



October 12, 2016

Ald. James A. Bohl Jr., chair
Milwaukee Water Quality Task Force
City of Milwaukee
200 E. Wells St.
Milwaukee, WI 53202

Dear Alderman Bohl:

My name is Matt Crespin, associate director for Children's Health Alliance of Wisconsin (Alliance). The Alliance is a statewide organization focused on improving the health of children. We are affiliated with Children's Hospital of Wisconsin. The Alliance is appreciative of the work that your task force is doing to address the lead issue in Milwaukee's drinking water. We know with certainty there is a neurological impact for young children who ingest lead, especially in children ages birth to 3 years old.

I am writing in response to the memo you received from Ms. Tea Norfolk of the Legislative Reference Bureau dated September 26, 2016 addressing neurological and other effects of lead and contaminants in water. We have a concern regarding the information provided, and the source of the information in this memo regarding fluoride in drinking water. While the memo notes, "the neurotoxicity and corrosive effects of fluoride are controversial" the information contained in the memo is quite one-sided and presents misinformation that is improperly cited and in some cases not current.

According to the American Dental Association, United States (U.S.) communities have voted in favor of fluoridation programs by nearly a 2 to 1 margin over the past five years.ⁱ Communities such as Madison, WI, Austin, TX and Dallas, TX have voted to retain their community water fluoridation programs in recent years. Community water fluoridation has shown to reduce overall dental needs in communities by an average of 29 percent.ⁱⁱ Studies have shown that greater lifetime exposure to water fluoridation was connected to lower decay rates.ⁱⁱⁱ Dental disease is the most common chronic disease of childhood and one of the top reasons children miss school.

The study which was noted to be published in 2012 by a group of Harvard scientists including Philippe Grandjean has been found to have serious deficiencies in methodology, including a lack of complete variables or explanation of routes of fluoride exposures for children.^{iv} These studies were conducted in cities in China and Iran where natural levels of fluoride in water are 4 to 16 times higher than levels in U.S. drinking water, and exceed the Environmental Protection Agency's (EPA) recommendations for the maximum allowable amount.

While the National Research Council did evaluate fluoride in drinking water in 2006, the committee did not evaluate the risks or benefits of the lower fluoride concentrations (0.7 – 1.2 mg/L) used in water fluoridation. Therefore, the committee's conclusions regarding the potential for adverse effects from



fluoride at 2 to 4 mg/L in drinking water do not apply at the lower water fluoride levels commonly experienced by most U.S. citizens.^v

The issue of mixing infant formula with fluoridated water also was raised in the memo and references Centers for Disease Control and Prevention (CDC). What the CDC actually said about this topic is, “you can use fluoridated water for preparing infant formula. However, if your child is only consuming infant formula mixed with fluoridated water, there **may be** an increased **chance for mild** dental fluorosis.” Dental fluorosis is faint white spots/streaks on teeth which are only a cosmetic issue in 97 percent of those who develop fluorosis.^{vi} This new CDC recommendation was issued following several reviews by agencies including the EPA, Food and Drug Administration (FDA), National Institutes of Health (NIH) and CDC.^{vii} To lessen this chance of fluorosis, parents can use low-fluoride bottled water some of the time to mix infant formula.^{viii} Milwaukee Water Works includes an advisory to parents in annual water quality reports and this information also can be found on the City of Milwaukee Health Department’s website.

In 2011, the U.S. Department of Health and Human Services (DHHS), via the U.S. Public Health Service, issued a recommendation that the level of fluoride used for community water fluoridation be 0.7 mg/L as the optimal concentration of fluoride in drinking water. This level provides the best balance of protection from dental caries (cavities) while limiting the risk of dental fluorosis.

It is important to note that Milwaukee currently is not following the recommended guidelines for fluoridating drinking water issued in 2012 by the U.S. DHHS. In the memo dated September 1, 2016 from Mr. Aaron Cadle of the Legislative Fiscal Bureau it is noted that the median concentration in 2015 of fluoride in drinking water was 0.49 mg/L, a 30 percent reduction from the current recommendations. At times the level was as low as 0.06 mg/L and the highest was 0.64 mg/L. Not once in 2015 was a sample taken that met the current recommendations of the U.S. DHHS of 0.7 mg/L. If the goal is to make drinking water in Milwaukee safe to drink it is imperative that we fluoridate our water at the appropriate levels. The Wisconsin Department of Natural Resources administrative code [809.74](#) notes that communities that fluoridate shall “maintain the fluoride concentration within the range of 0.6 to 0.8 mg/L”^{ix} which also is not being followed by the City of Milwaukee based on the median noted above of 0.49 mg/L.

The memo references a ban on fluoridation in Israel which was reported in a 2014 *Newsweek* article. In 2016 this ban was lifted and a requirement to fluoridate their water at the optimum level of 0.7 mg/L.^x was instituted by the new Minister of Health. This new requirement applies to water systems, who serve more than 5,000 people.

