

Appendix A: Errors and Omission in Statements by Dr. Peter Cooney, Chief Dental Officer, Health Canada

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Introduction

Canadian Dental Association Code of Ethics:

http://www.cda-adc.ca/en/cda/about_cda/code_of_ethics/index.asp

- “Dentists shall not represent their education, qualifications or competence in any way that would be false or misleading.”

Because ingesting fluoride potentially impacts all organs and tissues in the body, dentists have no expertise, by training, in any health concerns outside of the oral cavity.

Anyone has the right to air an opinion, as all citizens of Canada are afforded.

What the citizens of Canada wish to know is whether conclusions are based on factual evidence. Anyone who identifies him/herself as a dental professional implies that he/she is an expert by virtue of training, license and occupation on dental matters. Such expertise brings with it the obligation to be objective, balanced and thorough in imparting information and providing professional opinions on dental health matters. We believe recent public comments made by Dr. Cooney show that he has not met this obligation.

Following are statements made by Dr. Cooney in petition responses, before Red Lake council, Thunder Bay council, Dryden council, Hamilton council, Halton council and in the news media in Alberta. Also included is commentary from Dr. Cooney's website for the Chief Dental Officer for Health Canada.

Petition Responses from Health Canada

The Auditor General of Canada Petitions office is aware of multiple statements made by Dr. Cooney which are of concern to taxpayers.

“Health Canada endorses the fluoridation of drinking water to prevent tooth decay, but does not participate in the decision to fluoridate a water supply.” Source: Health Canada response to Petition 221B, Question #3, April 7 2008.

In response to this question a second time Health Canada states: "Health Canada is frequently invited to make presentations on various issues." (June 23, 2009)

As but one of many examples contradicting the above, Dr. Peter Cooney, DDS, Chief Dental Officer for Health Canada has made multiple presentations to Thunder Bay city council promoting the addition of a drug (hydrofluorosilicic acid) to its municipal drinking water, purportedly to improve the dental health of its population. Dr. Cooney also requested a meeting with every Thunder Bay city councillor. This request was uninvited and very inappropriate, according to some city councillors. He was present at multiple meetings with the Board of Health Committee. He also has appeared on radio and TV and writes letters to local media. Dr. Cooney has also made multiple presentations to citizens groups in Thunder Bay.

Mayors and chairs of council committees typically do not vote on motions before them. They do, however, participate actively as leaders in the agenda-setting and decision-making process, be it in public view or behind the scenes. Dr. Cooney's participation, as demonstrated in Thunder Bay, is no less active and at least as extensive. This high, even excessive, level of intervention in matters of municipal jurisdiction by a senior federal official is both unprecedented and contrary to the principles of probity and prudence.

This concerted and sustained activity by a senior federal official has the hallmarks of advertising rather than advising provincial or municipal officials on a policy matter which clearly is within provincial jurisdiction constitutionally. His proactive and repeated attempts to influence elected municipal officials is creating the appearance that Health Canada is clearly participating in the decision to artificially fluoridate drinking water in municipalities across Canada. He is engaging in public advocacy on a very controversial subject, something which is normally a role reserved for his Minister to play.

Health Canada recently admitted (June 23, 2009) that the following statement is false. As illustrated below, this study demonstrates the opposite to what Health Canada claims. Furthermore, Health Canada has failed to provide any research evidence to validate this statement.

"all evidence suggests that there has been an overall decreasing trend of moderate dental fluorosis in Canada since 1996. This is based on a review of Canadian data conducted by Clark et al 2006." Source: response by Health Canada to Petition #221, question #4, Nov 19, 2007.

Firstly, the underlined phrases above are either too sweeping or incomplete with

the combined effect of distorting the facts. Dr. Cooney fails to cite specific studies that would either support or refute his claim of "all evidence" and "overall decreasing". He excludes the other two stages of dental fluorosis, mild and severe, which were included in the Clark study.

Secondly, the the Clark et al 2006 study which examined the effects of discontinuing fluoridated drinking water in three communities in British Columbia; Courtenay, Comox and Campbell River, found a significant decrease in both the frequency (less than half the incidence rate with fluoridation) and severity of dental fluorosis after the cessation of fluoridated drinking water. This before-and-after evidence supports the exact opposite to what Dr. Cooney is advocating.

To be specific, per *Clark DC, Shulman JD, Maupome G, Levy SM. 2006 Changes in Dental Fluorosis Following Cessation of Water Fluoridation. Community of Dental and Oral Epidemiology Jun;34(3):197-204:*

- "As anticipated, TFI [ThylstrupFejerskov Index of dental fluorosis] scores decreased following fluoridation cessation. The percentage of children with dental fluorosis dropped from 58% to 24%. The distribution of TFI scores also suggested that the severity of existing fluorosis also decreased."
- "Despite the reported high use of supplements, there were no significant differences in maximum TFI [dental fluorosis] scores between children exposed to fluoride supplements and those not exposed."

It is also relevant to note that fluoride supplements had "no significant" impact on the rate or severity of dental fluorosis. Artificial water fluoridation was the most significant cause of dental fluorosis rates and severity, "as anticipated".

The foregoing is an example of a pattern of errors and omissions made by Dr. Cooney in his public statements on fluoridation and dental health. His ongoing repetition of these errors creates a false and misleading depiction of this issue which, in turn, is contrary to his profession's code of ethics and calls into question his personal integrity.

Before Red Lake Council January 13, 2004

The Corporation of the Municipality of Red Lake, Minutes of a Regular Council Meeting Held on 13 January 2004, In the Council Chambers, at 6:00pm.

http://www.red-lake.com/site/council_minutes.php

According to the minutes of the Council meeting, Dr. Cooney stated that Fluorosis is not caused by Water Fluoridation.

This statement is patently false.

