From: **Paul Connett**
Date: Tue, Jan 29, 2019 at 10:38 AM
Subject: One extra slide added to the ppt I sent to you yesterday (Connett)
To: <gmcnamara1@cogeco.ca>, <jbachetti@tecumseh.ca>, <andrew@andrewdowie.ca>, <rtonial@tecumseh.ca>, <baltenhof@tecumseh.ca>, <bhouston@tecumseh.ca>, <tania.jobin@bell.net>, <ljoy@tecumseh.ca>, Kimberly DeYong

Dear Mayor and councillors,

Yesterday, I sent you a short ppt outlining my arguments against fluoridating the water.

Today, I added another slide which summarizes the benefits of fluoridation based upon a study published a few days ago (Sanders et al, 2019) (see the last slide in the attached ppt).

So with fluoridation we are looking at a potential loss of up to 6 IQ points (Bashash et a, 2017) for an absolute saving of - at best - half a permanent tooth surface out of 128 tooth surfaces in a child's mouth (Sanders et al, 2019). A relative saving of 0.35%

In my opinion, that is not a trade off that most parents would accept - especially when most of the rest of the world (including virtually the whole of Quebec and British Columbia) is achieving the same or similar benefits WITHOUT water fluoridation and without a violation of medical ethics.

Sincerely,

Paul Connett, PhD

Fluoridation: The Worst Public Health Mistake of the 20th Century

Paul Connett, PhD

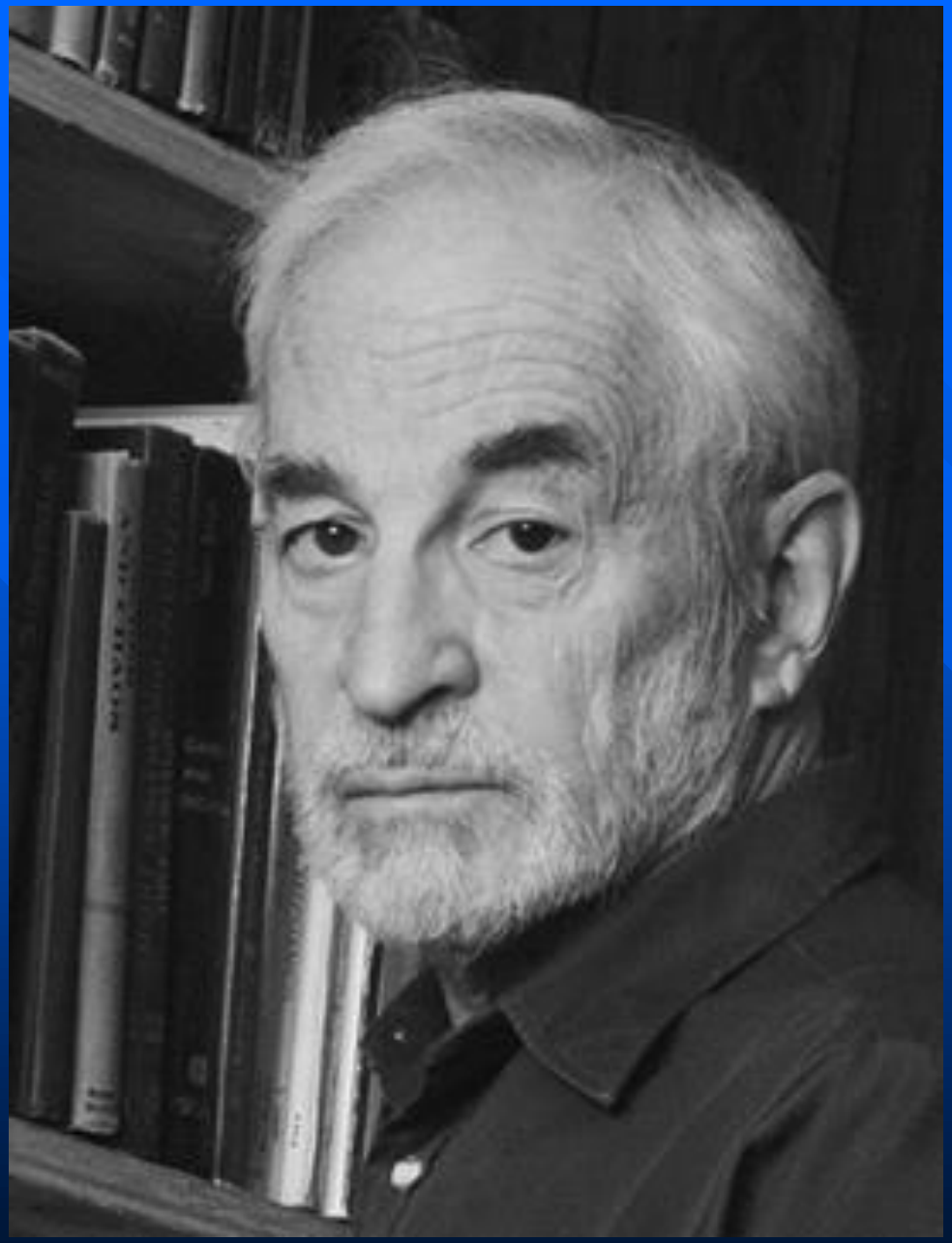
Director, Fluoride Action Network

FluorideALERT.org

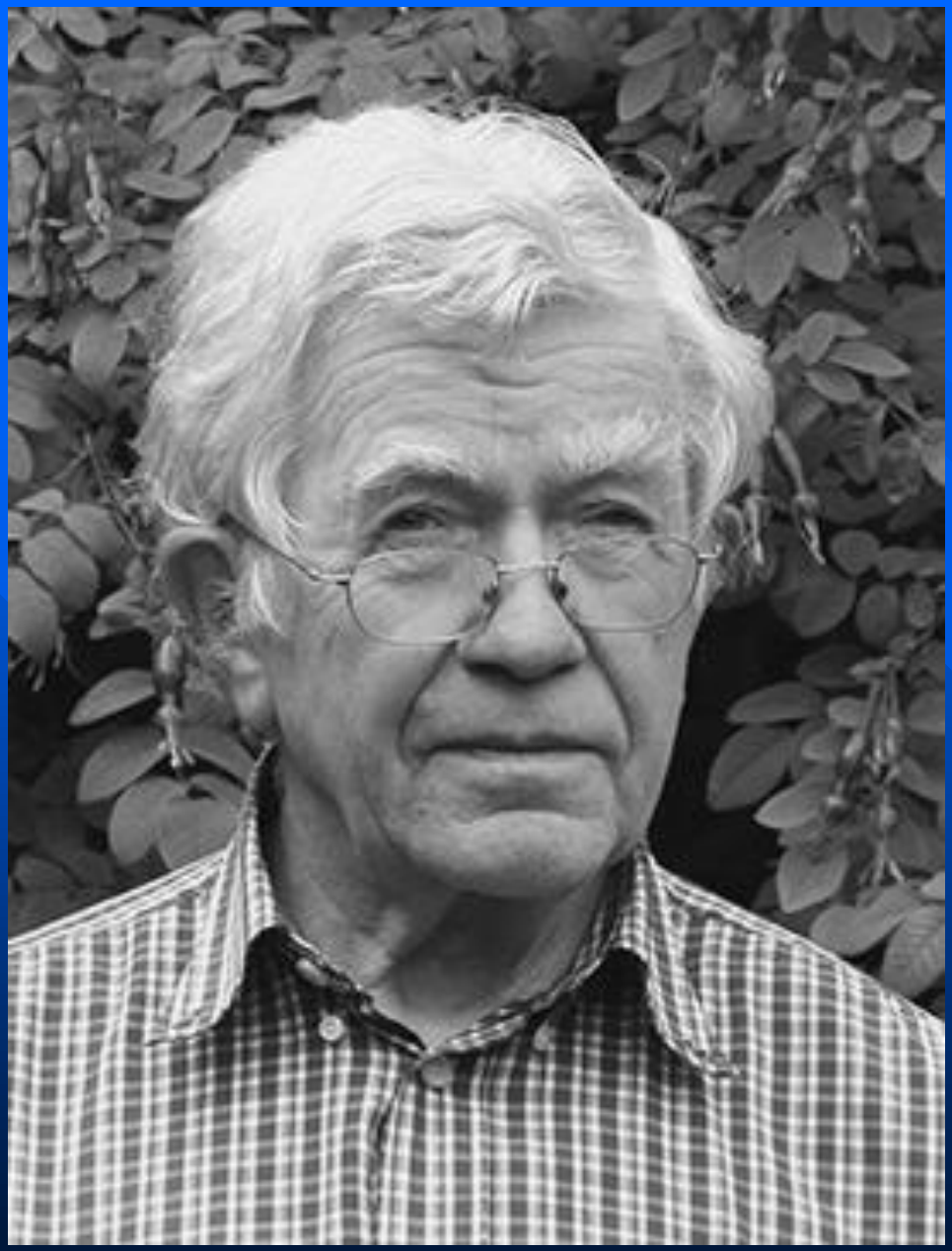
This ppt is offered to any community considering water fluoridation

Personal introduction

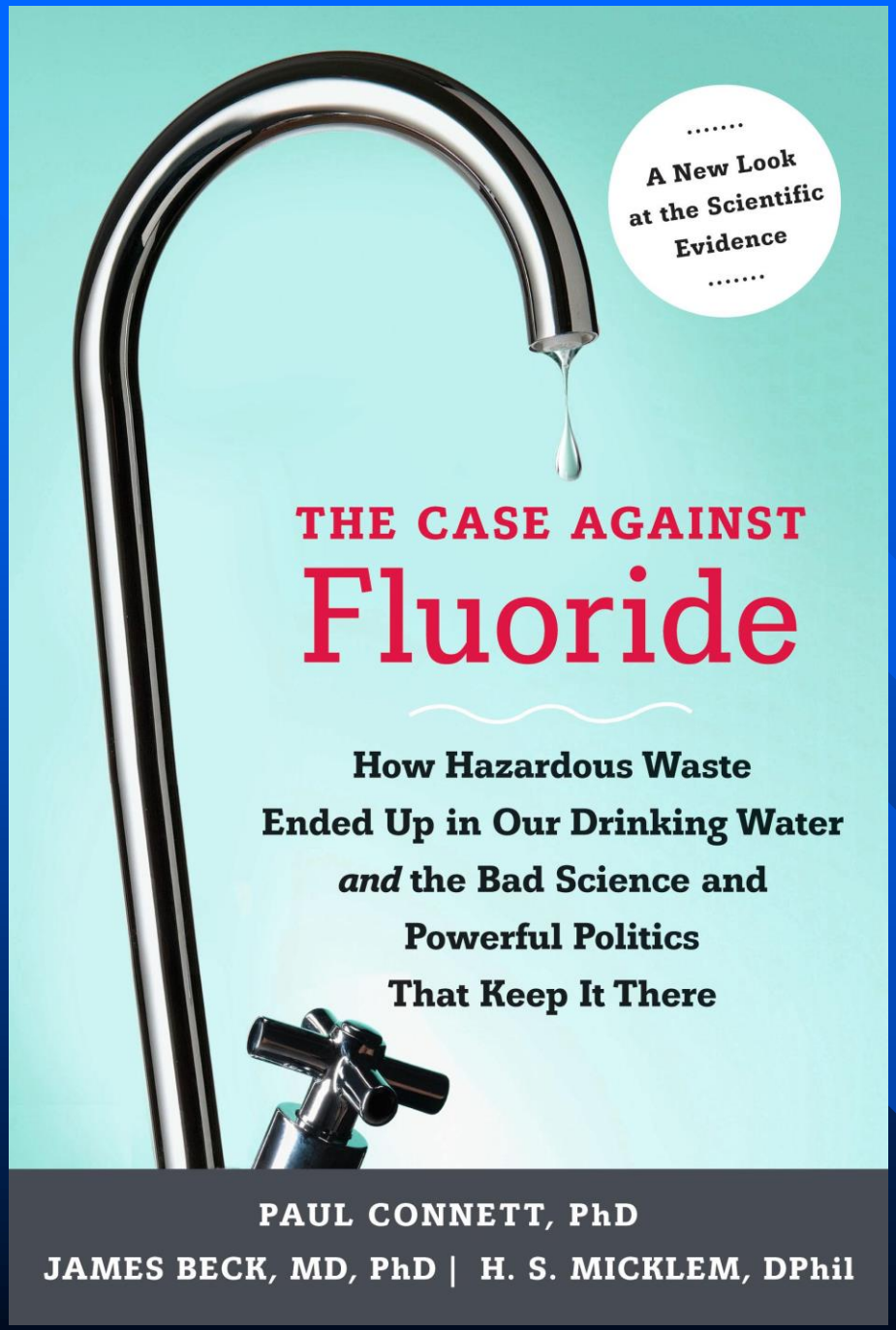
- I am a retired professor of chemistry, who specialized in environmental chemistry and toxicology.
- I have spent the last 23 years (since 1996) researching fluoride's toxicity and the water fluoridation debate.
- I have presented the arguments against fluoridation in the book *The Case Against Fluoride* which I co-authored.



