



Fwd: Request for town to notify pregnant women about the latest study on fluoride's link to reduced IQ in children

Bryan Moss

Mon, Jan 6, 2020

To: selectmen@shrewsburyma.gov

Cc: Kevin Mizikar <kmizikar@shrewsburyma.gov>, drowley@shrewsburyma.gov

Dear Water Commissioners (Board of Selectmen),

The last time fluoridation was discussed at Town Meeting in September 2016, a representative of the Water Commissioners made the following statement:

<https://www.youtube.com/watch?v=DPVn18LnoAI&t=2868>

"and the bottom line is that no peer reviewed studies have found any link to any health harms from fluoride except for fluorosis which is a staining of the teeth. There have been thousands of studies done and they have been from all over the world, but not all of them have been good. There has been flaws in their methodology, etc and the ones that can be peer reviewed and the results can be duplicated have found there is no problem with fluoride." - *Shrewsbury Water Commissioner @ STM 09/26/16*

That was the last our town heard from the water commissioners on the topic of fluoride. However, Since that statement was made, there have been several peer-reviewed, US Government funded studies showing a link between fluoride and neurotoxicity such as lowered IQ. Please take the time to listen to this 12 minute podcast by the JAMA editors as it really shows how significant this new science is in changing their belief that fluoride is totally safe to actually saying he would now advise his own wife to avoid drinking fluoridated water if she were pregnant ("The answer for me, I can say, is I would not have my wife drink fluoridated water" if she were pregnant, Christakis said - Washington Post 08/19/19).

JAMA Pediatrics Editors' Summary - 12min 40sec Audio - by Dimitri Christakis, MD, MPH, Editor in Chief, and Frederick Rivara, MD, MPH, Editor in Chief of JAMA Network Open

A must-hear twelve-minute podcast featuring AMA Pediatrics Editor in Chief, Dimitri Christakis, MD, MPH, and Frederick Rivara, MD, MPH, Editor in Chief of JAMA Network Open, was also released alongside the study. The editors express how "very concerning" and "startling" the evidence is against fluoridation, and how the neurological damage is "on par with lead." They praise the high quality of this study, and call for additional NIH funding of more fluoride research. Before publication, the study was subjected to two statistical reviews, with the researchers combing through the data to make sure that the results were not skewed by the mothers' education, income levels, or other factors. **Most importantly, they recommend that pregnant women avoid drinking fluoridated water.**

- <https://edhub.ama-assn.org/jn-learning/audio-player/17802991>

In response to the peer-reviewed studies released after that town meeting, I am requesting that the Water Commissioners take the following actions:

- 1. Notify pregnant woman in Shrewsbury of the new US government-funded study (Green et al. (2019) - see below for link to study) linking exposure to "optimally" fluoridated water during pregnancy to lowered IQ for the child, so that pregnant women can make an informed decision on whether or not they want to avoid drinking Shrewsbury's fluoridated water during pregnancy. This study was published on August 2019 in the world's premier pediatric journal and was subjected to additional scrutiny given the nature of the findings and their potential implications.**
- 2. Notify Town Meeting Members of the new US government funded/conducted peer-reviewed studies that have found a link to neurodevelopmental harm (e.g. lowered IQ) from fluoride.**

The water commissioners are responsible for the addition of fluoride to Shrewsbury's water supply and are therefore responsible for providing information to the town residents on the risks and benefits of that ongoing action. By making those statements at town meeting in 2016, the water commissioners need to update town meeting members and town water consumers of the existence of the new US government funded/conducted studies that now show a link to a health harm (ie. neurotoxicity). To not provide town meeting and town residents with the updated information would be negligence on the part of the water commissioners as you would be leaving residents and town meeting members with the impression that that information provided at the 2016 STM is still true but it is not true anymore. I do believe the water commissioners will take the correct course of action on Fluoride and notify town meeting and residents given the

precedent set when proactively notifying both town meeting members and residents in the cases of Hexavalent Chromium and PFAS even though there were no regulatory requirements to do so. I believe this is in line with what the Water Department is communicating to residents. In this recent Community Advocate news story, Water Superintendent Rowley said the following statement.

