

To: Chair and Members of the Civic Works Committee (CWC)

From: Concerned Residents Safe Water London to End Artificial Water Fluoridation

Subject: **Inaccurate, misleading and biased information to be presented to the CWC on February 5th by MOH, Dr. Chris Mackie regarding Community Water Fluoridation**

Date: February 4, 2019

Dear: Chairman Squires and Members of the Civic Works Committee

RE: Dr. Mackie, (Middlesex London Health Unit) February 5, 2019 fluoridation recommendation

On February 5, 2019, Dr. Mackie will present to you a letter recommending, ***“the City of London continue to practice water fluoridation”***. In his letter, he provides eight (8) bullets, summarizing his fluoridation rationale. It is our informed contention that; his egregiously flawed reasoning for supporting fluoridation contains significant inaccuracies, misleading information and incomplete and biased information. We address all eight of his assumptions by point in the attached rebuttal letter by referencing scientific evidence in this email response.

Goals of the Middlesex London Health Unit include:

- *“to watch for, identify and address the public health issues*
- *work with families to support their needs*
- *do research in our communities and*

work with politicians and decision makers to create bylaws and guidelines that lead to healthier communities.”

Rebuttals, scientific evidence we provide demonstrates that; Dr. Mackie and Health Unit staffs have failed to meet and will not achieve their family support goals in relation to community water fluoridation.

Parents, voters, visitors and families have taken the initiative to provide the Chair and Members of the Civic Works Committee with missing scientific evidence, validated reasons supporting ending the failed community water fluoridation experiment.

We request the City of London and all Ontario and Canadian elected representatives apply their “due diligence” requirements; review the evidence provided, dig deeper and discover for yourselves the depth and breadth of the withheld fluoridation research, defining many significant harms to pregnant mother’s unborn babies, our children, people with personal and identifiable medical health issues, families and our environment.

Does the City of London have a “womb to tomb” action plan for disposing of the tanker loads of the toxic, hazardous industrial waste materials prescribed by Dr. Mackie and the Health Unit? Approximately 1% to 2% of the hazardous materials you inject into our water system is consumed by and harms people. The remaining 98% to 99% is disposed of into ecosystems that are never, naturally exposed to industrial toxic materials.

We strongly request and based on scientific evidence; that you take urgent action and use the “Precautionary Principal” https://en.wikipedia.org/wiki/Precautionary_principle as you have been provided with enough doubt to end the ongoing failed fluoridation experiment.

Sincerely,

Pam Killeen, Chris Gupta, P.Eng, Rob Guthrie, M Sc., Nicole Kuzmanovich, Emile Begin, RPF, Kallie Miller, RN, Christine Massey, M.Sc., Gilles Parent ND, Robert C Dickson MD, CCFP, FCFP, FOUNDER Safe Water Calgary

Recommendation (Dr. Mackie):

As the Medical Officer of Health for London and Middlesex, I have a mandate to protect and promote public health and safety. (Dr. Mackie).

Rebuttal: Stated goal of Middlesex-London Health Unit (web page); ***“Our goal is to watch for, identify and address the public health issues” ...“do research in our communities and work with politicians and decision makers to create bylaws and guidelines that lead to healthier communities.”*** (1).

Question: Will the Middlesex-London Health Unit provide residents with their ***“research in our communities”*** demonstrating; a need for fluoridation and that fluoridation ***“protects and promotes public health and safety”***, before ***“politicians and decision makers ... create [fluoridation] bylaws and guidelines”***? (The City of London began fluoridation in 1966, so documented; local research must be readily and publically available. (2)

Rebuttal: Public health and safety - Dental Fluorosis

The findings of a research paper on dental fluorosis rates in Toronto children, published in the Journal of the Canadian Dental Association in 2002, states:

“Overall, there were 3657 participants in the survey, of whom 2435 were aged 7 or 13 years; these 2 age groups formed the basis for the analysis. **Forty percent of those aged 7 or 13 had had one or more decayed teeth.**” (Toronto is a fluoridated City with over 40%-decayed teeth!)

“On the basis of these findings of fluorosis, Toronto Public Health should continue to monitor levels of dental fluorosis and caries and should continue its efforts to inform parents of very young children about the safe use of fluoridated dentifrice [toothpaste].” (3)

Upon review of evidence-based research, data and information regarding water fluoridation, I strongly support and recommend that the City of London continue to practice water fluoridation at the optimal level of 0.6 mg/L – 0.8 mg/L (i), as a safe, beneficial, equitable and cost-effective measure to provide all residents of London with protection against tooth decay. (Dr. Mackie).