James Beck, MD, PhD, retired professor of Physics from Calgary



HS Micklem, D Phil (Oxon), retired professor of Biology from Edinburgh



Book published by Chelsea Green

October, 2010

Contains 80 pages of references to the Scientific literature

Who can you trust on the safety of water fluoridation?

Who can you trust on the safety water fluoridation?

- Those who have studied BOTH sides of the issue with an open mind.
- Unfortunately, dentists only get one side of the issue at dental school. Many are not keeping up with the literature

Who you can NOT trust on the safety of water fluoridation

- 1) The CDC.
- The CDC has only one small division involved with fluoridation. The Oral Health Division (about 30 employees, most of whom are dentally trained).
- Their job is to promote fluoridation. They do not track health concerns.

Who you can NOT trust on the safety of water fluoridation

- 1) The CDC.
- The CDC's claim in 1999 that fluoridation is one of "the top public health achievements of the 20th century" is a sick joke played on the public. It was based on a pathetic review of the literature on safety – (a single review by the NRC panel in 1993, which was already six years out of date).

Who you can NOT trust on the safety of water fluoridation

- 2) **State and Local Health Departments**. They are all part of the chain of command headed by the NIH and CDC in particular.
- Fluoridation is official “policy”
- Bureaucrats are expected to carry out policy, not question it. If they do question it they won’t advance too far in the agency.
- This is particularly obvious in Canada in the shape of local Medical Officers of Health

Who you can NOT trust on the safety of water fluoridation

- 3) The ADA.

- The ADA has promoted fluoridation since 1951.

American Dental Association White Paper – 1979 On Fluoridation

Excerpt, Pg. 10-11

"Individual dentists must be convinced that they need not be familiar with scientific reports of laboratory and field investigations on fluoridation to be effective participants in the promotion program and that nonparticipation is overt neglect of professional responsibility."

The ADA denies any harm caused by fluoridation except dental fluorosis.

They got away with this for many years because very few studies were carried out in fluoridated communities between the 1950s and 1990s

BUT **The absence of study is not the same as the absence of harm!**

ADA works backwards on safety

- They claim that any study that finds harm is a bad study. It must be [!] because they have been telling everyone it is “safe and effective” for over 70 years. The dogma has become more important than the science.
- The same is true for their position on mercury amalgam fillings. They have promoted the safety of these for over 100 years.

Can you trust dentists on this issue

- I think you can trust dentists when it comes to dealing with teeth BUT
- Comments on safety go beyond their professional expertise
- They are not trained on other tissues in the body
- Nor have they training in risk assessment or toxicology
- Many do not have the time to study the hundreds of animal, biochemical and human studies that have found harm caused by fluoride.

The key arguments against water fluoridation

Key arguments against fluoridation

1. **It is a bad medical practice. You cannot control the dose and who the fluoride goes to.**

Please note the difference between concentration and dose.

Key arguments against fluoridation

2. It violates the individual's right to informed consent to medical treatment.

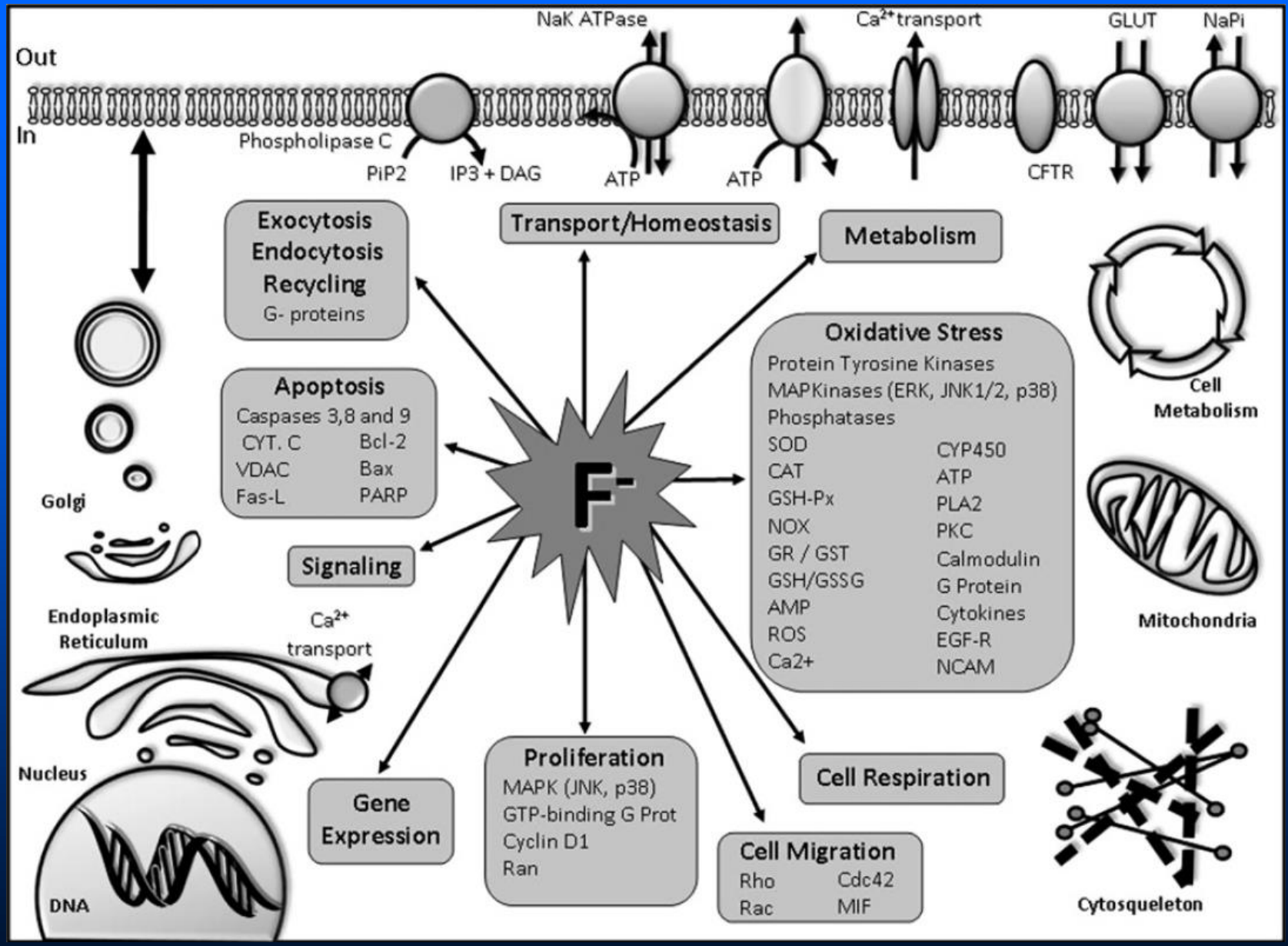
Key arguments against fluoridation

3). Fluoride is very toxic. It interferes with many biochemical processes.