<https://www.communityadvocate.com/2020/01/01/shrewsburys-new-water-sewer-superintendent-shares-vision-for-town-water/>

“We are going to monitor both the hex chrome and the PFAS on a quarterly basis, [send out updates so folks know that they can have confidence that we are monitoring and that we are paying attention and trying to get the messages out to them](#),” Rowley said.

Notice how he focuses on the part of updating residents so they know the water department is monitoring and paying attention to any issues. With the Water Commissioners being responsible for ordering the fluoride into the water, I believe you should also be paying attention and proactively getting messages out to water customers of any potential issues with fluoride. Please remember that the MDPH does not order the fluoride added to our water, instead they only provide recommendations, but please be clear that the MDPH is not accountable at all for any issues arising from their recommendations. In the end, it is the water commissioners who are responsible and therefore accountable; therefore, you should be communicating updates out to the public.

My initial request to the town was first made back on September 1, 2019 (over 4 months ago) and then I made a subsequent request specifically to the Board of Health on 10/15/19. No action to notify residents is planned by the town on either of those two requests; therefore, I am now directing the request to the Water Commissioners directly. At the time of my first two requests, I was not yet aware of the draft National Toxicology Program (NTP) review of fluoride and its link to neurodevelopmental and cognitive health effects that was released in September. I believe you should pay especially close attention to this draft review as it is a US Government agency reviewing and concluding that fluoride is 'presumed to be a cognitive neurodevelopmental hazard to humans'. Please notice that the US Government agency reviewed over five hundreds studies in making this conclusion. That means these recent studies and findings should not be dismissed as 'just one study'. It was a multi-year review of hundreds of studies that led to this conclusion. The NTP draft is currently in peer-review by the National Academy of Sciences and the final copy and conclusions should be available soon. Here is a recap of the review and studies in the review:

NTP Fluoride Neurotoxicity Review (link to document below)

The NTP reviewed 547 studies on fluoride's neurotoxicity and concluded that "...Fluoride is presumed to be a cognitive neurodevelopmental hazard to humans. This conclusion is based on a consistent pattern of findings in human studies across several different populations showing that higher fluoride exposure is associated with decreased IQ or other cognitive impairments in children." The NTP classifies a health hazard into one of four categories 1) known, 2) presumed, 3) suspected and 4) not enough information. Here are number of studies by category that the NTP reviewed.

- 148 human studies on fluoride's neurotoxicity
- 339 animal studies on fluoride's neurotoxicity
- 60 in vitro/mechanistic studies on fluoride's neurotoxicity

Additionally, here is the listing of the 6 recent studies since the 2016 STM with links and relative information for your review (most recent studies listed first):

11/18/19 - Till et al. (2019) - Fluoride exposure from infant formula and child IQ in a Canadian birth cohort

<https://www.ncbi.nlm.nih.gov/pubmed/31743803>

- This study was funded by the U.S. National Institute of Environmental Health Sciences (NIEHS) and published in Environment International.
- "Exposure to increasing levels of fluoride in tap water was associated with diminished non-verbal intellectual abilities; the effect was more pronounced among formula-fed children."
- In this Canadian study, bottle-fed babies in fluoridated communities have lower IQ than breast-fed babies.

10/22/19 - Riddell et al. (2019) - Association of water fluoride and urinary fluoride concentrations with attention deficit hyperactivity disorder in Canadian youth.

<https://www.ncbi.nlm.nih.gov/pubmed/31654913>

- "DISCUSSION: Exposure to higher levels of fluoride in tap water is associated with an increased risk of ADHD symptoms and diagnosis of ADHD among Canadian youth, particularly among adolescents. Prospective studies are needed to confirm these results."
- Adolescents were three times more likely to develop ADHD symptoms in fluoridated communities compared to non-fluoridated ones (in Canada).

