxicologically and physiologically debatable.

China: stopped fluoridating in 2002, several studies linking fluoride to reduced IQ in children.

Dilution is the Solution for Pollution

- In 1983, Rebecca Hammer, the Deputy Assistant Administrator in the EPA's Office of Drinking Water called fluoridation "an ideal environmental solution to a long standing problem." "In other words," says Dr. William Hirzy, a senior EPA scientist, "fluoride that otherwise would be an air and water pollutant is no longer a pollutant as long as it's poured into your reservoir. The solution to pollution is dilution and in this case, the dilution is your drinking water."
- If silicofluorides become safe when diluted in water, why does the Hazardous Waste Act make it illegal to dump fluoridation chemicals anywhere in our environment? It cannot be dumped into our lakes, rivers or streams but it is safe when dumped into our drinking water?

No Scientific Consensus

- Reviews conducted by fluoridation promoting agencies seem to be the only reviews finding fluoridation to be 'safe and effective'. Independent reviews more often find that proof of safety is lacking and that effectiveness is insignificant. There is even a report that was conducted for the Ministry of Health that states fluoridation doesn't work – but proponents don't seem to provide this opposing view/report even though it comes from our Provincial health branch.

In 1999, Benefits and Risk of Water Fluoridation³³ prepared for Public Health Branch, Ontario Ministry of Health, First Nations and Inuit Health Branch, Health Canada reviewed fluoridation literature from 1994-1999. With respect to effectiveness “the few studies that have assessed rates of dental decay in communities where fluoridation has been discontinued do not suggest that dental decay increases to any significant degree.” With respect to dental fluorosis “clearly, the simplest way of reducing the prevalence of fluorosis in child populations is to cease to fluoridate community water supplies.”

In 2000, the York Review³⁴ is a critical and detailed examination of water fluoridation which was unable to identify even one high-quality study to show this practice is safe or effective. This review is so often misrepresented by fluoridation promoters that the Chair of the Advisory Group for the review, Professor Trevor Sheldon, released a statement³⁵ to clear up these misrepresentations. He stated that the review “did not find water fluoridation to be safe”

In 2002, “the British Medical Council observed that there are many detrimental impacts of water fluoridation and that more robust information on the potential harms of fluoridation is needed.”

In 2003, “the European Commissions Scientific Committee on Cosmetic Products and Non-Food Products (SCCNFP) intended for consumers undertook a study of the safety of fluorine compounds in oral hygiene products for children under six years of age. SCCNFP observed that systemic exposure to fluoride, resulting from fluoridation of drinking water supplies not only contaminates infant formula food but may impair normal development of enamel in the pre-eruptive tooth and cause fluorosis.”

In 2006, “the U.S. National Research Council (NRC) Scientific Committee in their comprehensive report on fluoridation³⁶ highlighted an alarming number of potentially adverse public health risks associated with water fluoridation. Furthermore, the NRC documented the growing weight of toxicological and epidemiological evidence identifying clear public health risk associated with the addition of fluoride to public drinking water supplies.” Here is just a small sample of concerns included in the findings: moderate dental fluorosis is an adverse health effect occurring at fluoride levels of 0.7–1.2 mg/L, the levels of water fluoridation; stage I skeletal fluorosis, arthritis clinically manifested as pain and stiffness in joints, is an adverse health effect which may be occurring with a daily fluoride intake of 1.42 mg/day, which exceeds the amount the average person obtains in their diet in non-fluoridated areas; decreased thyroid function is an adverse health effect, particularly to individuals with inadequate dietary iodine. These individuals could be affected with a daily fluoride dose of 0.7 mg/day (for a “standard man”).

In 2010, The Case Against Fluoride, A New Look at the Scientific Evidence³⁷ concludes that “endorsements from dental and medical establishments do not mean a public-health measure is effective or safe.” This book presents research that links fluoride and harm to the brain, bones, and endocrine system and argues that the evidence that water fluoridation prevents tooth decay is surprisingly weak.

In 2010, “the European Commission’s Scientific Committee on Health and Environmental Risks (SCHER) was unable to demonstrate the benefit of fluoridation of drinking water for dental health. SCHER concluded that while the scientific evidence for the protective effect of topical fluoride (toothpaste) application is strong, the respective data for systemic application via drinking water is less convincing. These findings are remarkable as they indicate quite clearly that SCHER believes that the evidence for supporting water fluoridation, despite half a century of implementation in some countries, like Ireland, is inconclusive and lacking scientific merit.”