Fluoride is incompatible with human biochemistry. It is harmful at very low levels.

See Barbier et al, (2010). Molecular mechanisms of fluoride toxicity. *Chem. Biol. Interact.* 188(2):319-333.

Fluoride's effects on human cells



Barbier O, Arreola-Mendoza L, Del Razo LM.
Molecular mechanisms of fluoride toxicity. Chem Biol Interact. 2010 Nov 5: 188(2):319-33

Key arguments against fluoridation

4) **Nature has developed ways of defending living things from fluoride**

Nature protects living things from fluoride

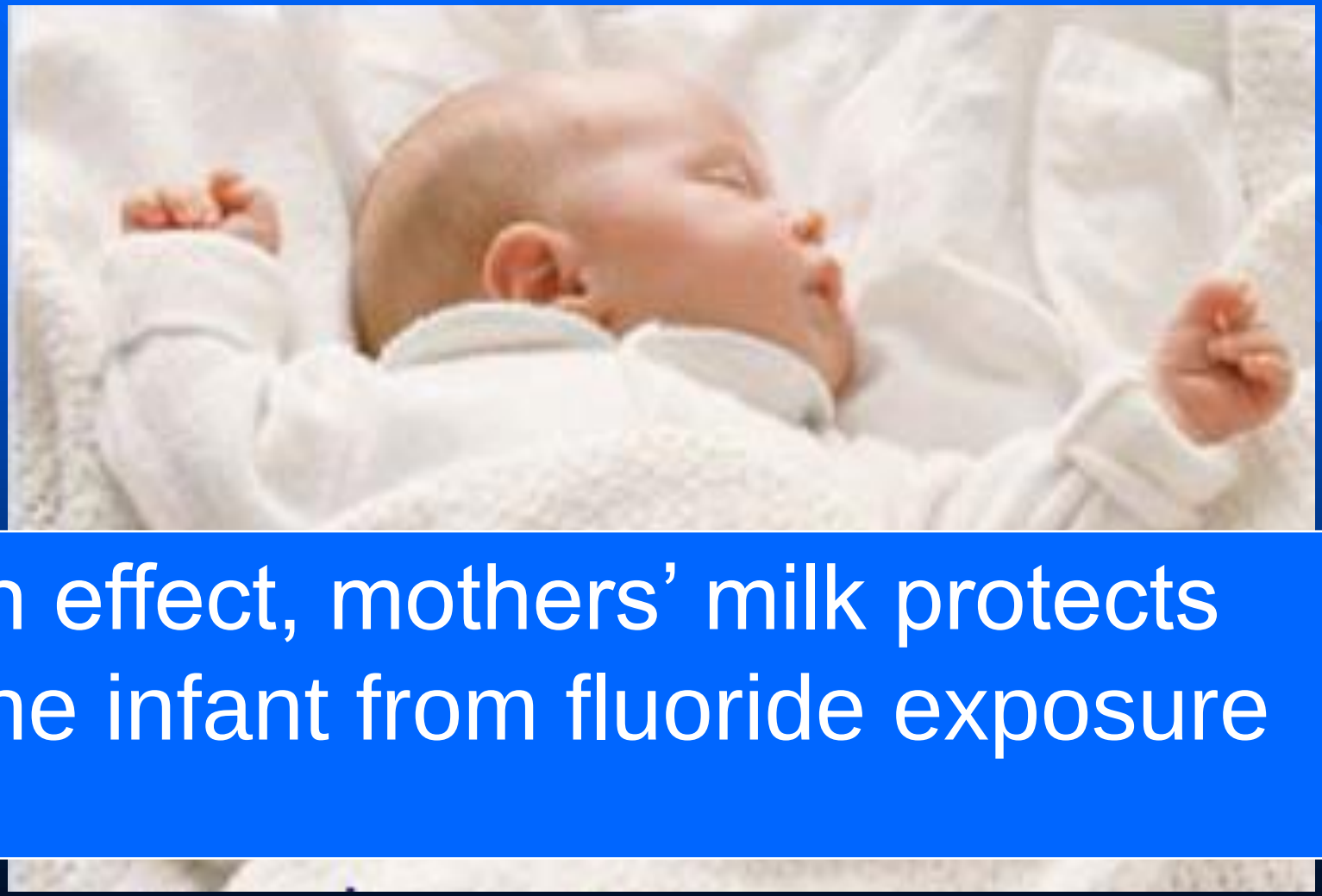
a. For some lower level organisms like bacteria, fungi etc. high levels of fluoride switch on genes which produce “Fluoride Exporting proteins” (FEX-proteins)
b. In mammals the kidneys excrete about 50% of the fluoride ingested each day
c. Remainder of fluoride rapidly sequestered in the hard tissues (calcifying tissues).
d. The breast filters out fluoride

Key arguments against fluoridation

4. Mothers' milk protects the baby from fluoride. A bottle-fed baby in a fluoridated community gets about 200 times more fluoride than a breast-fed baby.

The level of fluoride in Mothers' milk is 0.004 ppm (NRC, 2006, p.40)

The level of fluoride in Mothers' milk is 0.004 ppm (NRC, 2006, p.40)



In effect, mothers' milk protects the infant from fluoride exposure

Water fluoridation removes that protection when babies are bottle-fed

Range of F in USA, 0.7 – 1.2 ppm
= 175 - 300 x level in mothers' milk

Key arguments against fluoridation

5. Fluoride is not an essential nutrient.

6. T**ooth decay is not caused by lack of *ingested* fluoride** but by poor diet (especially too much sugar) and poor dental hygiene.

7. Even the main proponents of fluoridation agree that any benefit is largely **topical** not systemic (CDC, 1999). If you want fluoride it makes more sense to brush it on your teeth and spit it out.

CDC, MMWR, 48(41); 933-940, Oct 22, 1999

- **"…laboratory and epidemiologic research suggest that fluoride prevents dental caries predominantly after eruption of the tooth into the mouth, and its actions primarily are topical…"**

Key arguments against fluoridation

8. **There have been no RCTs** (Randomized clinical trials) that swallowing fluoride lowers tooth decay. RCTs are the gold standard for demonstrating the effectiveness of drugs.