09/06/19 - DRAFT NTP Monograph on the systematic review of fluoride exposure and neurodevelopmental and cognitive health effects

https://www.asdwa.org/wp-content/uploads/2019/10/draft_fluoride_monograph_20190906_5081.pdf

- the National Toxicology Program (NTP) published a draft review of fluoride's neurotoxicity concluding the following.
"...Fluoride is presumed to be a cognitive neurodevelopmental hazard to humans. This conclusion is based on a consistent pattern of findings in human studies across several different populations showing that higher fluoride exposure is associated with decreased IQ or other cognitive impairments in children."
- When the National Academy of Sciences completes its peer review, the NTP could raise the classification of fluoride even higher to a 'known' from 'presumed' neurodevelopmental hazard to humans. Whether or not they raise the classification even higher after the peer review, the weight of scientific evidence in the NTP review should be sufficient to demonstrate the risks of fluoridation.

08/19/19 - Green et al. (2019) - Association Between Maternal Fluoride Exposure During Pregnancy and IQ Scores in Offspring in Canada

<https://jamanetwork.com/journals/jamapediatrics/fullarticle/2748634#224604298>

- This study was funded by the U.S. National Institute of Environmental Health Sciences (NIEHS) and published in JAMA Pediatrics.
- "In this study, maternal exposure to higher levels of fluoride during pregnancy was associated with lower IQ scores in children aged 3 to 4 years. These findings indicate the possible need to reduce fluoride intake during pregnancy."
- This Canadian study essentially replicated the Bashash et al. (2017) study. This is important because this is not the first study but rather replicated the first study on maternal exposure to fluoride.
- Additionally, it is important to note that the effects of fluoride in the JAMA study are comparable to the effects of lead, and if these findings are true, there should be as much concern about prenatal fluoride exposure. Also, the JAMA study authors looked for the evidence to suggest that fluoride is safe and effective during pregnancy; however, when they looked for the evidence to suggest that it's safe, they did not find any studies done on pregnant women. This means that there is no evidence that swallowing fluoride is safe for pregnant women or their fetus.

10/10/18 - Bashash et al. (2018) - Prenatal fluoride exposure and attention deficit hyperactivity disorder (ADHD) symptoms in children at 6–12 years of age in Mexico City.

<https://www.ncbi.nlm.nih.gov/pubmed/30316181>

- This study found that when mother's urinary fluoride levels went up so did the symptoms of ADHD.
- "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."

09/19/17 - Bashash et al. (2017) - Prenatal Fluoride Exposure and Cognitive Outcomes in Children at 4 and 6–12 Years of Age in Mexico

<https://ehp.niehs.nih.gov/doi/10.1289/ehp655>

- This study was funded by the U.S. National Institutes of Health, the U.S. Environmental Protection Agency, and the U.S. NIEHS and published in Environmental Health Perspectives.
- "In this study, higher prenatal fluoride exposure, in the general range of exposures reported for other general population samples of pregnant women and nonpregnant adults, was associated with lower scores on tests of cognitive function in the offspring at age 4 and 6–12 y."

Please also review the email thread below so you can see initial requests, supporting information, commentary and overall history and context.

I would also request I be given time on a Board of Selectmen / Water Commissioners agenda to present this information and answer any questions or concerns you may have. Also, please feel free to reach out to me with any questions and concerns.

Thank you,
Bryan Moss

----- Forwarded message -----

From: **Bryan Moss**

Date: Mon, Dec 9, 2019

Subject: Fwd: Request for town to notify pregnant women about the latest study on fluoride's link to reduced IQ in children
To: Stephen Vigeant, Jennie Fishman, George Abraham
Cc: Kerry Stockwell <kstockwell@shrewsburyma.gov>, Kevin Mizikar <kmizikar@shrewsburyma.gov>

Dear Board of Health,

Thank you for the opportunity to present at the BOH 10/23/19 meeting on the topic of notifying pregnant women of the recent study published in JAMA Pediatrics showing a link between fluoride and lower IQ in children.