In addition to the evidence produced by Clark et al 2006 above, it should be noted that "Clearly the simplest way of reducing the prevalence of fluorosis in child populations is to cease to fluoridate community water supplies." *Millership affidavit, Exhibit 15, pg.151, by Michelle Giddings Manager of the Water Quality and Science Division in the Water Quality and Health Bureau, Healthy Environments & Consumer Safety Branch, Health Canada, Health Canada's Secretariat for the Federal/Provincial/Territorial committee on Drinking Water, Co-ordinator of the Disinfectants and Disinfection By-products Working Group for the World Health Organization's Guidelines for Drinking Water Quality, ODWAC – Ontario Advisory Council on Drinking Water Quality and Testing Standards*

Response to Petition 221B #12 dated April 7, 2008: "It is expected for dental fluorosis rates to drop if fluoridation is discontinued"

Fluoride over-exposure causes fluorosis. Water fluoridation is the single largest source of ingested fluorides according to all authoritative sources (US CDC, WHO, NRC 2006 Review).

"Water and processed beverages (e.g., soft drinks and fruit juices) can provide approximately 75% of a person's fluoride intake" *US Centers for Disease Control – Enamel Fluorosis*

http://www.cdc.gov/FLUORIDATION/safety/enamel_fluorosis.htm

"The major dietary source of fluoride for most people in the United States is fluoridated municipal (community) drinking water, including water consumed directly, food and beverages prepared at home or in restaurants from municipal drinking water, and commercial beverages and processed foods originating from fluoridated municipalities." *p24, NRC 2006*

Water fluoridation is the single largest source of ingested fluorides therefore is clearly the single largest cause of fluorosis disease.

"The Red Lake CAO asked if fluoride dissipates as chlorine does, adding that water must now be re-chlorinated when it gets to Balmertown through the feeds. Dr. Cooney stated that fluoride is a passive element, and is naturally found in water. He stated that it would not break down in the same manner as chloride."

This statement is wrong and misleading by omission of material fact.

The fluoride ion is very active biologically. It forms complexes with many positive ions including essential nutrients like calcium and magnesium, potentially interfering with their important functions. Fluoride can help facilitate the uptake of aluminum and lead into tissues where these metals would not otherwise go

(Gilman 1987, Wittinghofer 1997, Mahaffey 1976; Allain 1996; Varner 1998, Li 2003, Sternweiss 1982, NRC 2006). Fluorine interferes with hydrogen bonding (Emsley 1981, NRC 2006) and interferes with more than 100 enzymes (see WHO website).

Second, to state that Fluoride is "natural" is a half-truth that hides more than it reveals. Fluorosilicates (e.g. Hydrofluorosilicic acid, Sodium Silicofluoride), are the chemicals used in artificial water fluoridation. They are "man-made" hazardous waste" and "toxic substances" as defined by CEPA, scrubbed from the smoke stacks of the phosphate mining industry in the USA and China. The "natural" form of fluoride found in drinking water is called calcium fluoride.

A comparison of lethal doses of fluorides in guinea pigs demonstrates that hydrofluorosilicic acid is 20 times more toxic than calcium fluoride.

Source: Simonin et al., "Toxicite brute des derives fluores," C.R. Seances Soc. Biol. Fil., 124:133-134 (1937); Waldbott, "Fluoridation: The Great Dilemma," Table 7-1, Coronado Press, Inc., 1978.

Hydrofluorosilicic acid 200 mg/kg
Sodium fluorosilicate 250 mg/kg
Sodium fluoride 250 mg/kg
Calcium fluoride 5,000 mg/kg

The research as reviewed in the NRC 2006 Review has not demonstrated that fluorosilicates completely dissociate into fluoride, silicon and hydrogen. The research also demonstrates that it is possible and probable that fluoride and silicon may recombine in acidic environments such as the gut and beverages with low pH such as fruit beverages, coffee, tea, etc.

It is evident from the foregoing that Dr. Cooney is commenting on something (basic chemistry) that is outside his realm of professional competency as a dentist. In doing so he is misinforming the public and misleading elected officials charged with public health responsibilities. Moreover, his intent seems to be to convey the impression that fluoride is harmless and safe. As will be seen immediately below, nothing could be further from the truth.

The National Association of Pharmacy Regulatory Authorities (www.napra.org) states that "fluoride and its salts" are considered a drug:

- Schedule I drug at doses greater than 1 mg requires a prescription.
- Schedule III drug at doses at or less than 1 mg per dose can only be bought at pharmacies.

"Fluoride and its salts" is put on the "high risk" carcinogen list. (California Environmental Protection Agency - OEHHA)
http://www.oehha.ca.gov/prop65/CRNR_notices/state_listing/prioritization_notices/1204priornote.html]

Available evidence for "Fluoride and its salts" satisfies the 2005 US EPA guidelines as a "possible Human Carcinogen". As such, the Maximum Contaminant Level Goal should be zero. <http://cfpub.epa.gov/ncea/cfm/recorddisplay.cfm?deid=116283>

"The Food and Drug Administration Office of Prescription Drug Compliance has confirmed, to my surprise, that there are no studies to demonstrate either the safety or effectiveness of these drugs which FDA classifies as unapproved new drugs." *SOURCE: Letter from Dr. David Kessler, M.D., Commissioner, United States Food and Drug Administration, June 3, 1993 to Congressman Kenneth Calvert, Chairman, Subcommittee on Energy and Environment, Committee on Science, Washington, D.C.*

"Fluoride, when used in the diagnosis, cure, mitigation, treatment, or prevention of disease in man or animal, is a drug that is subject to Food and Drug Administration (FDA) regulation." *SOURCE: United States Food and Drug Administration letter Dec, 2000, to Congressman Kenneth Calvert, Chairman, Subcommittee on Energy and Environment, Committee on Science, Washington, D.C.*

Canada's Food and Drug Act, section 14 (1):defines "drug" as: "...includes any substances manufactured, sold or represented for use in: (a) the diagnosis, treatment, mitigation or prevention of a disease, disorder or abnormal physical state, or its symptoms in human beings or animals, or (b) restoring, correcting, or modifying organic function in human beings or animals,"

Chairman of the York Review 2000: "If fluoride is a medicine, evidence on its effects should be subject to the standards of proof expected of drugs, including evidence from randomised trials." & "There have been no randomised trials of water fluoridation." *Cheng KK, Chalmer I, Sheldon TA 2007 British Medical Journal October 6, 335: 699-702.*

European Court Justice ruling (Warenvertirebs-Orthica vs Germany)

Under a new European Court Justice Union ruling, fluoridated water, as a "functional drink" with pharmaceutical properties, must be regulated as a drug. It may not be used in the preparation of any food or beverage, nor may such food or beverages made with fluoridated water be exported to the European Union until it undergoes proper pharmaceutical scrutiny and is regulated as a medicinal

product in the European Union.