However, there have been 70 RCTs which demonstrate that fluoride toothpaste lowers tooth decay.

Key arguments against fluoridation

9. American kids are being grossly over-exposed to fluoride. As illustrated by the dramatic increase in the prevalence in dental fluorosis.

Dental fluorosis

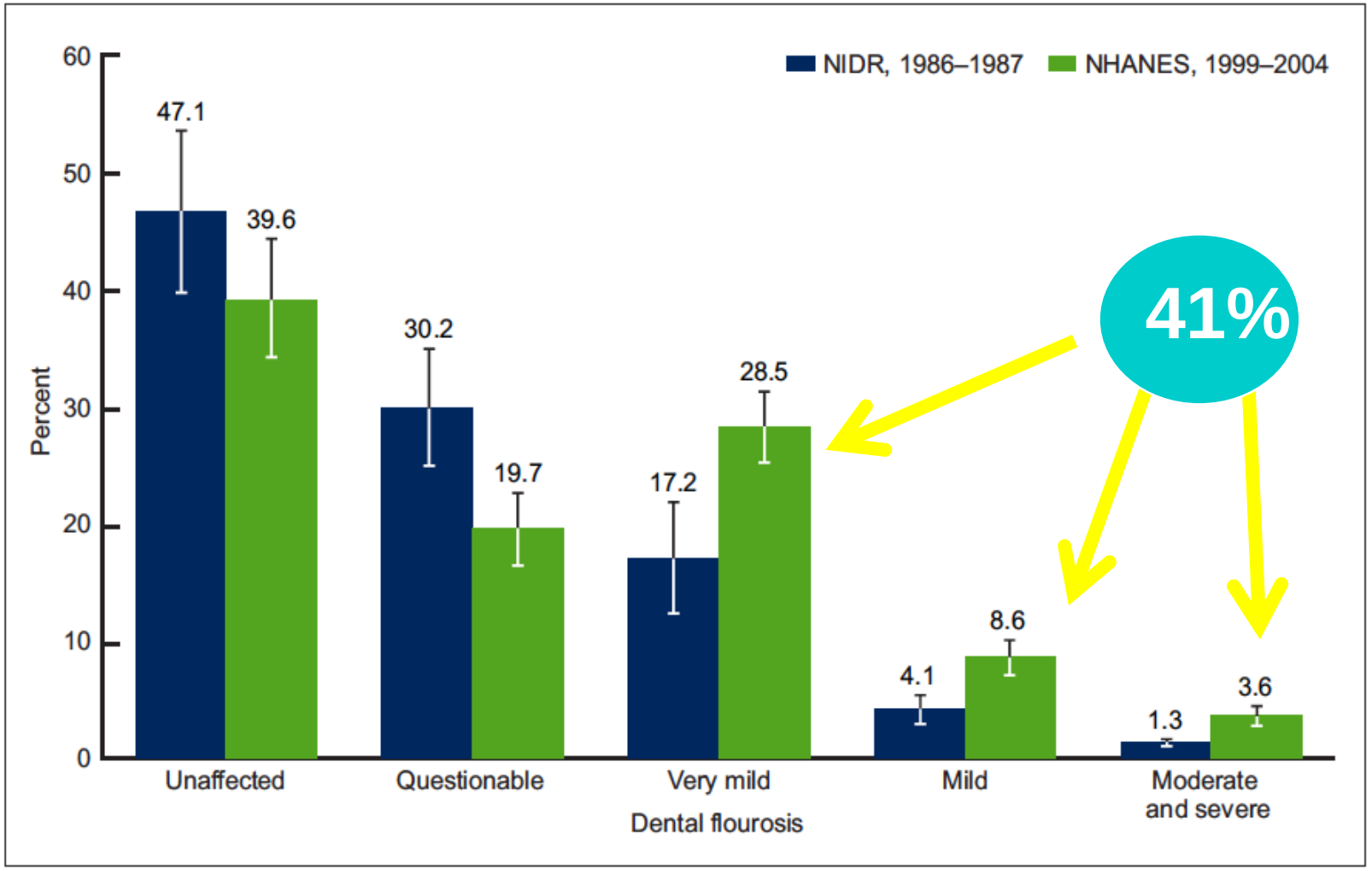
- When fluoridation began 1945 promoters expected that 10% of children would be impacted with dental fluorosis in the "very mild" category. Dental fluorosis is discoloration and mottling of the enamel.

Very Mild Dental Fluorosis

Mild Dental Fluorosis

CDC, 2010

Figure 3. Change in dental fluorosis prevalence among children aged 12–15 participating in two national surveys: United States, 1986–1987 and 1999–2004



NOTES: Dental fluorosis is defined as having very mild, mild, moderate, or severe forms and is based on Dean's Fluorosis Index. Percentages do not sum to 100 due to rounding. Error bars represent 95% confidence intervals.

SOURCES: CDC/NCHS, National Health and Nutrition Examination Survey, 1999–2004 and National Institute of Dental Research, National Survey of Oral Health in U.S. School Children, 1986–1987.

Dental fluorosis increasing dramatically

- 1945 expected prevalence = 10 % (very mild)
- 1986-87 prevalence = 23%
- 2001-04 prevalence = 41 %
- 2011-12 prevalence = 65 %