The study from *Lancet* which is referenced was not a presentation of any new research. The 27 studies that were evaluated are the same studies evaluated in the previous systematic review on fluoride’s impact on intelligence quotient (IQ) and were found to have severe deficiencies. Since that publication the three deans of the school of public health, medical school and dental school at Harvard University have penned a letter supporting the safety and effectiveness of community water fluoridation.^{xi}



Questions were raised in the memo regarding heavy metals contained in the additives used for fluoridating drinking water. The additives currently used for fluoridating water are regulated by National Sanitary Foundation (NSF) standard 60. This standard requires all additives used for the treatment of drinking water to meet this high standard. The NSF notes that based on test results, fluoridation additives do not contribute measurable amounts of arsenic, lead or other heavy metals.^{xii}

The memo references Dr. J. William Hirzy, a former EPA senior scientist who petitioned the EPA in 2012 to prohibit the use of hydrofluorosilicic acid (HFSA) as a fluoridation additive. HFSA is the additive used by most communities including Milwaukee to fluoridate drinking water. In 2013 this petition was rejected by the EPA due to a significant error in calculation which Hirzey admitted.^{xiii}

While the memo references countries, states and communities who have either “banned or stopped using fluoride” there are no U.S. communities who have outright banned its use. Communities may vote to continue or discontinue their fluoridation programs. To our knowledge there have been no “bans” on fluoridation programs in the U.S. It is important to note that since 2000 nearly 490 communities in 42 states have voted to adopt or retain successful fluoridation programs.^{xiv} Additionally the number of U.S. residents who receive optimally fluoridated drinking water continues to grow. In 2015, more than 211 million or 66 percent of Americans receive fluoridated water, which is an increase from 57 percent in 2000.^{xv} During this same time the percentage of children with elevated blood lead levels has decreased from 25.6 percent in 1988-94 to 1.9 percent in 2007-2014.^{xvi}

While the memo notes the science regarding fluoridation is controversial, we would respectfully disagree. The science supporting fluoridation is strong. More than 3,000 studies in peer reviewed journals support the safety and effectiveness of community water fluoridation. More than 100 national and international organizations support community water fluoridation. It is imperative that we solve the issues of lead in the drinking water in Milwaukee in addition to maintaining and strengthening the community water fluoridation program. There is no science to support the claims that fluoride in drinking water leaches lead from pipes, lowers IQ or causes any other chronic condition at levels currently used in community water fluoridation programs. We respectfully ask the committee to concentrate its efforts on how Milwaukee children are becoming lead poisoned and how we can collectively contribute to addressing this problem. For reference Public Health Madison & Dane County has published a [background document](#) on water fluoridation and lead toxicity that this committee may want to reference.^{xvii}

For more information about community water fluoridation please utilize the following resources:

- 1) www.ilikemyteeth.org
- 2) www.fluoridescience.org
- 3) www.cdc.gov/fluoridation
- 4) www.tapintohealthyteeth.org



One additional resource that may be of interest to you was published in 2015 by the Water Research Foundation titled "[State of the Science: Community Water Fluoridation](#)." It features several case studies on cities, including one on Milwaukee.^{xviii} If you have questions specific to the information I have outlined, please do not hesitate to contact me directly at (414) 337-4562 or mcrespin@chw.org.

Sincerely,

A handwritten signature in black ink that reads "Matt Crespin".

Matt Crespin, RDH, MPH
Associate Director

CC: Alderman Cavalier Johnson

Alderman Jose Perez
Benjamin Gramling
Bevan Baker
Carrie Lewis
Ghassan Korban
Patricia McManus
Molly Kuether
Tea Norfolk

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- ⁱ <http://www.ada.org/en/public-programs/advocating-for-the-public/fluoride-and-fluoridation?source=VanityURL>
ⁱⁱ <https://www.thecommunityguide.org/findings/dental-carries-cavities-community-water-fluoridation>
ⁱⁱⁱ <http://jdr.sagepub.com/content/early/2013/03/01/0022034513481190>
^{iv} <http://fluoridescience.org/topic-search/?topic=Neurodevelopmental+Disorders>
^v http://dels.nas.edu/resources/static-assets/materials-based-on-reports/reports-in-brief/fluoride_brief_final.pdf
^{vi} <https://www.cdc.gov/nchs/data/databriefs/db53.pdf>
^{vii} <http://www.hhs.gov/about/news/2015/04/27/hhs-issues-final-recommendation-for-community-water-fluoridation.html>
^{viii} <http://www.cdc.gov/fluoridation/faqs/infant-formula.html>
^{ix} http://docs.legis.wisconsin.gov/code/admin_code/nr/800/809/IV/74
^x <http://www.ada.org/en/publications/ada-news/2016-archive/april/water-fluoridation-set-to-return-in-israel>
^{xi} <http://iilikemyteeth.org/wp-content/uploads/2013/05/Harvard-Med-Dental-School-Deans-March-2013.pdf>
^{xii} http://www.nsf.org/newsroom_pdf/NSF_Fact_Sheet_on_Fluoridation.pdf
^{xiii} <http://www.livescience.com/38952-epa-arsenic-petition-response.html>
^{xiv} <http://www.ada.org/en/public-programs/advocating-for-the-public/fluoride-and-fluoridation?source=VanityURL>
^{xv} <http://www.cdc.gov/fluoridation/statistics/fgrowth.htm>
^{xvi} http://www.cdc.gov/mmwr/volumes/65/wr/mm6539a9.htm?s_cid=mm6539a9_w
^{xvii} <https://www.publichealthmhc.com/documents/WaterFluoridationandLeadToxicity.pdf>
^{xviii} <http://www.waterrf.org/PublicReportLibrary/4641.pdf>

All online sources were accessed on 10/11/16