During my presentation to the BOH, I highlighted the fact that the Town of Shrewsbury has recently established a precedent in the PFAS example where the town notified water customers even though the exposure is lower than the regulatory requirement to notify customers. Moreover, the recent PFAS notification clearly identifies a pregnant woman as a "sensitive consumer" and provides guidance on minimizing exposure. I believe this sets precedent for notifying the town's sensitive consumers (pregnant women) of the recent JAMA Pediatrics published study out of an abundance of caution and given the town's commitment to keeping water consumers informed even though there is no regulatory requirement to do so.

October 17, 2019 - Important information regarding PFAS and the Town of Shrewsbury's water supply
<https://shrewsburyma.gov/DocumentCenter/View/6516/Shrewsbury-PFAS-in-Drinking-Water-Supply-Notice---October-17-2019-1>

- "Out of an abundance of caution and given our commitment to keep you informed, we are providing this information even though the levels do not trigger a notice under drinking water regulations."
- "These results are below EPA's and MassDEP's current health advisory guidelines and are also below the new 20 ppt guideline now under consideration by MassDEP. Nevertheless, if you are a sensitive consumer (pregnant women, nursing mothers, and infants) you can minimize your exposure by using bottled water that has been tested for PFAS for drinking, making infant formula and cooking foods that absorb water or use a home water treatment system that is certified to remove PFAS by an independent testing group such as NSF International, Underwriters Laboratories, Water Quality Association, or the CSA Group."

Also, in response to my presentation, I believe there was a comment from the board that this is just one study; however, there have been several recent studies (and a draft report) of importance supporting the link between fluoride exposure and lower IQ of the child. These studies/report were published after the two Town Meeting citizens petitions in May 2015 and September 2016 and therefore, are new evidence to consider since those previous discussions. Here are some additional recent studies for your review (note: I included the JAMA study again so you can see the pattern over the past few years.

11/18/19 - Till et al. (2019) - Fluoride exposure from infant formula and child IQ in a Canadian birth cohort
<https://www.sciencedirect.com/science/article/pii/S0160412019326145?via%3Dihub>

- This study was funded by the U.S. National Institute of Environmental Health Sciences (NIEHS) and published in Environment International.
- "Exposure to increasing levels of fluoride in tap water was associated with diminished non-verbal intellectual abilities; the effect was more pronounced among formula-fed children."

09/06/19 - DRAFT NTP MONOGRAPH ON THE SYSTEMATIC REVIEW OF FLUORIDE EXPOSURE AND NEURODEVELOPMENTAL AND COGNITIVE HEALTH EFFECTS
https://www.asdwa.org/wp-content/uploads/2019/10/draft_fluoride_monograph_20190906_5081.pdf

- the National Toxicology Program (NTP) published a draft review of fluoride's neurotoxicity concluding the following.
"...Fluoride is presumed to be a cognitive neurodevelopmental hazard to humans. This conclusion is based on a consistent pattern of findings in human studies across several different populations showing that higher fluoride exposure is associated with decreased IQ or other cognitive impairments in children."
- When the National Academy of Sciences completes its peer review, the NTP could raise the classification of fluoride even higher to a 'known' from 'presumed' neurodevelopmental hazard to humans. Whether or not they raise the classification even higher after the peer review, the weight of scientific evidence in the NTP review should be sufficient to demonstrate the risks of fluoridation.

08/19/19 - Green et al. (2019) - Association Between Maternal Fluoride Exposure During Pregnancy and IQ Scores in Offspring in Canada
<https://jamanetwork.com/journals/jamapediatrics/fullarticle/2748634#224604298>

- This study was funded by the U.S. National Institute of Environmental Health Sciences (NIEHS) and published in JAMA Pediatrics.
- "In this study, maternal exposure to higher levels of fluoride during pregnancy was associated with lower IQ scores in children aged 3 to 4 years. These findings indicate the possible need to reduce fluoride intake during pregnancy."

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- This study was funded by the U.S. National Institutes of Health, the U.S. Environmental Protection Agency, and the U.S. NIEHS and published in Environmental Health Perspectives.
- "In this study, higher prenatal fluoride exposure, in the general range of exposures reported for other general population samples of pregnant women and nonpregnant adults, was associated with lower scores on tests of cognitive function in the offspring at age 4 and 6–12 y."