There are 4 criteria for toxic substance designation:

1. persistence [ability to be destroyed]
2. bioaccumulation [accumulation in biological systems]
3. toxicity [dangerous immediate or long-term health effects]
4. predominantly anthropogenic [used or released as a result of human activity]

"Fluoride is a persistent bioaccumulator, and is entering into human food-and-beverage chains in increasing amounts." *Canadian National Research Council 1977 Environmental Fluoride*

"Fluorine cannot be destroyed in the environment; it can only change its form" *ATSDR 2003 Public Health Statement: Fluoride p2.*

Fluoride is a persistent bioaccumulator in our bodies and in our environment. Chlorine breaks down into all kinds of undesirable by-products during storage and transit, like; Trihalomethanes, Haloacetic acids, Halogenated acetonitriles, etc. Chlorine per se has a limited life time, so enough chlorine or chloramine [chlorine combined with ammonia] must be added to our drinking water to survive storage and transport. Hydrofluorosilicic acid also changes form during transit and storage, depending on pH, water hardness, temperature, etc.

Evidence suggests that fluoride is more persistent than chlorine; e.g. chlorine dissipates when boiled in water. Fluoride does not.

"The [fluoride] levels were higher after boiling." *SOURCE: [Grimaldo M, Borja-Aburto VH, Ramirez AL, Ponce M, Rosas M, Diaz-Barriga F. Endemic fluorosis in San Luis Potosi, Mexico. I. Identification of risk factors associated with human exposure to fluoride. Environment Research. 1995 Jan; 68\(1\):25-30.](#)*

"While chlorine is evaporated in the process of boiling water, this does not happen with fluoride, and the concentration can become dangerously high in long periods of cooking." *SOURCE: McLellan H. Fluoridation. Consumer Health Group [under Reviews]*
<http://www.consumerhealth.org/articles/display.cfm?ID=19990817225011>
<http://www.consumerhealth.org/aboutus/index.html>

Boiling of the drinking water (1 ppm F) in an aluminum pot increased the water Al content from 0.03 ppm to 0.20 ppm, and a concomitant increase of complexed F from non-detectable to 50%. *SOURCE: Brudevold F, Moreno E,*

Bakhos Y. Fluoride complexes in drinking water. Arch Oral Biol 1972;17:1155-1163.

In sum, the foregoing demonstrates that the fluoride issue is complex and multidisciplinary in nature. It is not simply a dental health problem. As such, for Health Canada, it would seem to be more appropriate to assign the lead on this policy file to its Chief Public Health Officer. And, it would be imperative that Health Canada work closely with Environment Canada to put in place a truly comprehensive, objective and science-based federal position that is also informed by best practices in Canada and elsewhere.

Before Thunder Bay Regional Council December 3 2007

To Thunder Bay City Council Committee of the Whole, in response to a question from Councillor Larry Hebert regarding British Columbia and their lack of water fluoridation (less than 4%), Dr. Cooney replied: (Audio-Visual tape is available)

“In for example, British Columbia you tend to have a lot of what we call tree-huggers or environmentalist folks. They tend to feel that they are not comfortable with fluoride in the water.”

This remark is derogatory, derisive, and unprofessional. Furthermore, it does not address the Councillor’s question in a substantive way nor does it offer a statement of fact. Rather it is a statement of personal opinion which shows a decidedly anti-environment bias.

For the record, many of the coastal communities in British Columbia including Vancouver and Victoria are located on waterways that serve as spawning routes and grounds for Pacific salmon. As noted by Dr. Richard G Foulkes and Anne C Anderson:

“a review of literature and documentation suggests that concentrations of fluoride above 0.2 mg/L have lethal (LC₅₀) effects on and inhibit migration of "endangered" salmon species whose stocks are now in serious decline in the US Northwest and British Columbia. Fluoride added to drinking water, "to improve dental health", enters the fresh water eco-system, in various ways, at levels above 0.2 mg/L. This factor, if considered in "critical habitat" decisions, should lead to the development of a strategy calling for a ban on fluoridation and rapid sunseting of the practice of disposal of industrial fluoride waste into fresh water.” Source: Foulkes et al 1994, Impact of Artificial Fluoridation On Salmon Species in the Northwest USA and British Columbia, Canada.

At stake was the survival of the salmon species and the lucrative B.C. fishing industry that depended on their survival and sustainability. This ecosystem health impact is one of the reasons why these communities have either discontinued fluoridation or refused to adopt fluoridation. While we do not expect dentists to be experts of this discipline, we do expect senior government officials to be able to integrate them into their thinking and policy advice. Dr. Cooney seems to be unwilling or unable to do so.

Is it official Health Canada policy to address those who have environmental concerns as "tree-huggers"? And is it acceptable to Health Canada that one of its senior officials fosters this "we-versus-them" schism among Canadians? Would Minister Aglukkaq support and defend such behaviour by a senior official of Health Canada?

Before Dryden citizens April 1, 2008

"I have walked down your high street and I didn't see anybody growing horns – yet you have been fluoridated for over 40 years."