In 2011, Report of the Fairbanks Fluoride Task Force reviewed relevant fluoridation science and prepared this report³⁸ for the city council of Fairbanks Alaska recommending that artificial water fluoridation be terminated. The recommendation stated that this will reduce the significance and severity of fluorosis especially for formula fed infants, as well as address the ethical concerns of medicating a public drinking water supply. Fairbanks council went on to vote to cease the practice.

In 2012, The Human Toxicity, Environmental Impact and Legal Implications of Water Fluoridation report³⁹ “clearly demonstrates how inhibition of certain metabolic pathways is linked with increased neurological and cardiovascular diseases as well as dental, skeletal and mental fluorosis. Apart from bones and teeth many of the essential human organs in the body are directly affected by fluoride including the heart, kidneys, liver and pineal gland. Fluoride is now known to cause calcification in human arteries resulting in plaque formation and increased risk of stroke and heart disease. Significant calcification also occurs in the pineal gland and kidneys.” And pertaining to the environment, this scientific review found that that MSDS for water fluoridation chemicals acknowledges harm is caused to aquatic ecosystems in low concentrations. “Fluorides released into the environment as a consequence of water fluoridation act as persistent pollutants that accumulate in the aquatic and terrestrial environment. Fluoride is classified as a persistent inorganic pollutant that will bioaccumulate within the environment and food chain;”

“All independent scientific reviews have agreed on one important legal principle, that there exist both known and probable risks that can cause harm to the public and to the environment. Furthermore, all international scientific reviews have themselves independently raised concerns regarding the lack of appropriate scientific risk assessment that would demonstrate beyond reasonable doubt that no harm will result from water fluoridation.”

- **Public Health employees and dentists are restricted from expressing opposing opinions of water fluoridation; making independent research and scientific opinion all the more important. Even if a dentist or public health employee had concerns, they could not share them.**

“Health unit staff and officials need to be aware of the key messages and in support of the public health view of fluoridation. There is no place for personal views on fluoridation.” Peter Cooney, page five of the Association of Local Public Health Agencies Drinking Water Fluoridation meeting February 10, 2011 *“Messaging and Communications Strategies”*

Dr. Frank Stechey of the Royal College of Dental Surgeons of Ontario when asked by a Thunder Bay council member on July 20, 2009 stated that a dentist would be at risk of losing their license if he/she spoke publicly against water fluoridation. This can be heard here:

<http://www.youtube.com/watch?v=iUwFFCn8pBM&feature=plcp&context=C364de01UDOEgTsToPDskJyLOdFxp2bZH-FQBe1-3N>

¹ Guidelines for Canadian Drinking Water Quality: Guideline Technical Document – Fluoride <http://www.hc-sc.gc.ca/ewh-semt/pubs/water-eau/2011-fluoride-fluorure/index-eng.php>

² http://www.health.gov.on.ca/en/news/bulletin/2011/docs/hb_20110404_2.pdf

³ <http://www.nal.usda.gov/fnic/foodcomp/Data/Fluoride/fluoride.pdf>

⁴ <http://www.wuc.on.ca/information/faqs.cfm#12>

⁵ WUC Memorandum from Wayne Miller to Peter Neufeld Re: “The Fluoride Debate” dated April 21, 2006; submitted to City of Windsor – City Hall for Council Agenda Communication May 23, 2006 item No. 6.

⁶ The Ontario Ministry of Health’s 1999 study, ‘Benefits and Risks of Fluoridation’, Dr. Locker of the Faculty of Dentistry, University of Toronto.

⁷ United States Public Health Service Report (ATSDR TP-91/17, pg. 112, Sec.2.7, April 1993)

⁸ http://www.caringforkids.cps.ca/handouts/healthy_teeth_for_children

⁹ <http://www.fluoridealert.org/uploads/ada.egram-2006.pdf>

¹⁰ http://www.health.gov.on.ca/en/common/ministry/publications/reports/oral_health/oral_health.pdf

¹¹ Safe Drinking Water Act 2002 http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_02s32_e.htm

¹² City of Windsor and Windsor’s license: Municipal Drinking Water License Number 025-101, Schedule B section

14.0

¹³ No Safety Studies Exist, WUC fluoridation Feb 29, 2012 <http://www.youtube.com/watch?v=qZ2GKw6zgPw>