Rebuttal: Question: Is it true; ***“Drinking water that has been fluoridated to the optimal level for dental health is not associated with adverse health effects.”*** (4)? Dr. Mackie, please provide the scientific evidence Middlesex-London Health Unit used to form the opinion you endorse. Endorsements are not science, nor are they a replacement for the required scientific proof of safety and effectiveness, or for informed consent.

Question: ***“Do Patients, [residents of the City of London] Have the Right to Refuse Medical Treatment?”*** (5). Dr. Christopher Mackie, as the ***“prescribing physician”***, is advising all residents, regardless of their individual medical conditions and personal preferences to consume, bathe in and cook with fluoridated water; as a medical treatment reducing or preventing dental carries (cavities).

“The right to refuse treatment goes hand in hand with another patient right—the right to informed consent.” (5). Informed consent requires full disclosure of benefits and harms. Dr. Mackie, You have failed to provide full disclosure of fluoridation information.

Key Points (8) provided by Dr. Mackie, without references:

1. Water fluoridation is safe and improves and promotes the oral health of all residents, regardless of their socioeconomic status or whether they have dental insurance. (Dr. Mackie).

Rebuttal: ML Middlesex-London Health Unit states: **“Drinking water that has been fluoridated to the optimal level for dental health is not associated with adverse health effects.”** (4).

Questions: Will Middlesex-London Health Unit provide the required medical **“insert” [monologue]** identifying the **“medication”** they are **“prescribing”** for community water fluoridation? The **“insert”** is a Material Safety Data Sheet (MSDS) required to be supplied to **“end users”** [the City and residents] by the manufacture / supplier and City (6).

“What is a Material Safety Data Sheet (MSDS)? (6)

A Material Safety Data Sheet (MSDS) is a document that contains information on the potential hazards (health, fire, reactivity and environmental) and how to work safely with the chemical product. It is an essential starting point for the development of a complete health and safety program.

Do I need an MSDS?

In Canada, every material that is controlled by WHMIS (Workplace Hazardous Materials Information System) must have an accompanying MSDS that is specific to each individual product or material (both the product name and supplier on the MSDS must match the material in use).

Is all the information I need on the MSDS?

Not necessarily. A lot of health hazard information, for example, is written in general terms. Your health and safety specialist, occupational health nurse or family doctor should be able to help you find more information if needed.

As an employer, do I have responsibilities for MSDSs?

Yes. Employers must make sure that all controlled products have an up-to-date (less than three years old) MSDS when it enters the workplace.” (6)

Question: Will Middlesex-London Health Unit confirm the chemicals used to add fluoride to drinking water is Hydrofluorosilicic (fluorosilicic) Acid (HFSA) and identify all other definable chemicals?

Question: Will Middlesex-London Health Unit inform the Chair and Members of the Civic Works Committee that Health Canada has undertaken **none** of the required human medical research studies required to support stating; using HFSA is safe for human consumption?

Rebuttal: Health Canada Confirms they have **NEVER** conducted research using fluoridation chemical Hydrofluorosilicic (Fluorosilicic) acid [FSA]) and cannot confirm it is safe for human consumption (7).

“This is in response to your request under the Access to information Act (the Act) for: Clarified Request Text: Reports, studies, toxicology and clinical tests relating to hydrofluorosilicic acid in Canadian tap water (7).

After a thorough search for the requested information, no records were located which responds to your request.” (7)

Rebuttal: The United States Environmental Protection Agency (EPA - 2015) obtained a U.S Department of Justice Settlement and determination against Mosaic Fertilizer, LLC. (8). Violations include:

Failure to make hazardous waste determinations for scrubber effluents, fluorosilicic acid-production wastes, product spills and leaks, and wastes from cleaning pipes and tanks (40 C.F.R. § 262.11); (8)

Rebuttal: Transport Canada identifies Fluorosilicic Acid (UN1778) as a Dangerous Good “Appendix E: Schedule 2 – List of Dangerous Goods – UN1778 Fluorosilicic acid (9).