This comment is facetious rather than professional and it does not project a serious effort to discuss the issue of artificial water fluoridation based on scientific evidence. Fluorosis Diseases have never been known to cause the growing of horns. This comment is both intemperate and inconsiderate of those who suffer fluorosis disease.

Please note that the citizens of Dryden voted 87% opposed to water fluoridation despite considerable effort by Dr. Cooney to advocate the reinstatement of water fluoridation.

Before Hamilton Regional Council July 9, 2008

Health Canada presentation to the Hamilton Board of Health on July 9, 2008 stated:

"Some communities have enough natural fluoride to protect teeth from cavities" (Stratford, Ontario)

This statement is false and misleading by omission of material fact.

This presentation ignores the fact that:

- Stratford exceeds Health Canada's MAC Safety Guidelines for natural fluoride concentrations (MAC = 1.5mg/L) - 2006 Stratford water results are 1.4-2.1mg/L;

- Stratford Hospital advises parents of newborns not to use this municipal water because of high risk to teeth, bones, endocrine systems and brain; and,
- Dr. Cooney provides no scientific evidence that this natural fluoride level in Stratford is protecting teeth from cavities.

Dr. Cooney and others in the Public Health field continue to state that fluoridated water, be it natural or artificial, prevents cavities when their own research demonstrates that it does not prevent cavities. Three recent examples are provided:

Azarpazhooh A, Stewart H. Oral Health Consequences of the Cessation of Water Fluoridation in Toronto 2006 August.

- The above meta-analysis, co-authored by the Chief Dental Officer for Toronto, Dr. Hazel Stewart, demonstrates that cavity rates remained the same or continued to decline in communities which discontinued artificial water fluoridation.

Ito D, 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.

- “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.”

Maupome G, Clark DC, Levy SM, Berkowitz. Patterns of dental caries following the cessation of water fluoridation. *Community Dent Oral Epidemiology* 2001; 29:37-47.

- “The prevalence of caries (assessed in 5,927 children, grades 2, 3, 8, 9) decreased over time in the fluoridation-ended community while remaining unchanged in the fluoridated community.” (British Columbia)

These recent research findings from members of the Canadian Public Health Service, demonstrate that artificial water fluoridation is not effective and therefore constitutes a practice that is significant waste of taxpayers' money. Even though only a minority of Canada's population is consuming fluoridated water, the question remains why is Health Canada's Dr. Cooney continuing to advocate this questionable and controversial policy?

Guest Commentary by Peter Cooney August 2008

<http://www.carstairsCourier.ca/guest1.html>

Dr. Cooney is quoted as saying: “The big advantage of water

fluoridation is that it benefits all residents in a community, regardless of age, socioeconomic status, education, or employment.”

The Dental Code of Ethics makes it clear that dentists do not have authority to give advice outside of the field of the oral cavity.

The evidence of health harm to susceptible populations is fully elucidated in the US NRC 2006 review, Canada NRC 1977 Review, Quebec MOE Review and Ontario MOH Review, at concentrations that are currently used in Canada today.

"In hypersensitive individuals, fluorides occasionally cause skin eruptions such as atopic dermatitis, eczema or urticaria. Gastric distress, headache and weakness have also been reported. These hypersensitivity reactions usually disappear promptly after discontinuation of the fluoride."

Source: PHYSICIANS' DESK REFERENCE, 1994, 48th Edition, p. 2335-6.

Pre-borns, babies, children less than 12 years old, teenage males, adults whose work entails outdoor activities in hot conditions (e.g., athletes, police, firefighters, military personnel, construction workers, etc.), people with diabetes, compromised kidneys, liver, thyroid or pineal glands, arthritis, osteoporosis, are all at higher risks to adverse health problems as a result of drinking more fluoridated water per kilogram of body weight than normal. They ingest higher yet uncontrolled dosages of fluoride which can impair the general health of their bones or vital organs.

Clearly these sub-groups are not benefitting from fluoridated drinking water but are potentially harmed by the consumption of artificially fluoridated drinking water. Moreover, most of them have not given their prior, informed consent to being overdosed with fluoride which is a major medical ethics issue. And none of them could learn of these adverse health implications from Dr. Cooney's presentations or web site. Yet Dr. Cooney as the Chief Dental Officer has a duty of care obligation to meet in his current role. Is he doing so?

Canada census data would enable one to size each of these sub-populations. Web sites for associations concerned with those living with diabetes, kidney diseases, hypothyroidism, arthritis, liver disease, cancers, and osteoporosis indicate that a total of about 15.5 million Canadians are affected by these health problems. With some 40 per cent of Canadians ingesting fluoridated water, this gives a first order estimate of the number of Canadians who are or will not benefit by drinking fluoridated municipal water, namely 6.2 million of us. While these health conditions are beyond a dentist's realm of expertise, they are fully within the realm of Health Canada's public health policy interests. Equally, Health Canada should be able to estimate the annual costs to Canada's healthcare system and its

economy (including lost time from work, earlier and more intensive institutionalization of senior citizens, etc,) Suffice to say such costs could be staggering and range in the tens of billions per year.

In dental health, the incidence of dental fluorosis in fluoridated communities rises, as has been seen in Oakville where 48% of 13 year olds in Oakville have dental fluorosis and in Halton where 10-11% of 13 year olds in Halton have moderate fluorosis. The various treatments for dental fluorosis are typically not covered under private sector dental insurance plans while treatment for dental cavities is covered by dental insurance. This implies that while most (about 80% of Ontarians) receive dental care for cavities, most Ontarians would not receive dental care for the repair of dental fluorosis.

Before Halton Regional Council November 13 2008

Dr. Cooney stated that: “hydrofluorosilicic acid is not a toxic substance.”

This statement is a blatant error and is a first order falsehood.

The chemical formulae for the two silicofluorides used in water fluoridation are H_2SiF_6 and Na_2SiF_6 . These are inorganic fluorides.