¹⁴ Ontario municipalities that passed similar resolutions calling for proper safety study of fluorosilicates: Peel Region: Caledon, Brampton and Mississauga; Hamilton; Lasalle. Wording for this resolution can be found in the WUC Administration report on Fluoridation 2012 10 26

¹⁵ Appendix C, What is Dissociation and Hydrolyzing

¹⁶ Environmental Health Perspectives: Developmental Fluoride Neurotoxicity: A Systemic Review and Meta-Analysis <http://ehp.niehs.nih.gov/2012/10/developmental-fluoride-neurotoxicity-a-systematic-review-and-meta-analysis/>

¹⁷ Harvard School of Public Health: Impact of fluoride on neurological development in children

<http://www.hsph.harvard.edu/news/features/fluoride-childrens-health-grandjean-choi/>

¹⁸ Appendix A, Dorval PQ is not proof of fluoridation effectiveness

¹⁹ Appendix B, Grey Bruce Oral Health Status Report graph; Simcoe Muskoka Oral Health Stats graph; Figure 8 compares the proportion of the population with access to community water fluoridation to the oral health status of 9-year-old children in 33 of the 36 health units in Ontario, as well as a weighted average derived from 32 of the 33 health units that represents the Ontario rates.

²⁰ <http://www.hc-sc.gc.ca/ewhsemt/pubs/water-eau/2008-fluoride-fluorure/index-eng.php>

²¹ Serious health conditions linked to periodontal disease p7 Oral-Health More Than Just Cavities: A Report By Ontario's Chief Medical Officer of Health

²² Centers for Disease Control and Prevention, "Achievements in Public Health, 1900-1999"

²³ Centers for Disease Control and Prevention, "Recommendations for Using Fluoride to Prevent and Control Dental Caries in the United States," *Morbidity and Mortality Weekly Report* 50, no. RR14 (August 17, 2001): 1-42

²⁴ <http://www.cdc.gov/nchs/data/databriefs/db53.htm>

²⁵ Canadian Health Measures Survey 2007-2009 <http://www.fptdwg.ca/assets/PDF/CHMS/CHMS-E-tech.pdf>

²⁶ Canadian Health Measures Survey 2007-2009 <http://www.fptdwg.ca/assets/PDF/CHMS/CHMS-E-tech.pdf> p46

²⁷ Canadian Health Measures Survey 2007-2009 <http://www.fptdwg.ca/assets/PDF/CHMS/CHMS-E-tech.pdf> p52

²⁸ http://www.waterloowatch.com/Index_files/Clark%20et%20al,%20Changes%20In%20Dental%20Fluorosis%20Following%20The%20Cessation%20Of%20Water%20Fluoridation%20Community%20Dentistry%20And%20Oral%20Epidemiology,%202006.pdf

²⁹ Why I am now officially opposed to adding fluoride to drinking water <http://www.fluoridealert.org/limeback.htm>

³⁰ <http://www.fluoridation.com/colquhoun.htm>

³¹ <http://www.ewg.org/release/national-academy-calls-lowering-fluoride-limits-tap-water>

³² <http://health.gov.on.ca/en/common/ministry/publications/reports/fluoridation/fluor.pdf>

³³ <http://www.health.gov.on.ca/en/common/ministry/publications/reports/fluoridation/fluor.pdf>

³⁴ <http://www.york.ac.uk/inst/crd/fluoridnew.htm>

³⁵ Appendix D, full text of the statement released by Professor Trevor Sheldon regarding misrepresentations by public health authorities, of the York Review's findings.

³⁶ Doull J, Boekelheide K, Farishian BG, Isaacson RL, Klotz JB, Kumar JV, Limeback H, Poole C, Puzas JE, Reed N-MR, Thiessen KM, Webster TF, Committee on Fluoride in Drinking Water, Board on Environmental Studies and Toxicology, Division on Earth and Life Studies, National Research Council of the National Academies. Fluoride in drinking water: a scientific review of EPA's standards. Washington, DC: The National Academies Press; 2006. Available for purchase online at: <http://www.nap.edu>

³⁷ <http://www.fluoridealert.org/case-against-fluoride.html>

³⁸ <http://www.fairbanksalaska.us/wp-content/uploads/2011/07/20110425finalreport.pdf>

³⁹ <http://www.enviro.ie/Human%20Toxicity,%20Environmental%20Impact%20and%20Legal%20Implications%20of%20Water%20Fluoridation%20February%202012%20EnviroManagement%20Services.pdf> or for a summary of the report: [http://www.enviro.ie/Summary Report Fluoridation.pdf](http://www.enviro.ie/Summary%20Report%20Fluoridation.pdf)

Fluoridation is Unproven, Unnecessary and Unethical

City of Windsor Fluoridation Meeting, January 28, 2013

Appendices A-D

Appendix A

Dorval PQ – not a scientific study, not evidence of water fluoridation's effectiveness.