Rebuttal: CBC and Global News (January 17, 2019), updated the consequences of a March 14, 2017 transport truck accident on Highway 401 (10 & 11). The accident ***“killed a truck driver who was doused in acid, injured the police officer who tried to save him, forced civilians and emergency responders to be decontaminated and polluted the environment.” (10).***

The acid that killed the truck driver was transporting is; Hydrofluosilicic (fluorosilicic) Acid, the same acid used in fluoridation. (10).

“The OPP officer who initially attempted to get the driver out of the cab experienced significant health effects such as chemical burns. In addition, the ecosystem next to the road was significantly damaged by the acid.” (11)

Rebuttal: Confirming harm to people, Mosaic Fertilizer LLC provides Material Safety Data Sheets (MSDS) state (12):

“Other Comments:

Prolonged or repeated overexposure to fluoride compounds may cause fluorosis. Fluorosis is characterized by skeletal changes, consisting of osteosclerosis (hardening or abnormal density of bone) and osteomalacia (softening of bones) and by mottled discoloration of the enamel of teeth (if exposure occurs during enamel formation). Symptoms may include bone and joint pain and limited range of motion. Conditions aggravated by exposure may include skin and respiratory (asthma like) disorders.” (12 – Page 3).

An engineering Study conducted by Radloff and Associates for Canadian National Railway (CN) and the City of Prince George BC. The engineering firm stated:

“Up until recently the pumphouse has also stored a large volume of hydrofluorosilicic acid, used as a water fluoridation additive, which is extremely toxic even in low doses.” (13)

2. Tooth decay is the single most common chronic childhood disease. The Middlesex-London Health Unit estimates that if water fluoridation were discontinued, London children would experience at least 40,000 additional cavities over the next ten years. (Dr. Mackie.)

Rebuttal: The above comment “Health Unit estimates” increasing cavities provides a medical Doctor’s uninformed opinion and contains inaccuracies. Where is the scientific “communities” evidence supporting the medical estimate / opinion? Dental evidence from BC, confirms the opposite is true (14).

Island Health had the highest percentage of children who were caries free (71.3%), and the lowest percentage of children who had visible decay (10.6%) (14). No Island Communities were fluoridated at the time of the Survey.

Northern Health had the lowest percentage of children who were caries free (60.6%), and the highest percentage of children with visible decay (19.5%) (14). Three Major Cities were fluoridated at the time of the Survey (Prince George, Terrace, Ft. St. John. Prince George ended fluoridation in 2014; Northern Health **had the worst cavities in the Province during the time of the survey.**)

Rebuttal: A study in BC (2001 -Island Health – Comox, Courtenay and Kamloops, 5,927 children) comparing fluoridated and fluoridation ending communities indicated (15):

“The prevalence of caries (assessed in 5927 children, grades 2, 3, 8, 9) decreased over time in the fluoridation ended community while remaining unchanged in the fluoridated community.” (15).

Health Canada: ***“No fluoride... should be given before the teeth have erupted.”***

“Supplemental fluoride should be given only after 6 months of age and only in the following conditions...” 16.

3. There is no evidence to support a link between exposure to fluoride in drinking water at the levels used in London and any adverse health effects, such as any types of cancer, developmental defects, neurobehavioral effects, or genotoxicity (ii). (Dr. Mackie).

Rebuttal: Scientific evidence apparently withheld (or unknown) by Middlesex-London Health Unit and Dr. Mackie:

Preterm Birth:

Domestic water fluoridation was associated with an increased risk of PTB [Pre Term Birth – PTB] (9545 (6.34%) PTB among women exposed to domestic water fluoridation versus 25278 (5.52%) PTB among those unexposed, $p < 0.0001$)). This relationship was most pronounced among women in the lowest SES [Social economic Status] groups (>10% poverty) and those of non-white racial origin. Domestic water fluoridation was independently associated with an increased risk

of PTB in logistic regression, after controlling for age, race/ethnicity, neighborhood poverty level, hypertension, and diabetes. (17)

ADHD:

Parents reported higher rates of medically diagnosed ADHD in their children in states in which a greater proportion of people receive fluoridated water from public water supplies. (18)

“Conclusion: Higher levels of fluoride exposure during pregnancy were associated with global measures of ADHD and more symptoms of inattention as measured by the CRS-R in the offspring (19).

Adverse health effects to pregnant women and their children (20).