Auditor General Petition #243, Response #5 by Health Canada: “Inorganic fluorides are "toxic" to the environment as defined under CEPA”

The [Basel Convention](#), [Environment Canada](#) and [United States Environmental Protection Agency \(US EPA\)](#) all state that the chemicals used in artificial water fluoridation are hazardous waste which may not be put directly into lakes, rivers & oceans.

Artificial water fluoridation chemicals contain between 20 to 30% hydrofluorosilicic acid (inorganic fluoride), trace amounts of arsenic, lead, mercury, radionuclides and other heavy metals (American Water Works Association ([AWWA Standard B703-06](#)), all considered to be toxic substances under the [Comprehensive Environmental Response, Compensation, and Liability Act \(CERCLA\) Priority List of Hazardous Substances in USA, 1989 First Priority Substances lists in Canada](#) and proposed for “virtual elimination” under the Canadian Environmental Protection Act ([CEPA 1999, 2006 update](#)), the [1997 Binational Toxic Strategy](#) and the [1978 Great Lakes Water Quality Agreement](#).

- We ingest less than 1 per cent of fluoridated drinking water but about 50% of it remains in our teeth, other bones and vital organs.

- Over 99 per cent of fluoridated water goes back directly into source waters or into sewage treatment plants which cannot filter fluoride.

Dr. Cooney is clearly wrong about the toxicity of fluoride. In fact, it is comparable in chronic toxicity to many other water contaminants, as indicated below. But his ignorance cannot be allowed to excuse his failure to honour his duty of care, especially given the long term nature of the harmful effects of fluoride.

Chronic Toxicity of Fluoride Compared (small, cumulative doses)

| Water Contaminant | Health Effects mg/kg/day | MAC mg/L | Assumed "Safe Dose" for a lifetime mg/kg/day |
|--------------------------|---------------------------------|-----------------|---|
| Antimony (Sb) | 0.35 | 0.006 | 0.0004 |
| Arsenic (As) | 0.014 | 0.010 | 0.0003 |
| Beryllium (Be) | 0.46 | 0.004 | 0.002 |
| Cadmium (Cd) | 0.005 | 0.005 | 0.0005 |
| Fluoride (F-) | 0.03 | 1.5 | 0.105 TDI Health Canada 0.06 RfD USA EPA 0.003 RfD Recommended |
| Mercury (Hg) | N/A water intake | 0.002 | 0.0003 |
| Thallium (Tl) | 0.23 | 0.002 | 0.00008 |

A councillor then asked Dr. Peter Cooney if fluoride helps to prevent periodontal disease. To which he replied:

“Does fluoride help periodontal disease? Probably not.”

This statement is false and misleading by omission of material fact.

Evidence in support of this falsehood is provided by a quote from a US patent which describes the NSAID added to the fluoridated toothpaste to counteract this adverse side-effect of fluoride i.e. Fluoride causes inflammation leading to gingivitis and periodontitis.

“We have found that fluoride, in the concentration range in which it is employed for the prevention of dental caries, stimulates the production of prostaglandins and thereby exacerbates the inflammatory response in gingivitis and periodontitis. The present invention is a method for preventing dental caries by administering a fluoride salt into the oral cavity while at the same time controlling periodontal bone loss by administering, in addition to the fluoride salt, an amount of an NSAID sufficient to inhibit the production of prostaglandins induced by the fluoride.” *Aberg G, Jerussi TP, McCullough JR - "NSAID/fluoride periodontal compositions and methods" US Patent: 5,807,541, granted September 15, 1998*

Dr Cooney also said that: “fluoride comes back into your mouth via the saliva so you get a second bang for the buck.” Dr. Cooney, Halton HSS Nov 13, 2008

This statement is also erroneous and misleading by omission of material fact.

The fluoride concentrations in saliva are much too low to prevent cavities, according to the US Centers for Disease Control:

"The concentration of fluoride in ductal saliva, as it is secreted from salivary glands, is low...approximately 0.016 parts per million in area's where drinking water is fluoridated and 0.006 ppm in non-fluoridated areas. This concentration of fluoride [in saliva] is not likely to affect cariogenic [cavity-fighting] activity." US Centers for Disease Control and Prevention, August 17, 2001. Recommendations for using fluoride to prevent and control dental caries in the United States. Fluoride Recommendations Work group. MMWR 50 (RR14); p7

In response to the question as to why Health Canada keeps adjusting the recommended guidelines downward Dr. Cooney states:

“As there are more sources of fluoride, we adjust the fluoride levels down.”

“There has been a decrease in recent years of total intake of fluoride”

These statements contradict each other. Moreover, Dr. Cooney frames such adjustments as striking a fine balance or optimal level of fluoride can be achieved in drinking water.

The research evidence is clear – fluoride exposures are increasing. That is why the fluoride levels must be adjusted downward. If there is an increase in fluoride exposures, they cannot also be “decreasing”.

Per Warren JJ/ Levy SM, Broffitt B, Cavanaugh JE, Kanellis MJ, Weber-Gasparoni K. Considerations on Optimal Fluoride Intake Using Dental Fluorosis and Dental Caries Outcomes - A Longitudinal Study.J Public Health Dent. 2008 Nov 21. [Epub ahead of print]:

“...this “optimal” fluoride intake level is not based on any direct assessment of how such intake relates to the occurrence, or severity, of dental caries and/or dental fluorosis.”

“The concept of an “optimal” level of fluoride intake originated with the

work of McClure... In that era, most fluoride intake was from naturally fluoridated water (McClure estimated a range of 67-94 percent), with no fluoride dentifrice, supplements, or other fluoride products available (2). Moreover, in that era, it was believed that fluoride needed to be ingested early in life to provide caries prevention."