Local fluoridation promoters claimed that when fluoridation ends, decay rates double, citing Dorval PQ as the evidence. This claim is false and misleading.

The Dorval observation cannot be called a study - it has never been peer-reviewed or published - and it never will be because it lacks the conditions that make it a proper scientific study.

The observation was conducted by Dr. Michel Levy DDS, working for the Institut National de la Sante Publique du Quebec - Quebec Public Health (already a biased start as this is a fluoridation endorsing office)

The observation was done in 2003, 2004 and 2005. 120 kindergarten children (5 & 6 years old in PQ) were looked at. The evaluation of dental caries was done by dental hygienists, who are not qualified to do this; diagnosis of dental caries is a dentist's purview (this puts the quality of diagnosis into question as well as the objectivity of hygienists who are also trained to support fluoridation)

The number of children is not very high and there was no evaluation of confounding factors (social stature, diets etc were not taken into consideration) so determining any changes were based on lack of fluoride is a huge stretch and why this is not likely to ever be submitted for peer-review.

Probably the most telling of the value of this 'study' is that they did not evaluate the average incidence of dental decay nor did the findings claim that the average incidence had increased - only that there was an increase in the number of children having severe cavities.

In 2003 (when fluoridation was stopped in July that year) 8% of the children had severe cavities, in 2004 10% of them did, in 2005 16% of them did (which means 84% did not)

Other factors not considered in the observation: Dorval had a big increase of immigrants during these years and two major employers restructured (Air Canada and Bombardier) meaning increased (oxidative) stress, loss of incomes (poor nutrition?) and loss of dental benefits.

Fluoridation proponents and Dr. Levy claim that fluoridation is effective systemically (swallowing) by making dental enamel much more resistant to decay as fluoride concentration in enamel increases. The first group of children were exposed to fluoride from fluoridation from birth to age 5 so why did 8% of them already have severe dental decay - in the first year of the observation when fluoridation wasn't stopped until the middle of that year? The next group was exposed to fluoridation from birth to age 4 and the final group had been exposed to fluoridation from birth to age 3.

Why did the supposed preventive effects of fluoridation disappear after two years of cessation? Were these children still using fluoridated toothpaste? Did the observers evaluate the fluoride concentration in the enamel of these children?

What this observation demonstrates is that children that have been exposed to fluoride for 5 years are still highly susceptible to severe dental decay. Artificial water fluoridation proponents claim lifetime protection if fluoride is ingested during the tooth forming years. This claim is shown as false by this observation and by many parents in fluoridating communities whose children have cavities.

According to one expert this observation can be described as: pretend, unpublished, uncontrolled, not peer reviewed using non-valid criteria: the incidence of severe decayed kids instead of average dental decay incidence.

Considering the availability of PEER REVIEWED PUBLISHED fluoridation cessation literature, why are local public and dental health authorities presenting this non-scientific observation as their evidence?

Could it be that these authorities are not permitted to voice personal opinions or opposing views (even opposing science?) on fluoridation?

"Health unit staff and officials need to be aware of the key messages and in support of the public health view of fluoridation. There is no place for personal views on fluoridation." Peter Cooney, page five of the Association of Local Public Health Agencies Drinking Water Fluoridation meeting February 10, 2011 "Messaging and Communications Strategies"

Dr. Frank Stechey of the Royal College of Dental Surgeons of Ontario when asked by a Thunder Bay council member on July 20, 2009 stated that a dentist would be at risk of losing their license if he/she spoke publicly against water fluoridation. This can be heard here:
<http://www.youtube.com/watch?v=iUwFFCn8pBM&feature=plcp&context=C364de01UDOEgsToPDskJyL0dFxK P2bZH-FQBe1-3N>