Fluoride exposure can also cause potential adverse effects, such as dental fluorosis and skeletal fluorosis, both of which are observed at elevated fluoride exposure levels over a long period of time (Health Canada 2010). Fluoride exposure may also be neurotoxic, especially for the developing fetus (Grandjean and Landrigan 2014). Still, few developmental neurotoxicology studies have measured biomarkers of gestational fluoride exposure (Bashash et al. 2017; Valdez Jiménez et al. 2017). (20)

Other sources of fluoride include foods, dental products (e.g., toothpastes, mouth rinses), supplements, industrial emissions, and fluoride containing pharmaceuticals. Certain dietary products, like tea, have been identified to have high concentrations of natural fluoride (Fung et al. 1999; Malinowska et al. 2008; Waugh et al. 2016; USDA 2005). (20)

Hypothyroidism

Interpretation In many areas of the world, hypothyroidism is a major health concern and in addition to other factors—such as iodine deficiency—fluoride exposure should be considered as a contributing factor. The findings of the study raise particular concerns about the validity of community fluoridation as a safe public health measure. (21)

Fluoride as a neurotoxin

Conclusions: The results support the possibility of an adverse effect of high fluoride exposure on children’s neurodevelopment. Future research should include detailed individual-level information on prenatal exposure, neurobehavioral performance, and covariates for adjustment. (22).

Rebuttal: A recent 2018 (Bellinger) Pediatric Medicine report confirmed (23).

“Fluoride differs from most other environmental chemicals in that children are intentionally exposed to it because of its role in the prevention of caries.”

“In a relatively small pilot study in China, negative associations were found between fluorosis severity, reflecting lifetime exposure, and children’s scores on some neuropsychological tests (67). Similar findings were reported in India (68), while in a Mexican study, children’s prenatal fluoride exposure (concentration in maternal urine during pregnancy) were inversely associated

with IQ scores at ages 4 and 6–12 years (69). Increased exposure to fluoride has also been linked, ecologically, to ADHD prevalence in the U.S. (70) and, in a cohort study, to increased ADHD symptoms in Mexican children (71).” (23).

Rebuttal: The US National Toxicology Program (NTP), regarding Fluoride: Potential Developmental Neurotoxicity states; (24).

“In 2016, NTP completed a systematic review of the published animal literature looking at neurobehavioral effects of exposure to fluoride during development and adulthood in rats and mice. The assessment found a low to moderate level of evidence that support adverse effects on learning and memory in animals exposed to fluoride in the diet or drinking water. The evidence was strongest in animals exposed as adults and weaker in animals exposed during development.” (24).

Rebuttal Summary: Public health approaches for global dental caries reduction that do not involve systemic ingestion of fluoride are urgently needed (25).

Community, or artificial, water fluoridation—the addition of a fluoride compound (usually hexafluorosilicic acid) to public drinking water supplies—is a controversial public health intervention; the benefits and harms of which have been debated since its introduction in the USA in the 1950. Discovered by Henri Moissan in 1886, fluorine (F) is a corrosive pale yellow gas. It is highly reactive, participating in reactions with virtually all organic and inorganic substances. (25). [People are organic substances, fluoride harms people].

Rebuttal Conclusion: “Low to Moderate levels of evidence” exists supporting “a link between exposure to fluoride in drinking water at the levels used in London” causing adverse health effects; neurobehavioral effects, “on learning and memory” .

Developmental and behavioral defects

Dr. Roger Masters, Nelson A. Rockefeller Professor of Government, Emeritus, Research Professor in the Department of Government at Dartmouth, regarding lead in drinking water has undertaken several research studies of Community Water Fluoridation (silicofluorides) in Cities with similar fluoridation levels to London and Ontario (26).

In addition to biochemical effects of silicofluorides on enzymatic function in the kidney and liver, [36] some fluoride compounds appear to enhance uptake of lead [37]. (26 While reliable epidemiological data on ADHD or ADD are not available, geographical data are consistent with the hypothesis that behavioral dysfunctions related to lead, manganese, and other toxic chemicals significantly higher in communities using silicofluorides in water treatment than in those not using these chemicals [38]. (26).