"...quantifying the intakes of fluoride is much more complex than it was several decades ago. In fact, obtaining data from the Iowa Fluoride Study necessary for estimates of total fluoride intake has been extremely complex. For example, fluoride concentrations varied considerably within the same product category depending on site of manufacture and distribution pattern, and many children utilized multiple sources of water, often varying in fluoride concentration."

"Similarly, the amount and content of dentifrice used and swallowed were difficult to estimate, and use of fluoride supplements was somewhat sporadic among those using them (7,8,11). Thus, it is doubtful that parents or clinicians could adequately track children's fluoride intake and compare it with the recommended level, rendering the concept of an "optimal" or target intake relatively moot."

It should be noted here that Dr. SM Levy was both a collaborating investigator in the Clark et al 2006 study and a member of the Health Canada 2007 Expert Panel that made a number of recommendations that Health Canada has yet to address or action. Presumably this omission rests with Dr. Cooney as well.

Regarding the fluoride levels in the USA - "they are almost 3 times higher than us (Canada)". Dr. Cooney, Halton HSS, Nov 13, 2008

This statement is also inaccurate and misleading.

There are two types of government guidelines:

1. one which sets a maximum acceptable level of fluoride found "**naturally**" in water, and
2. one which directs how much hydrofluorosilicic acid may be put into drinking water - "artificial" water fluoridation.

First Guideline:

4ppm - US EPA guideline for "natural" fluoride

1.5ppm - Health Canada guideline for "natural" fluoride

The above guidelines have absolutely nothing to do with the actual levels of artificial water fluoridation or demonstrated safety to all people, for a lifetime of

ingestion.

Second Guideline:

0.7 - 1.2ppm – US PHS guideline for “artificial” water fluoridation

1.0 - 1.2ppm – Health Canada guideline for “artificial” water fluoridation until 1999

0.8 - 1.0ppm – current Health Canada guideline for “artificial” water fluoridation

0.7ppm is new recommendation announced a few months ago

For the past 60 years the Canadian and USA guidelines for artificial water fluoridation have been virtually identical. Telling council that the USA guidelines are 3 times higher than in Canada is misleading. The guidelines Dr. Cooney is referring to have nothing to do with the subject we are discussing – “artificial” water fluoridation.

Dr. Cooney is mixing apples with oranges. In doing so, he is misleading the public and city councils.

The Chief Dental Officer’s (CDO) Web Site At Health Canada

A review of the CDO web site on oral health also reveals a number of important omissions which if not corrected serve to further distort the basis for formulating public health policy in the dental field as well continuing to misinform the Canadian public and provincial and municipal officials, including their elected politicians.

The CDO section of the Health Canada (HC) web site states: “The U.S. Centers for Disease Control and Prevention have recognized water fluoridation as one of the ten great public health achievements of the twentieth century.” Dr. Cooney usually refers to this same 1999 CDC statement in his public presentations.

This is an incomplete and therefore misleading characterization of the CDC position.

In its August 17, 2001 report, Recommendations for Using Fluoride to Prevent and Control Dental Caries in the United States, the Centres for Disease Control and Prevention (CDC) stated that laboratory and epidemiologic research on how fluoride prevents caries indicated that “... fluoride’s predominant effect is

posteruptive and topical and that the effect depends on fluoride being in the right amount in the right place at the right time.”

The CDO’s web site does not include this 21st century CDC statement of fact which modifies and even supercedes its 1999 claim or statement of opinion. Integrity demands that the whole picture be presented if Health Canada wants to avoid being seen as a partisan advocate for fluoridation rather than a public interest advocate for the full truth about fluoridation.

Fluoridated drinking water is systemic rather than topical in modality, uncertified and unlabelled as to its composition which is an admixture of known toxic elements, uncontrollable as to the amount ingested daily by an individual, administered indiscriminately to all age groups without prior informed consent, without regard to one’s personal health status, age, or body size, and without direct supervision by licensed dentists.

Under the Water Fluoridation section, the CDO section of the Health Canada web site also cites an international conference held in 2006 on the use of fluoride as a dental health measure.

The positioning of this item is misleading as it implies that the conference endorsed water fluoridation. Neither the press release nor the declaration made at that conference directly advocated the use of water fluoridation. The only specific measure adopted in the declaration was one to “encourage suppliers to increase the availability of effective affordable fluoride toothpaste for disadvantaged populations.” This is yet again consistent with the CDC 2001 position set out above.

It also should be noted that the CDO web site is stale dated at May, 2007. Much has happened since then in the ongoing academic studies of various aspects of fluoride usage and adverse health impacts.

The CDO section of the Health Canada web site omits any reference to the World Health Organization survey of dental decay rates in fluoridated and non-fluoridated countries.

This illustrates a major shortcoming in Dr. Cooney’s approach to providing policy advice on the fluoridation issue.

World Health Organization data as of 2004 (please see chart below) show that no substantive gap in the improvements has existed over the last two or three decades in the incidence of tooth decay in fluoridated and non-fluoridated countries with advanced economies. This provides further and convincing support

for the CDC findings above that the proper topical application of fluoride is the effective way to prevent or reduce the incidence of dental caries. If the four countries which use fluoridated salt (e.g. 28% use in France) are eliminated, the trend lines are the same.