Additionally, it is important to note that the effects of fluoride in the JAMA study are comparable to the effects of lead, and if these findings are true, there should be as much concern about prenatal fluoride exposure. Also, the JAMA study authors looked for the evidence to suggest that fluoride is safe and effective during pregnancy; however, when they looked for the evidence to suggest that it's safe, they did not find any studies done on pregnant women. This means that there is no evidence that swallowing fluoride is safe for pregnant women or their fetus. So if there isn't even one study to prove swallowing fluoride is safe for pregnant women and the fetus, how could the town ignore multiple US Government funded studies and report that show harm to the fetus and then also decide not to provide that new information to the consumers so they can make an informed decision?

Since the town is the party responsible for adding fluoride to the drinking water, it is the town's responsibility to inform sensitive water consumers such as pregnant women of any potential risk of drinking Shrewsbury's fluoridated drinking water.

It has been 4 years since I first asked the Board of Health to consider the affect of fluoride on the child's brain/IQ and with these most recent studies/report supporting the previous studies, I hope that the town will honor its commitment to keep its sensitive consumers informed so that they can make a more informed decision on whether or not to drink the fluoridated water.

Thank you,
Bryan Moss

----- Forwarded message -----

From: **Bryan Moss**

Date: Tue, Oct 15, 2019 at 8:13 AM

Subject: Fwd: Request for town to notify pregnant women about the latest study on fluoride's link to reduced IQ in children

To: Kerry Stockwell <kstockwell@shrewsburyma.gov>

Cc: Stephen Vigeant, Jennie Fishman, George Abraham

Hi Kerry,

I would like to request to be placed on the October 23rd BOH agenda to discuss a recently published study in JAMA Pediatrics that identifies a link between fluoride exposure during pregnancy and lower IQ in children. I would like to request to speak along with Melissa Pride-Fahs and Catherine Rajwani for 15 minutes (or whatever amount of time that can be granted to us given the shorter 1 hour meeting) to introduce these concerns to the board.

We are requesting that the Board of Health notify pregnant woman of the study so that pregnant women can make an informed decision on whether or not they want to avoid drinking Shrewsbury's fluoridated water during pregnancy.

Please find all of the supporting information in the email below that was sent to the town on September 1st, 2019.

Thank you,
Bryan Moss

----- Forwarded message -----

From: **Bryan Moss**

Date: Sun, Sep 1, 2019

Subject: Request for town to notify pregnant women about the latest study on fluoride's link to reduced IQ in children
To: Kevin Mizikar <kmizikar@shrewsburyma.gov>

Hi Kevin,

As discussed at our meeting on Thursday, the world's premier pediatric journal has published last week a new government-funded study linking exposure to "optimally" fluoridated water during pregnancy to lowered IQ for the child. This means that pregnant women who drink fluoride-treated water may have children with lower IQs. While a cavity can be repaired, a child's brain cannot.

In response to this newly released study, I am requesting that the town notify pregnant woman of the study so that pregnant women can make an informed decision on whether or not they want to avoid drinking Shrewsbury's fluoridated water during pregnancy.

While this may seemed rushed or new information, it is not. Over 4 years ago, I provided information to the town identifying the link between fluoride to lower IQ and requested the town "*immediately suspend Shrewsbury's water fluoridation program until this matter can be fully investigated, and we can be certain that any fluoride added to the drinking water is having no adverse effect on children's minds.*" I also brought up the neurotoxicity concern to the town two times after that in the May 2015 ATM and the Sept 2016 STM.

- <https://sustainableshrewsbury.files.wordpress.com/2018/03/letter-boh-suspend-fluoridation-request-0413151.pdf>

In August 2016, I also provided the Selectmen, Finance Committee, Board of Health, Town Manager, and Water Superintendent the following information of the risks of fluoride. I had identified the neurotoxicity issue again as well as many other issues.