Appendix B

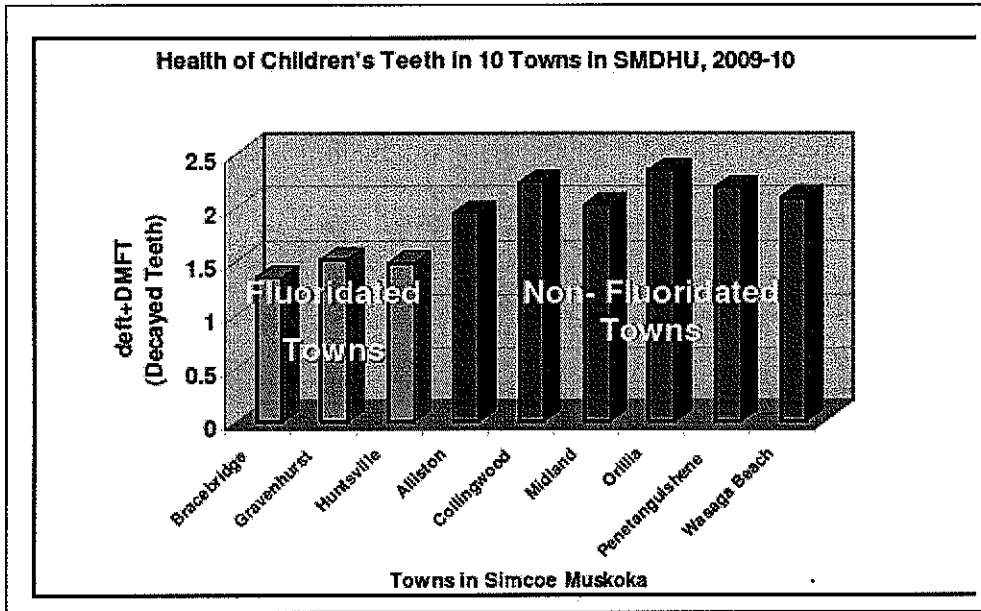
Fluoridation is Unnecessary – no significant benefit

Local fluoridation promoters have claimed that data from the Simcoe Muskoka and Grey Bruce regions proves the effectiveness of water fluoridation. A local dentist told the Windsor Utilities Commission that these statistics were peer-reviewed. That is not the case; these statistics are made available in public health reports and were compiled by fluoridation promoting agencies. They have not undergone the scrutiny of peer-review. However, looking at this data we can easily see that fluoridation is UNNECESSARY as there is no significant benefit to forcing the population to swallow silicofluorides every day of their lives.

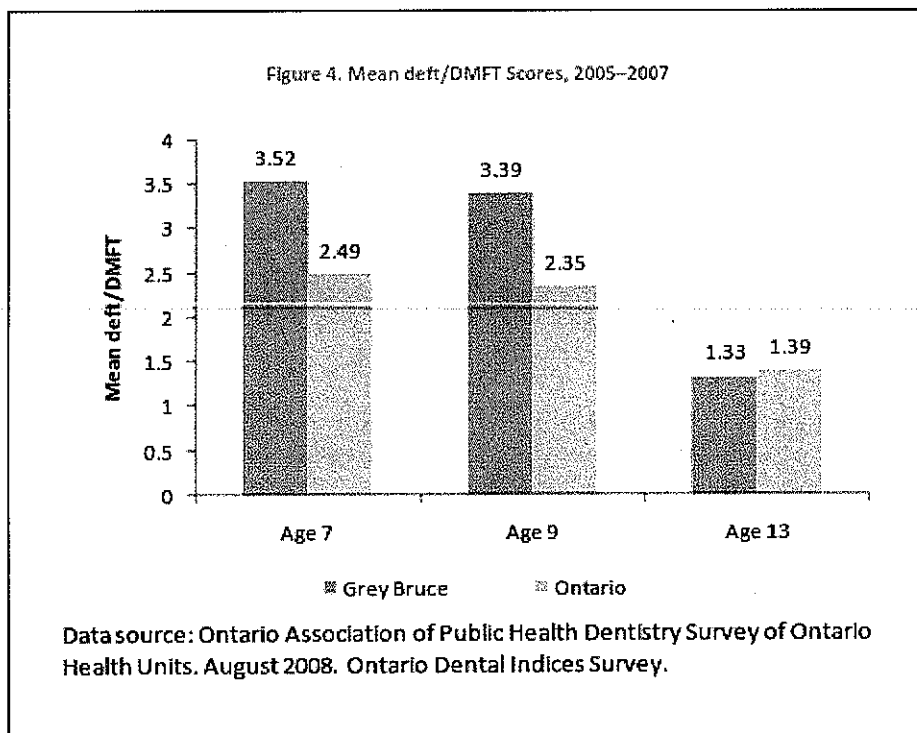
At the time of the special WUC fluoridation meeting (Feb 2012), the community of Orillia was being lobbied to start fluoridation. Fluoridation promoters told WUC board members that Orillia had far worse dental decay than the fluoridating parts of the area.