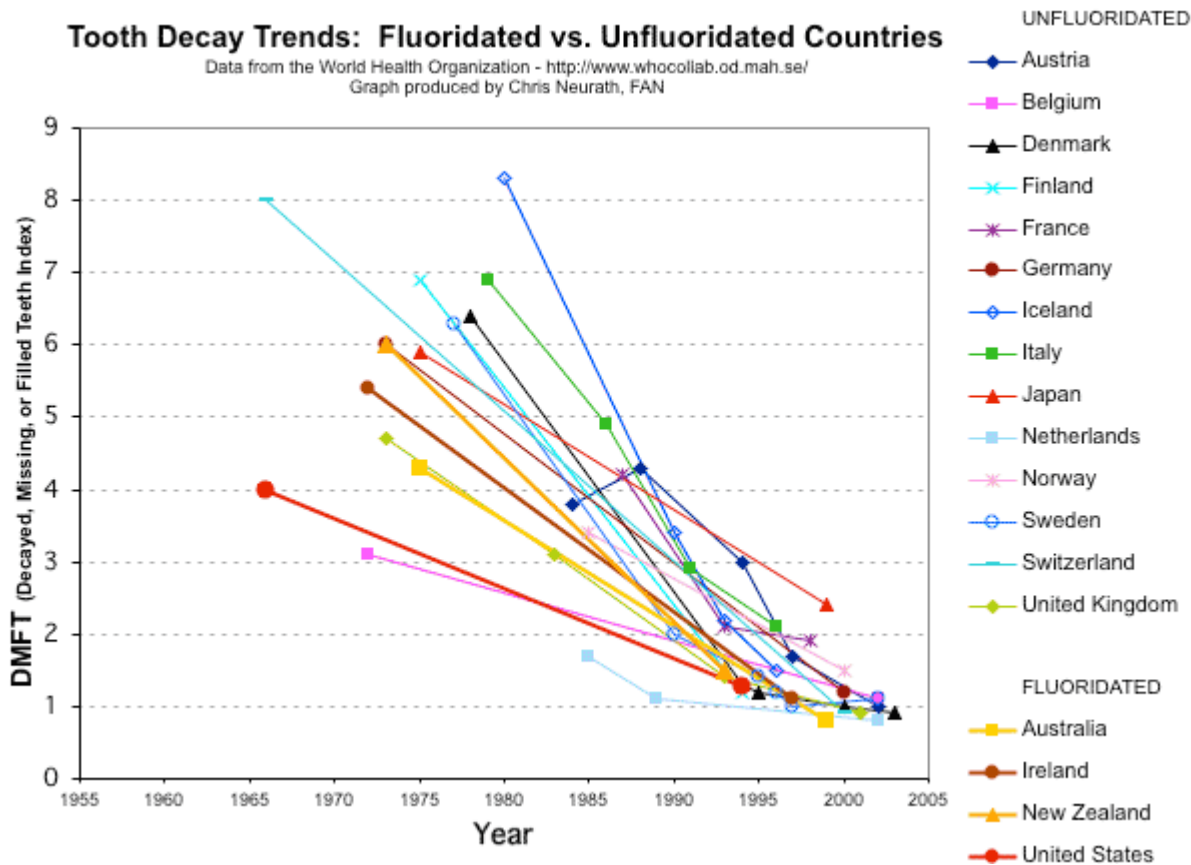


Table above from World Health Organization (2004)
 Tooth Decay Trends (12 year olds) in Fluoridated vs. Unfluoridated Countries

The CDO section of the Health Canada web site (and the Health Canada Oral Health section) does not refer to recent position statements of other public health authorities on fluoridated water and baby formula.

This is a glaring omission which imperils the health and development of infants.

The American Dental Association (ADA) in November, 2006 advised the American public to discontinue the use of fluoridated drinking water in the preparation of infant formula because the ingestion of such food could lead to excessive absorption of fluoride in the developing skeleton and organs of these babies. As

well, the US Food and Drug Administration more recently ordered that no claims of dental health benefits be made for bottled water products intended for children under two years of age. This again raises nagging questions about why the CDO is out-of-step with evolving American practices that clearly reflect the increasing adoption of the precautionary principle of modern public health practices and research.

This is especially alarming when Dr, SM Levy, the lead investigator in a major longitudinal study called The Iowa Fluoride Study, has recently reported that relative to body weight, infants and young children are exposed to 3 to 4 times as much fluoride as adults, as stated in the US National Research Council 2006 Review. He has also stated that since fluoride also accumulates in the body over time, the elderly are likely to have increased bone fluoride concentrations which other studies indicate leads to increased risk of bone fractures in such places as the hips, back, wrists and fingers. Again, Dr. Cooney's web site seems to ignore this material development in the public health science of fluoridation and its effects. This is especially troubling when one considers that Dr. Levy was one of the six experts on the Health Canada panel in 2007 which Dr. Cooney continues to rely on in his presentations.

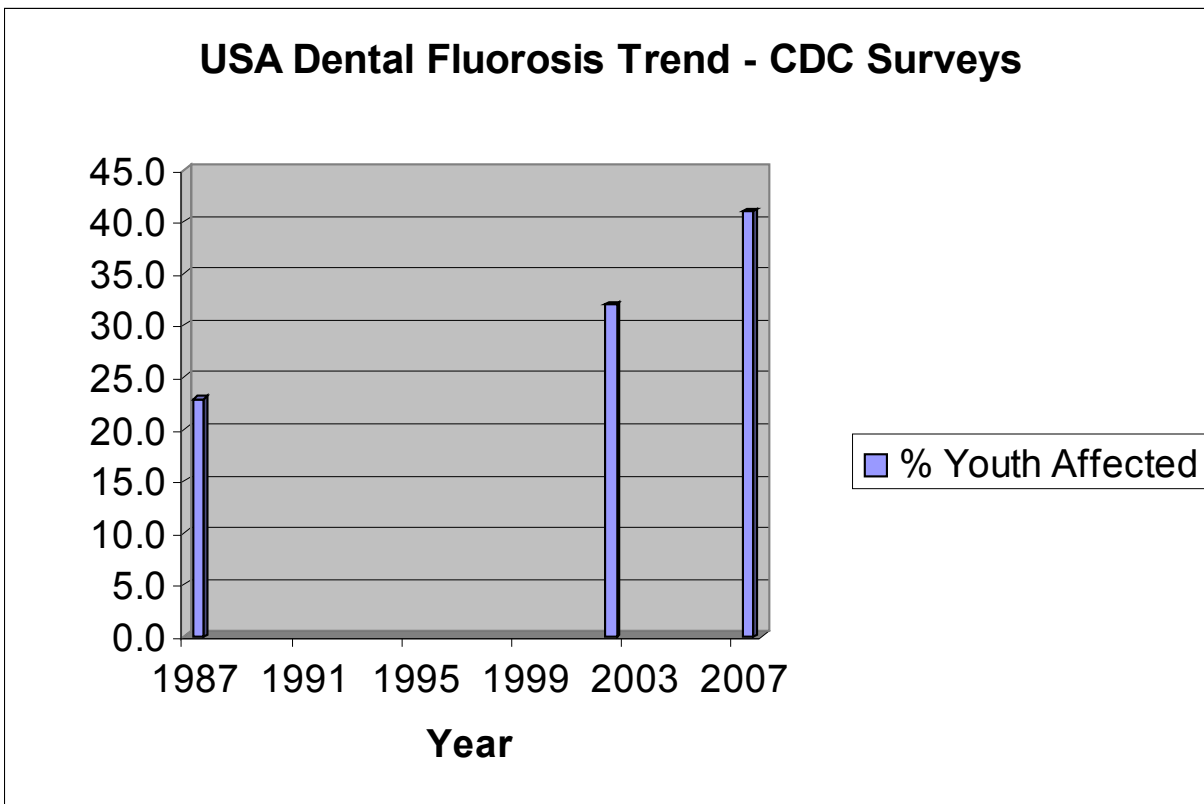
The CDO section of the Health Canada web site lacks any information on dental fluorosis.