ORIGINAL REPORT: EPIDEMIOLOGICAL RESEARCH

Dental Fluorosis Trends in United States Oral Health Surveys: 1986–2012

C. Neurath[1], H. Limeback[2], B. Osmunson[3], M. Connett[4], V. Kanter[5], C. R. Wells[6]

Key arguments against fluoridation

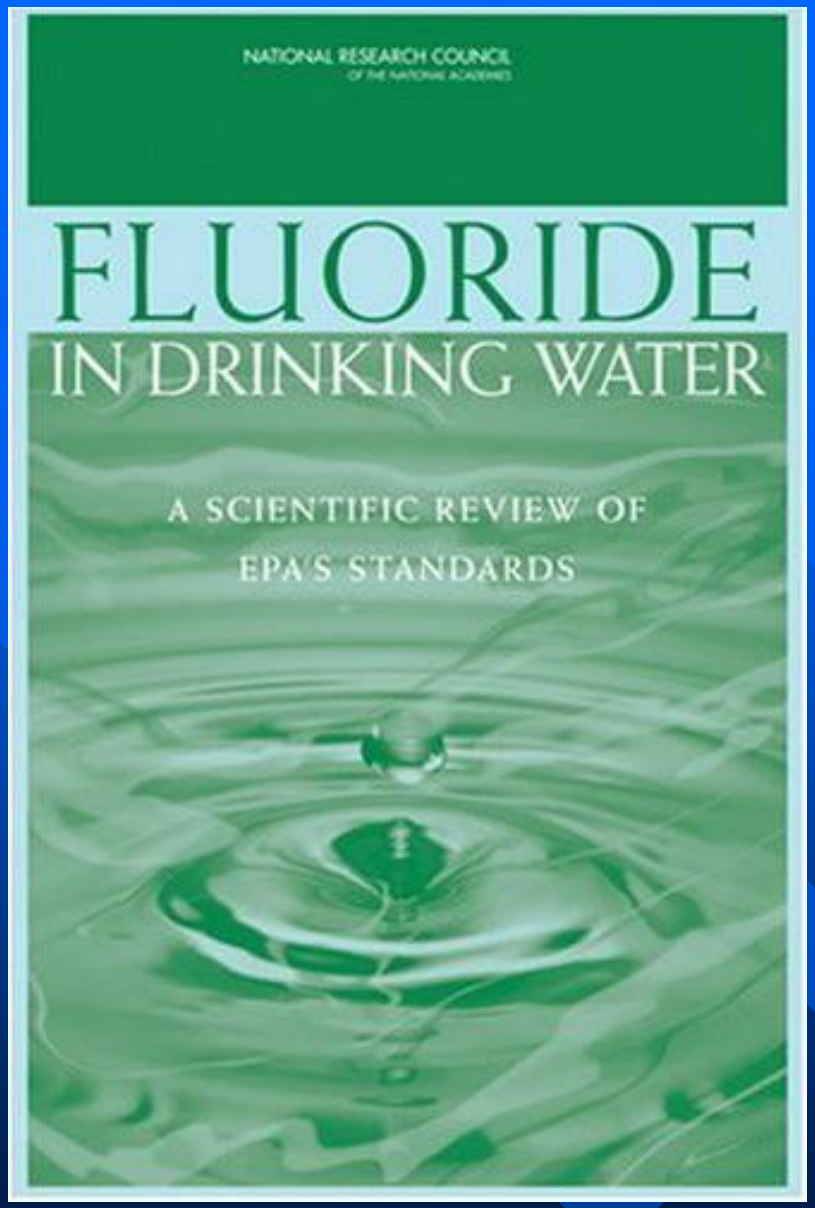
10. Fluoride can damage other tissues in the body including the bone, brain, thyroid gland and kidney – and it may do so in fluoridated communities when you consider the **total exposure** levels from all sources of fluoride.

Of special concern is exposure to the human fetus (Bashash et al., 2017, 2018)

Harmful effects have been carefully documented in a 507-page (1100 references) report by the

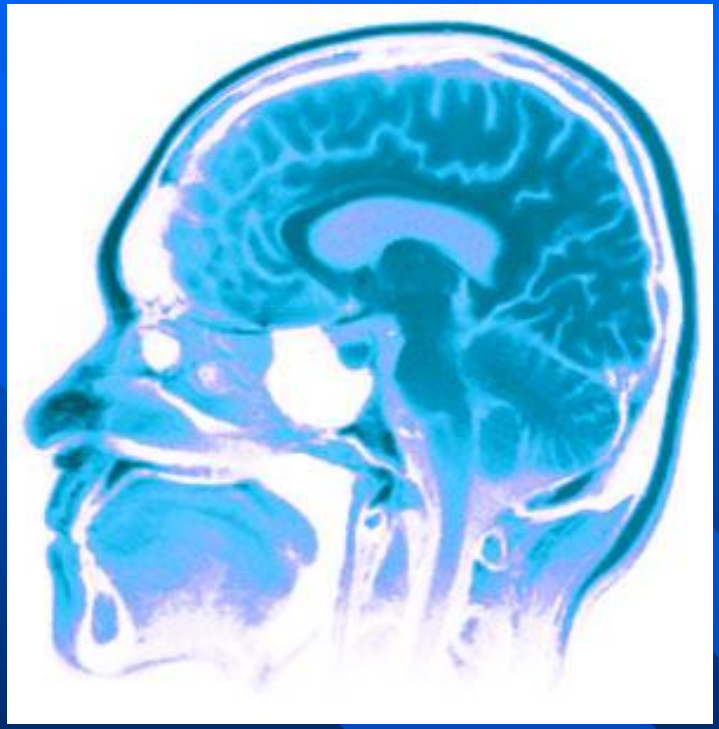
US National Research Council

published in 2006.



National Research Council (2006)

National Research Council (2006):
Fluoride & the Brain



"it is apparent that fluorides have the ability to interfere with the functions of the brain."

Key arguments against fluoridation

11. We should not be adding a known neurotoxic (brain-damaging) substance to the public drinking water.

Key arguments against fluoridation

12. We should not be exposing vulnerable subsets of the population to fluoride, which include

a) Bottle-fed babies

b) people with poor kidney function

c) people with borderline or low iodine intake (fluoride makes thyroid function worse for these people, Malin, 2018)

d) people with above average water intake

Key arguments against fluoridation

13. A small percentage of people are **very sensitive to fluoride's toxic effects.** Why should their interests be sacrificed, when alternatives are available?

Pro-fluoridation governments refuse to investigate their concerns scientifically.

Key arguments against fluoridation

14. We shouldn't be using industrial grade fluoride obtained from the scrubbers of the phosphate fertilizer industry (hexafluorosilicic acid or HFS).

Key arguments against fluoridation

14. (cont)

HFS contains small amounts of toxic contaminants such as aluminium, arsenic, lead and radioactive isotopes. Some of these are carcinogens. **There is no safe level for human carcinogens.**

Key arguments against fluoridation

15. Fluoridation is promoted using PR techniques rather than rigorous science.

Fluoridation quickly became a dogma in the USA

Ever since the US Public Health Service endorsed fluoridation in 1950, the "safety and effectiveness" of fluoridation has been promoted as a **dogma**:
"Fluoridation is safe and effective."
Once a dogma has become a policy it is not open to challenge.

"When policy is king science becomes a slave."

florida dental ASSOCIATION

HEALTH RISKS OF WATER FLUORIDATION?