Controlling for such pollution and nine socio-economic or demographic variables, the proportion of the population exposed to silicofluorides was a significant predictor of violent crime rates in all U.S. counties with data for 1985, 1991, and 1995 and a predictor of rates of murder and drunkenness for 1995. (26)

Dr. Christopher Mackie in Quoting Roger Masters from Wikipedia provided intentionally misleading and false information (27). Roger Masters' commented on Toxicology/Safety Studies information provided by Dr. Christopher Mackie, MD as Dr. Mackie stated he had proof that Hydrofluorosilicic Acid is safe for Human Consumption. Dr. Roger Masters confirms that Dr. Mackie's statements are egregiously erroneous:

Recent research did find that the H₂SiF₆ split into H₂ + Si + F₆. Then someone else claimed that after splitting, the original molecule reformed. The point. THAT ALL SEEMS TO BE IRRELEVANT. The question is, what happens TO THE WATER after the fluorosilicic acid (or sodium fluorosilicate) is added. (27)

"it was time to study whether using silicofluoride compounds instead of sodium fluoride was safe." (27)

"And while others were measuring lead levels "at the faucet," our work focused on the behavioral effects on both children and adults." The reason is that where a silicofluoride is added to water, the lead level at the faucets goes way up." (27)

"Seventeen years of publication (see bibliography), peer reviewed articles, with many in major scientific journals (e.g., two articles in NEUROTOXICOLOGY, one of the world's leading journals in this field) and yet NO political reaction. But tonight, when I read your emails, I decided to write up this experience in the hope that some of you might be interested and willing to consider the possibility that getting a major city to STOP using fluorosilicic acid or sodium silicofluoride (supposedly good for children's teeth, but there's ZERO scientific evidence that swallowing a fluoride compound helps your teeth the way brushing your teeth with a toothpaste containing sodium fluoride does." (27)

In 2013. Peel Ontario concerned residents summarized a listing of Publications on Silicofluorides, Neurotoxicity, and Behavior by Roger D. Masters & Myron J. Coplan (28).

The references (26, 27 & 28) are respectfully offered for your due diligence research on the harmful effects from fluoridation. You are strongly encouraged to review fluoridation facts or be considered complicate with decisions supporting fluoridation.

4. In Calgary, a recent study found that there was a worsening in tooth decay for primary teeth since that city discontinued fluoridation in 2011, as compared to Edmonton, where water is still fluoridated. The number of tooth surfaces with decay per child increased by 3.8 surfaces in Calgary during the time frame of the study, as compared to only 2.1 in Edmonton (iii). (Dr. Mackie).

Rebuttal: CBC reported: "Tooth decay in children in Calgary has worsened since the city stopped adding fluoride to drinking water in 2011, according to a new study."(29)

Unprofessionally, CBC, Middlesex-London Health Unit and Dr. Mackie failed to inform the Chair and Members of the Civic Works Committee of the follow-up Calgary research that confirmed (30):

Calgary Fluoride Study: Omitted Data Shows Ending Fluoridation Had No Effect on Cavities. The study found that cavities in permanent teeth have decreased in Calgary. (30).

“A recent systematic review of the evaluation of water fluoridation published last year by the Cochrane Collaboration found that “There is insufficient information to determine the effect of stopping water fluoridation programmes on caries levels.” (30).

“Though they are in the same Canadian province, they are unlikely to be comparable either at baseline or at follow up and are likely to have changed significantly and in different ways over the 9 year period studied. This is a major risk of bias.”(30).

“One of the most interesting and perhaps unexpected findings from the study though, is that caries levels are higher in both cities than recorded several years ago despite water fluoridation. This implies that even if water fluoridation is effective in reducing caries, it is not sufficient to combat poor oral health in this province.” (30).

Additionally, Dr. Mackie failed to inform you of the subsequently published research confirming the Calgary study has serious flaws. The Calgary study was grossly misrepresented by the media and its lead author, and later severely critiqued, by Dr. Limeback and others, in the same journal that had published it (Community Dentistry and Oral Epidemiology):

“The study's findings, when considered with the additional information from the third Calgary survey, more strongly support the conclusion that cessation of fluoridation had no effect on decay rate. Consideration of the limitations of this study can stimulate improvement in the quality of future fluoridation effectiveness studies.” (31)

5. Windsor, Ontario recently voted to resume water fluoridation due to the strong science that it is safe and effective. (Dr. Mackie).