The graph below is from this region's public health agency and clearly demonstrates that the non-fluoridated communities have LESS THAN ONE CAVITY more than the compared fluoridating communities.

Orillia citizens and council were not impressed and not convinced that the risk of ingesting a hazardous waste grade fluoridation chemical was worth it. The council, in July of 2012, voted to reject fluoridation.



This graph is from the Grey Bruce public health agency. With only 7% fluoridation, promoters were attempting to demonstrate that fluoridation was necessary. The difference is about ONE cavity and by age 13 there is practically no difference at all with the non-fluoridated group having less decay than the Ontario average.



Appendix C

What is Dissociation and Hydrolyzing?

SEE: Westendorf, The Kinetics of Acetylcholinesterase Inhibition and the Influence of Fluoride and Fluoride Complexes on the Permeability of Erythrocyte Membranes, 1975.

Some things of particular interest: "The experiments showed that several fluoride complexes, of which the hexafluorosilicate and the cryolites are found in nature, do not fully hydrolyze under "quasiphysiological" conditions. When these compounds are ingested as part of the nutrition, one must expect the appearance of such partially hydrolyzed "intermediate complexes" in the body, (assuming re-absorption). These complexes are most likely to appear when resorption occurs in the acidic medium of the stomach, in which case hydrolysis only begins in the blood. If the complexes first reach lower sections of the intestines they will be more extensively dissociated because of the alkaline medium that prevails there. It will be possible to follow the resorption of these compounds with the help of the isotopes ^{18}F and ^{31}Si ." **pg. 45**

"The effect of fluoride on the cholinesterases can therefore be increased when fluoride is used in a Si complex (e.g. as MgSiF_6) instead of in ionized form (e.g. as NaF). The $[\text{SiF}_6]^{2-}$ ion is particularly effective when it is not hydrolyzed until it reaches the place where it acts, since apparently reactive intermediate products form that can cause a competitive inhibition of the AChE. This can be the case when the substance was previously absorbed in the stomach, where hydrolysis does not take place because of the acidic medium that is predominant there. But the fact that the remaining fluoride complexes do not display such an effect does not mean that they are of no biological importance. Especially in the case of AlF_6^{3-} , which is widespread in nature, comprehensive studies of its effects on many possible biological processes should be carried out. This would probably contribute to an understanding that the role of fluoride in the nature of organic life is not limited to just the effectiveness of free fluoride ions. " **pg. 58-59**

... it's pretty complicated stuff.

To the layperson, it can be communicated as follows:

Water fluoridation science is predicated upon great hope and belief that silicofluorides/fluorosilicates fully hydrolyze (dissociate) upon contact with water.

Hydrolyze basically means to cause a substance to split into component parts by the addition of water, or when adding it to water.

Dissociation is a general process in which ionic compounds (complexes, or salts) separate or split into smaller particles, ions, or radicals, usually in a reversible manner.

Both the hydrolyze and dissociation arguments are used by fluoridation promoters to try and dispel some very real concerns about using unnatural, anthropogenic (human-made) environmental pollutants as fluoridation chemicals, such as hydrofluorosilicic acid (HFSA), or dry-powder sodium silicofluoride. Both hydrofluorosilicic acid (HFSA) and sodium silicofluoride contain silicofluorides/fluorosilicates.