"NONE"

As of January, 2019

53 out of 60 human studies link fluoride exposure to lowered IQ in children

The most important IQ study

- Was published on Sept 19, 2017. This was the study by Bashash et al., 2017

The Bashash et al., 2017 study

ehp ENVIRONMENTAL HEALTH PERSPECTIVES

Current Issue | Articles | Collections | Authors | EHP中文版 | Career Opportunities | E-Mai

RESEARCH | SEPTEMBER 2017 | VOLUME 125 | ISSUE 9

Altmetric 143

Environ Health Perspect; DOI:10.1289/EHP655

Prenatal Fluoride Exposure and Cognitive Outcomes in Children at 4 and 6–12 Years of Age in Mexico

Morteza Bashash,[1] Deena Thomas,[2] Howard Hu,[1] E. Angeles Martinez-Mier,[3] Brisa N. Sanchez,[2] Niladri Basu,[4] Karen E. Peterson,[2,5,6] Adrienne S. Ettinger,[2] Robert Wright,[7] Zhenzhen Zhang,[2] Yun Liu,[2] Lourdes Schnaas,[8] Adriana Mercado-García,[9] Martha María Téllez-Rojo,[9] and Mauricio Hernández-Avila[9]

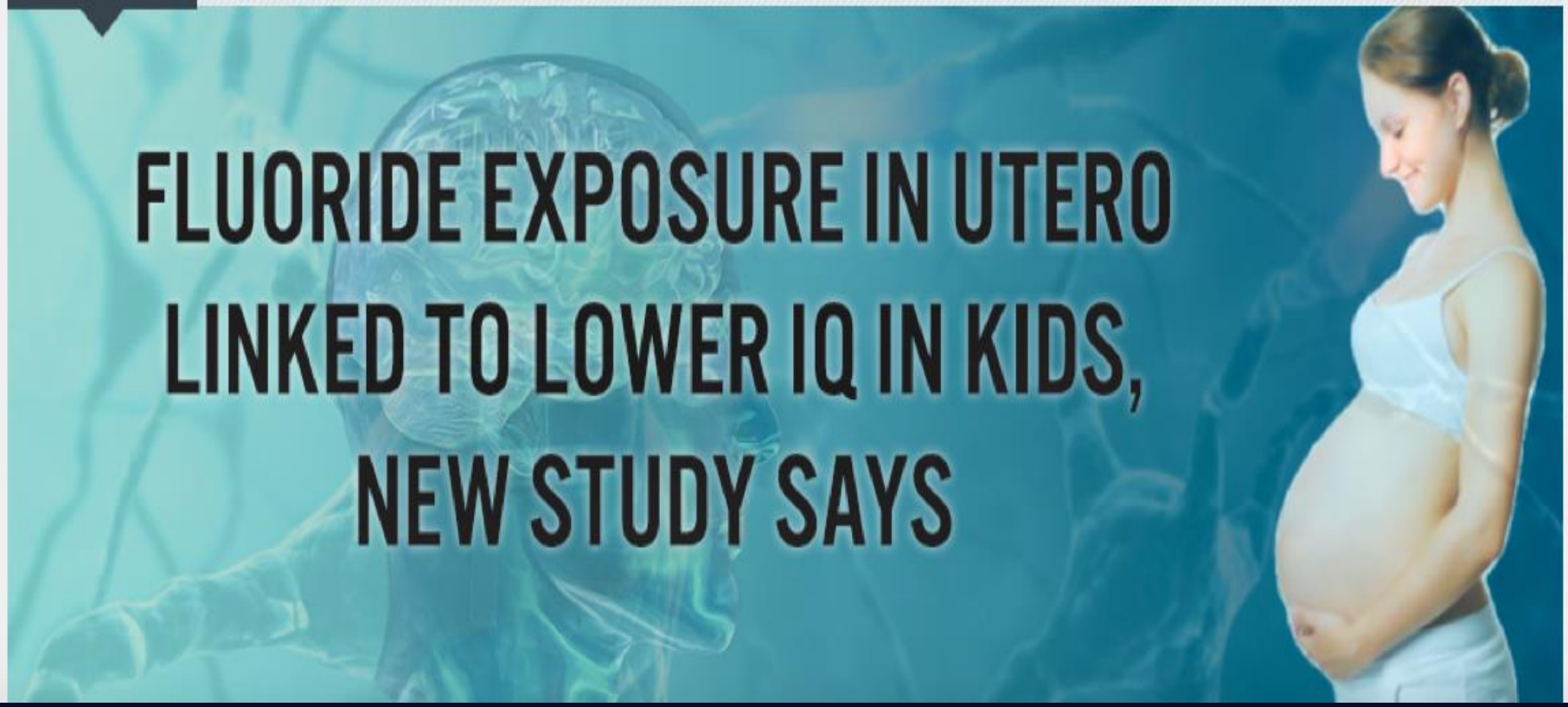
FLUORIDEALERT.ORG
Fluoride Action Network