In 2013, Windsor voted to remove fluoride from drinking water (32). In 2018 – 2019 Windsor are considering bringing fluoride back against informed opposition. Municipal fluoridation is a **“political hot potato”** with political indecisions made based on misinformation provided by biased medical professionals. Confusion exists. The precautionary Principle states:

“The precautionary principle denotes a duty to prevent harm, when it is within our power to do so, even when all the evidence is not in.” Political and medical uncertainties support ending fluoridation as scientific evidence confirms fluoridation harms; you have the power to end fluoridation. **(33).**

According to Dr. Hardy Limeback, BSc, PhD (Biochemistry), DDS, former Head, Preventative Dentistry, University of Toronto (18 years), Former President, Canadian Association for Dental Research, author and editor a textbook in preventive dentistry (Comprehensive Preventive Dentistry – Wiley-Blackwell; June 2012), and chosen to serve on the National Academy of Science’s committee that produced the 2006 report Fluoride in Drinking Water; in his recent letter to Tecumseh Council (34):

“In my opinion, the new Windsor council made a huge mistake and I will try to explain why. In the U.S., which fluoridates far more than Canada, the latest study (Neurath, Limeback et al, JDR Clin Trans Res, 2019 in press) found it has reached epidemic proportions – it now afflicts 72% of all 12-15- year-olds, with 27.9% moderate and 2.8% severe. All sources of ingested fluoride

contribute to this toxic load, but water is by far the largest contributor. Higher fluorosis levels in children have also been linked to lower IQ's." (34)

Windsor Council's vote; was influenced by inaccurate and misleading input from the area's health unit (WECHU) and Medical Officer. For example: When questioned by a Councillor regarding 2 critically important studies published in later 2017 and 2018 (Bashash et al.) regarding the relationship between maternal fluoride exposure and IQ (2017) and ADHD (2018) just minutes prior to Windsor Councils' vote; Dr. Wajid Ahmed provided false reassurance to Council by reading a quote from an evidence review by Public Health Ontario. It was later revealed that the quote and evidence review had nothing to do with the Bashash et al. studies.

Since the above fact was made public, Public Health Ontario (PHO) altered their report [entitled Evidence Review for Adverse Health Effects of Drinking Optimally Fluoridated Water \(2010-2017\)](#), in an apparent effort to diffuse criticism and to fix their bizarre References section. The altered report now appears at the same URL where the original report was found.

This altered version has an **entirely different** References section, and, an Appendix B that did not exist in the original version and which acknowledges the Bashash et al., studies and one additional study. Because of this new Appendix B, the Bashash et al. studies are now listed in the References, however **these studies were not reviewed in this report.**

The original version of PHO's review, as it appeared at the time of the Windsor meeting and as it was published in the original version of the Windsor agenda, is here: <http://www.fluoridefreepeel.ca/wp-content/uploads/2019/02/evidence-review-effects-drinking-optimally-fluoridated-water.pdf>

Regardless of which version of the PHO report Dr. Ahmed read from, the quote he read did not apply to the Bashash et al. studies.

The Winsor-Essex County Health Unit (WECHU) also provided Windsor Council with very misleading information regarding dental fluorosis, as can be seen here: <http://www.fluoridefreepeel.ca/fluoridation-slides-censored-in-tecumseh-ontario/>

WECHU's entire Oral Health Report Update 2018 has been severely criticised. One such example may be seen here: <http://www.fluoridefreepeel.ca/wp-content/uploads/2018/05/May-3-2018-Christine-Massey-letter-to-Windsor-Council-re-WECHU-2018-report.pdf> [Note: The original version of WECHU's report can be found here: http://www.fluoridefreepeel.ca/wp-content/uploads/2018/05/ee-assessment-surveillance-oral-health-2018-report-2_May2.pdf]. Since the above critique was sent to Windsor Council in May 2018, WECHU's report was altered in order to correct an error in Table 8.]

6. [In Juneau, Alaska, 12 years after that community stopped water fluoridation, children under 6 are experiencing one additional cavity per year, which translates to an expense of about \\$300 per child \(iv\). \(Dr. Mackie\).](#)

Rebuttal: The Juneau, Alaska study has significant limitations and is contrary to, BC Ministry of Health and Island Health Reports and research; showing a decline in carries after fluoridation ends (13 & 14). The Juneau, Alaska research did not adjust for many variables that would have affected (biased) the results **(35).**

The study has a number of limitations. First, due to funding limits, only two years of data were purchased for comparison rather than five to ten years of data, which would have enabled a more sophisticated trend analysis. Second, dental claims for extractions or full-mouth reconstruction were removed from the primary data analysis because we could not confirm that these procedures were caries-related without the clients' full medical records. Therefore, caries procedures and costs may be underrepresented in the results. Third, the coding scheme also assumes that within 1 year, the dental professional treated all points of decay for each individual patient and did not over- or undertreat. Lastly, if an eligible child did not visit the dentist that year, then no claims forms were generated, and they were not included in the study. (35).