Artificial water fluoridation initially 'studied' and pointed to the benefits of naturally occurring fluoride (such as calcium fluoride). All the proffered science, and promotion, heralded and pointed to naturally

occurring fluoride as safe and effective. However, we never fluoridated municipal water by adding calcium fluoride. Moreover, naturally occurring calcium fluoride is scientifically known to be some 20 to 25 times less toxic than is silicofluoride (as derived from early animal testing research¹). This fact poses a real concern/dilemma for staunch promoters of water fluoridation practice. (Ref. ¹Waldbott, "Fluoridation: The Great Dilemma," Table 7-1, Coronado Press, Inc., 1978)

To cut through this very real dilemma, fluoridation promoters needed to rely heavily upon scientific belief in full dissociation, and pay little or no attention to partial dissociation, or worse, re-association of fluoride ions. Dissociated fluoride ions are considered equal (in toxicity), while un-dissociated fluorides are not. Moreover, calcium fluoride is about 80% excreted through our bowels, while hydrofluorosilicic acid's silicofluoride/fluorosilicate is only about 50% excreted through our kidneys. Basically, our bodies seem to handle calcium fluoride better than silicofluoride/fluorosilicate, so how do fluoridation promoters deal with that.

If all fluoride salts such as calcium fluoride (a naturally occurring ground water fluoride), sodium fluoride (abundant in the seas and oceans), or silicofluoride/fluorosilicate can be shown to behave the same way when added to water (i.e. completely dissociate into fluoride ions plus whatever they were attached to, and the other co-contaminants hydrolyze, then whether or not fluoride is man-made, or naturally occurring, matters little... or so the story goes.

However, science shows that not all fluoride ions immediately dissociate upon contact with water, and even if they did they can re-associate just as quickly; it really depends on the pH of the water (relative acidity or alkalinity) and water temperature (catalyst).

Prevalent dissociation seems to occur with bench tests utilizing a controlled environment of standard water (i.e. distilled water at ## °C room temperature). But, municipal water supplies are not at all like such distilled water, with water pH, water temperature, impurities et al. varying all the time. Moreover, silicofluorides which may have dissociated in drinking water seem to re-associate within the relative acid solution of the stomach/gut (or even when reconstituting such things as frozen orange juice concentrate with fluoridated tap water). **Therefore, past the lips and over the gums, look out stomach here it comes - becomes an even bigger issue... due to potential for re-association and subsequent heightened toxicity at splash-down.**

Admitting such oversights would mean having to admit further failure in adopting a one fluoride one concentration fits all policy. Rather than confront the problem with scientific rigour, fluoridation promoters simply don't admit such problems exist. Some water treatment handlers and some water scientists get it, but promoters of fluoridation want to ignore it.

It is important to know that most if not all Ontario (Canada) municipal drinking water treatment plants only test for dissociated fluoride ions; and the anon equipment used to discern fluoride concentration can only detect fluoride ions. Dual column chromatography equipment is not routinely used in Ontario municipal water testing, but it can detect full fluoride content in drinking water. Presently, mere assumption is being made that fluoride ion detection is the full fluoride concentration in water because all fluoride surely must fully and immediately dissociate upon contact with water. Even Ontario learning/research institutions and labs seem unknowledgeable about why water test results read; arsenic -full, lead - full, mercury - full, while fluoride measure remains silent on if it is full or not. When challenged, technicians and water handlers soon come to realize that it is because fluoride dissociated ions are assumed to represent the full concentration of fluoride in the water, but that is not necessarily the case. If you don't look, you don't find... and that seems to be what the powers that be wish to hold onto when it comes to the practice of artificial water fluoridation.

Appendix D

York Review Findings Misrepresented by Fluoridation Promoters

Chewing over the facts about fluoride and our dental health

Published on Wednesday 26 July 2006 03:40

From: Professor Trevor Sheldon, Department of Health Studies, Innovation Centre, York Science Park, University Road, York.

In my capacity as chair of the Advisory Group for the systematic review on the effects of water fluoridation recently conducted, I am concerned that the results of the review have been widely misrepresented (*Yorkshire Post*, July 22).

The review was exceptional in this field in that it was conducted by an independent group to the highest international scientific standards, and a summary has been published in the *British Medical Journal*.

It is particularly worrying then that statements which mislead the public about the review's findings have been made in press releases and briefings by the British Dental Association, the British Medical Association, the National Alliance for Equity in Dental Health and the British Fluoridation Society. I should like to correct some of these errors.

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

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

3. The review did not show water fluoridation to be safe. The quality of the research was too poor to establish with confidence whether or not there are potentially important adverse effects in addition to the high levels of fluorosis. The report recommended that more research was needed.

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

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

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

7. The review team was surprised that in spite of the large number of studies carried out over several decades, there is a dearth of reliable evidence with which to inform policy.

Until high-quality studies are undertaken providing more definite evidence, there will continue to be legitimate scientific controversy over the likely effects and costs of water fluoridation.