- <https://sustainableshrewsbury.files.wordpress.com/2018/03/supplemental-2016-sep-stm-safe-drinking-water-protection-bylaw.pdf>

The longer the town waits to notify pregnant women in town, the longer their unborn children are exposed to fluoride and the more unborn children that will be impacted and exposed to the fluoride that the town of Shrewsbury puts into its drinking water supply.

Below is the link to the new study as well as some related information. I highly recommend listening to the 13 minute Editor's Summary audio podcast.

August 19, 2019 - Association Between Maternal Fluoride Exposure During Pregnancy and IQ Scores in Offspring in Canada

The American Medical Association's journal on pediatrics (JAMA Pediatrics) has published the second U.S. Government-funded study linking low-levels of fluoride exposure during fetal development to cognitive impairment. The observational study, entitled Association Between Maternal Fluoride Exposure During Pregnancy and IQ Scores in Offspring in Canada, was led by a team at York University in Ontario, Canada and looked at 512 mother-child pairs from six major Canadian cities. It was funded by the Canadian government and the U.S. National Institute of Environmental Health Science.

- <https://jamanetwork.com/journals/jamapediatrics/fullarticle/2748634#224604298>

JAMA Pediatrics Editors' Summary - 12min 40sec Audio - by Dimitri Christakis, MD, MPH, Editor in Chief, and Frederick Rivara, MD, MPH, Editor in Chief of JAMA Network Open

A must-hear twelve-minute podcast featuring AMA Pediatrics Editor in Chief, Dimitri Christakis, MD, MPH, and Frederick Rivara, MD, MPH, Editor in Chief of JAMA Network Open, was also released alongside the study. The editors express how "very concerning" and "startling" the evidence is against fluoridation, and how the neurological damage is "on par with lead." They praise the high quality of this study, and call for additional NIH funding of more fluoride research. Before publication, the study was subjected to two statistical reviews, with the researchers combing through the data to make sure that the results were not skewed by the mothers' education, income levels, or other factors. **Most importantly, they recommend that pregnant women avoid drinking fluoridated water.**

- <https://edhub.ama-assn.org/jn-learning/audio-player/17802991>

Editor's Note - Decision to Publish Study on Maternal Fluoride Exposure During Pregnancy

"It is the only editor's note I've ever written," Dimitri Christakis, editor in chief of JAMA Pediatrics and a pediatrician, told The Daily Beast. "There was concern on the journal's editorial team about how this would play out in the public eye and what the public-health implications would be. The effects of this study are comparable to the effects of lead, and if these findings are true there should be as much concern about prenatal fluoride exposure,"

- <https://jamanetwork.com/journals/jamapediatrics/article-abstract/2748628>

Editorial - Is Fluoride Potentially Neurotoxic?

In the editorial piece by Harvard Professor Dr. David Bellinger (note: he is one of the world's leading neuro-scientists) that accompanies the study, he provides an overview of recent fluoride/IQ research, and highlights the strengths of the study and need for additional research. Though he also gives the following warning:

The hypothesis that fluoride is a neurodevelopmental toxicant must now be given serious consideration...It is instructive to recall that the hypothesis that subclinical lead exposures pose a neurodevelopmental hazard was bitterly contested in the 1980s and 1990s, and it was only the weight of evidence that eventually accumulated that led to the now widely held consensus that no level of lead exposure is safe...If the hypothesis is true, the implications are worrisome. Exposure to fluoride has increased substantially in recent decades...If the effect sizes reported by Green et al and others are valid, the total cognitive loss at the population level that might be associated with children's prenatal exposure to fluoride could be substantial.

- <https://jamanetwork.com/journals/jamapediatrics/article-abstract/2748626>

The full pdf version of the editorial is also available here:

- <http://fluoridealert.org/wp-content/uploads/bellinger-editorial.2019.pdf>

Please let me know what the town's plans are to notify pregnant women.

Please also let me know if you have any questions and I appreciate your attention on this important matter.

Thank you,
Bryan Moss
Town Meeting Member, Precinct 8