We acknowledge baseline and comparison data regarding parental education among low income families, home oral hygiene practices, and dietary habits to be unknown considerations. (35).

7. An economic review of multiple studies found that savings for communities ranged from up to \$135 for every \$1 investing in water fluoridation (v). (Dr. Mackie).

Rebuttal: The above statement contains inaccuracies, confirmed by Lee Ko and Kathleen M. Thiessen in their 2015 Critique of economic evaluations of community water fluoridation (36).

“Conclusions: Minimal correction reduced the savings to \$3 per person per year (PPPY) for a best-case scenario, but this savings is eliminated by the estimated cost of treating dental fluorosis.” (36).

8. More than 90 national and international professional health organizations including Health Canada, the Canadian Public Health Association, the Canadian Dental Association, the Canadian Medical Association, the Centers for Disease Control, the National Institutes of Health and the World Health Organization endorse the fluoridation of drinking water to prevent tooth decay, especially among children. (Dr. Mackie.)

Rebuttal: Health Canada's Fluoride Expert Panel's recommendations regarding water fluoridation cautions:

“Because the greatest variability in fluoride ingestion from food comes from infant formula, the affected industry should be requested to continue to lower and standardize the fluoride concentration in infant formula.” (37).

Rebuttal: In a 2016 Canadian Academy of Pediatric Dentistry presentation identified a number of “**RISK BEHAVIOURS**” that increase the risk of young children developing fluorosis; recommending “**Prevention**” measure that could reduce the risk of developing fluorosis. The first risk behaviour identified is infant feeding and the recommendation is to mix [infant formula] with non-fluoridated water (38).

Question: What warnings will The City of London and ML Middlesex-London Health Unit publicly provide all parents with formula fed children?

Rebuttal: The Canadian Dental Association “*use of Fluorides in Carries Prevention*” was revised in 2005:

Communities considering water fluoridation are encouraged to review their individual circumstances carefully and in detail, giving attention to any available data on the dental health of community members, the size of the group not likely exposed to adequate fluoride from other sources, the minimum level of fluoride required to be beneficial, and any other information which would be helpful in making the required value judgment. (39).

Question: Will the Middlesex-London Health Unit release any new research (1969 to 2019) demonstrating a “value judgement” to continue or end Community Water Fluoridation?

Rebuttal: The American Dental Association provides the following recommendations for infants who consume reconstituted infant formula as the main source of nutrition:

Use ready-to-feed formula or liquid or powdered concentrate formula reconstituted with water that is either fluoride-free or has low concentrations of fluoride when the potential risk for enamel fluorosis is a concern. (40)

The recommendation to use water containing no fluorides is based on a higher level of evidence and strength (40).

Rebuttal: Not included in the original letter from Dr. Mackie: British Columbia; voters (caring parents and a broad range of informed professionals) have (and for the most part and based on scientific evidence and informed consent) voted to end Community Water Fluoridation. They listened to the endorsements, undertook their own research (due diligence) and concluded that; in the case of fluoridation, the listed fluoridation supporting organizations cannot be solely trusted.

BC is over 98.8 % fluoridation free, heading to 100% fluoridation free based on scientific evidence and Provincial Health Authority, public reports **(41)**. In Canada 61.3% of Canadians are fluoridation free.

Rebuttal Conclusion:

Fluoridation chemicals are not regulated by Health Canada for the purpose of treating or preventing dental decay, aren't manufactured in sanitary conditions and are unfit for human consumption as more reason not to continue fluoridation.

Based on the extent and broad range of scientific evidence, egregiously withheld by Dr. Mackie and those we have provided in this rebuttal; we strongly recommend that you end the publically harmful, failed fluoridation experiment immediately. The public health fraud regarding disposing toxic and hazards industrial waste materials (Hydrofluosilicic (Fluorosilicic) acid by having our children drink toxic water must end.

Time to demonstrate you are leaders.

Thank you. Concerned Citizens of London, Ontario and Canada.