This is another major gap in Dr. Cooney's coverage of the impact of fluoridation on the dental health of our children and the cost of restoring it. Moderate to severe effects can entail first time dental fees of \$15,000 or more, none of which is covered by dental insurance plans. Lifetime costs can range up to \$100,000 as the initial set of tooth veneers need to be replaced periodically. In these circumstances, for such individuals and their families, it is a non-starter to suggest that fluoridated drinking water is a cost effective approach to reducing dental caries.

The CDC and ADA both provide web-based information on dental fluorosis, notwithstanding their respective positions on the issue of fluoridation. For example, the CDC estimates that about 33% of children in the USA have some form of dental fluorosis. Significantly, there has been a marked increase in the incidence of dental fluorosis over the two most recent surveys with over 40% of American youth affected. A chart illustrating this situation is presented herein. A much higher percentage of Americans use fluoridated drinking water than Canadians or Europeans. The recommended guidelines for fluoride concentrations in artificial drinking water in the USA and Canada are virtually identical.

Dr. Cooney's failure to discuss or advise the Canadian public on dental fluorosis raises serious doubts about his transparency, objectivity and balance in

conducting his role and responsibilities as Health Canada's Chief Dental Officer. It puts into question his trustworthiness as a source of knowledge and advice and his grasp of the meaning of duty of care.



On its Healthy Living section of its web site, Health Canada does include dental and skeletal fluorosis as conditions induced by excess ingestion of fluoride. It states, however, that **“dental fluorosis is a condition which causes white areas or brown stains to appear on the teeth, which affects the appearance of the teeth but not their function.”**

With respect, this too is not a complete or truthful picture of dental fluorosis as it excludes the severe stage of this condition which the 2006 National Research Panel called an “adverse health effect”. This is marked by badly broken and pitted teeth which clearly impedes their function. This section also does not differentiate between the concentration of fluoride added to drinking water and the daily dosage of fluoride which varies greatly among sub-groups of the Canadian population. It is the dosage that determines the long term nature and degree of adverse health effects of ingesting fluoride and dosage is a function of total daily intake of tap water which varies from 1 liter per day to over 10 litres per day.

The CDO section of the Health Canada web site also ignores

other significant sources of information on fluoridation.

One such source is the USA [National Research Council 2006 Review](#) which was written by an expert panel of 12 members (including a Canadian dental researcher and practitioner) after they had reviewed and analyzed over 1,000 research studies from around the world. This is the most comprehensive meta-analysis of the body of research literature on the subject to date. One of its main conclusions is that based on the weight of evidence it considered, there was significant risk of adverse health effects for the teeth, the skeletal frame, and organs including the thyroid, kidney, liver, pineal gland that warranted the adoption of the medical precautionary principle pending results from further research that it also recommended be undertaken.

A second important source is the September 2008 position statement in opposition to fluoridated drinking water taken by the 2,000 plus members of the Canadian Association of Physicians for the Environment ([CAPE](#)). It emphasizes that: " a) fluoridation is unlikely to be the cause of the decline in caries in Europe and North America b) the potential for adverse effects is real, and c) current evidence points in the direction of caution." CAPE concludes that: "On the basis of this "weight of evidence" we believe that fluoridation of drinking water is scientifically untenable, and should not be part of a public health initiative or program."

The US Environmental Protection Agency Unions ([US EPA Unions](#)) representing 15,000+ professionals, including researchers, lawyers, engineers, etc. are opposed to artificial water fluoridation. "Recent, peer-reviewed toxicity data, when applied to EPA's standard method for controlling risks from toxic chemicals, require an immediate halt to the use of the nation's drinking water reservoirs as disposal sites for the toxic waste of the phosphate fertilizer industry."
<http://www.nteu280.org/Issues/Fluoride/Press%20Release.%20Fluoride.htm>

Great Lakes United has also recently released a policy position opposing water fluoridation.

<http://www.glu.org/sites/default/files/Resolution-regarding-artificial-water-fluoridation.pdf>

[Professionals world-wide](#) are calling for the end of this ineffective, harmful and costly practice.

If Health Canada wishes to be a credible and authoritative source of guidance to Canadians and to international health authorities, the time has come for Health Canada to undertake a thorough medical sciences and environmental health review of this controversial and complex issue of fluoridated drinking water, in conjunction with Environment Canada. Based on the foregoing analysis and

assessment of Dr. Cooney's conduct, performance, and grasp of the subject matter, he would not appear to be well suited to lead or manage such a review.