NEW VISITORS | TAKE ACTION | RESEARCHERS

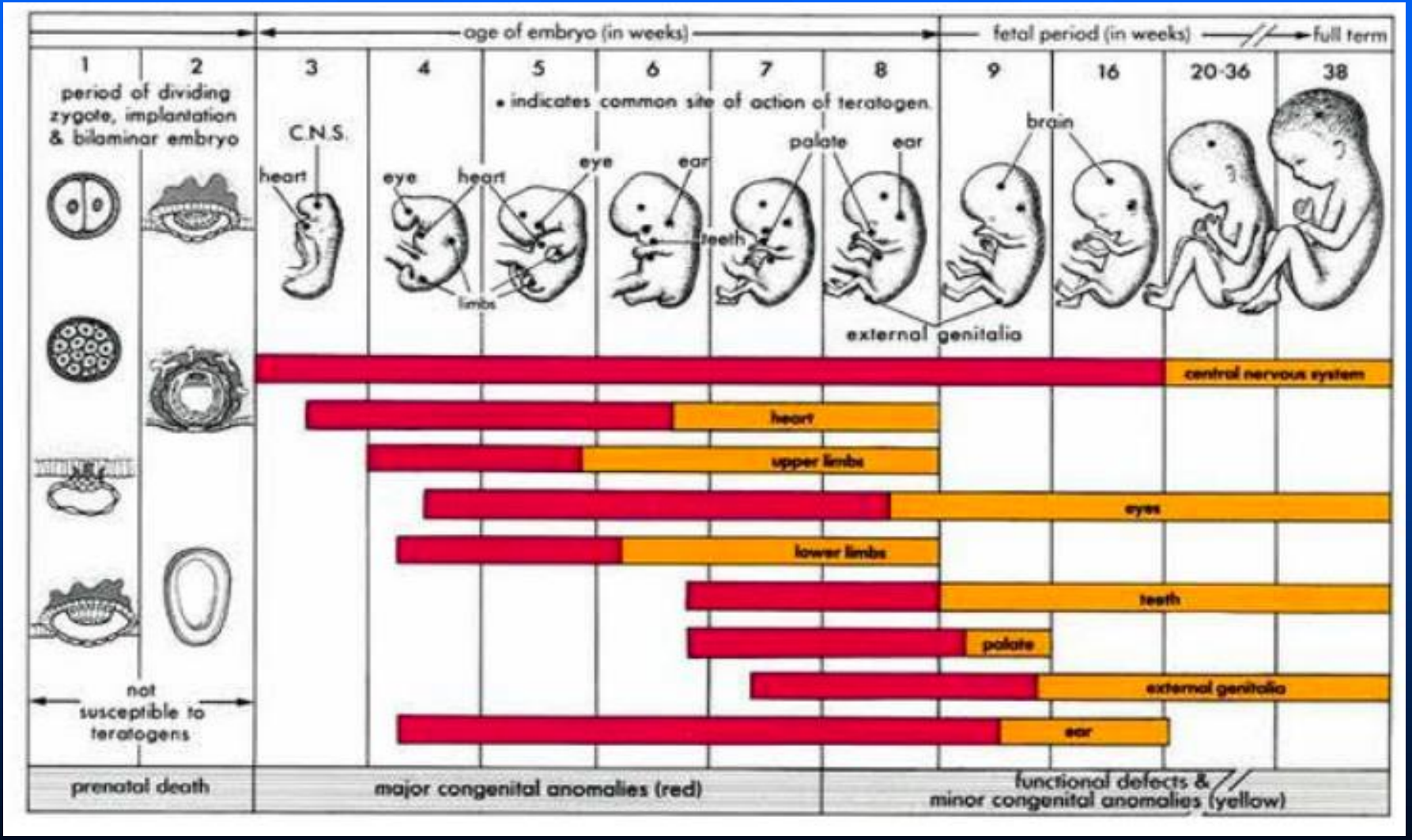
JOIN US | DONATE | Issues | FAN.tv | F.A.Q. | News | About FAN | Google Custom Search | Search

TRENDING TOPICS

1 2 3 4 5 6 7 8 9 10



Fetal stage most sensitive to fluoride's toxicity



The Bashash et al., 2017 study

- This was a 12-year multi-million dollar study – funded by EPA, NIH and NIEHS.
- Authors came from many prestigious institutions (e.g. Universities of Toronto, McGill, Harvard, Indiana, Michigan, Mount Sinai and more)

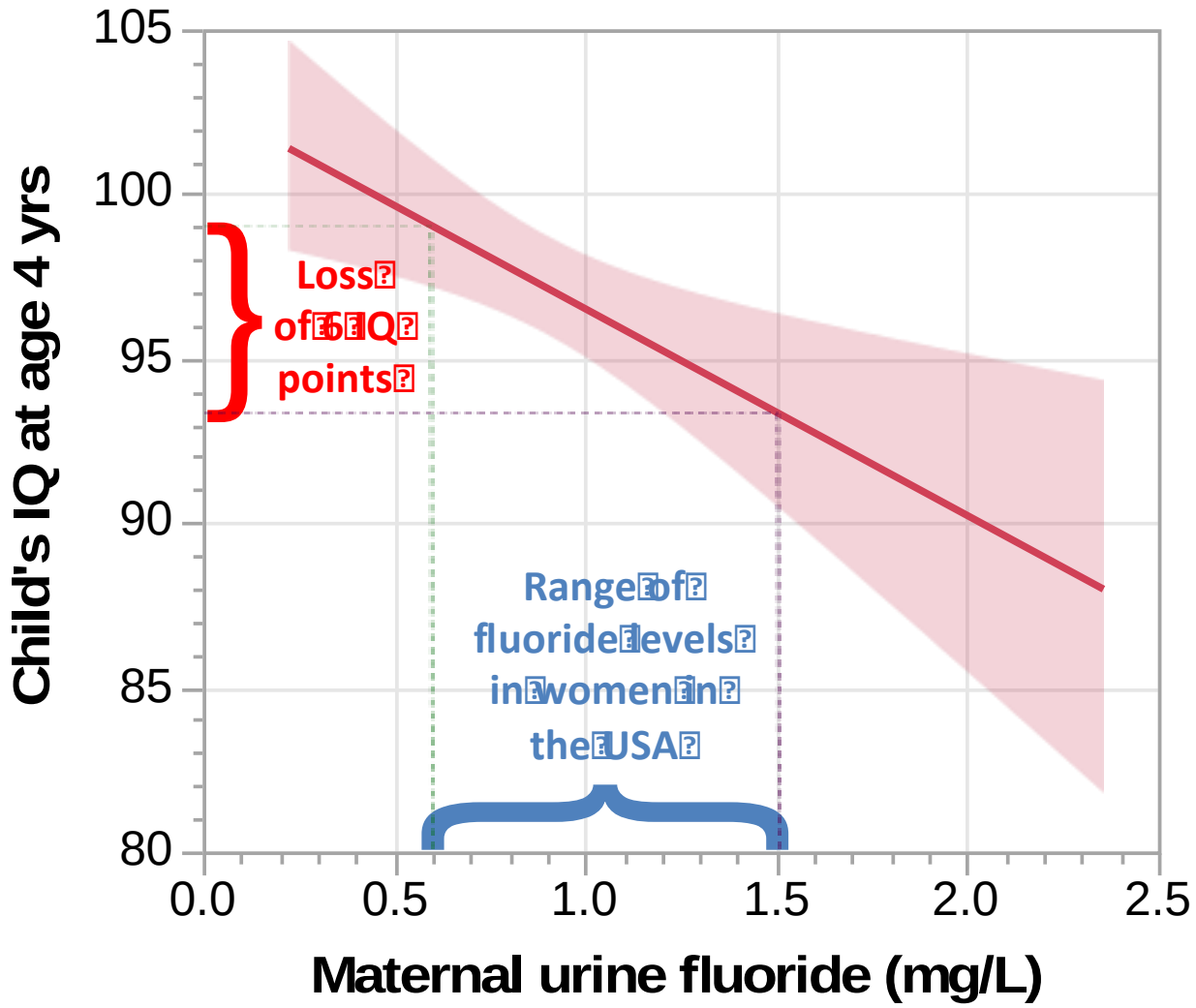
The study

- Examined approximately 300 mother-offspring pairs.
- Both exposure and outcomes were determined on an individual basis.
- The mothers' exposure to fluoride during pregnancy was determined via analysis of their urine (a measure of total fluoride exposure regardless of source).

The study results

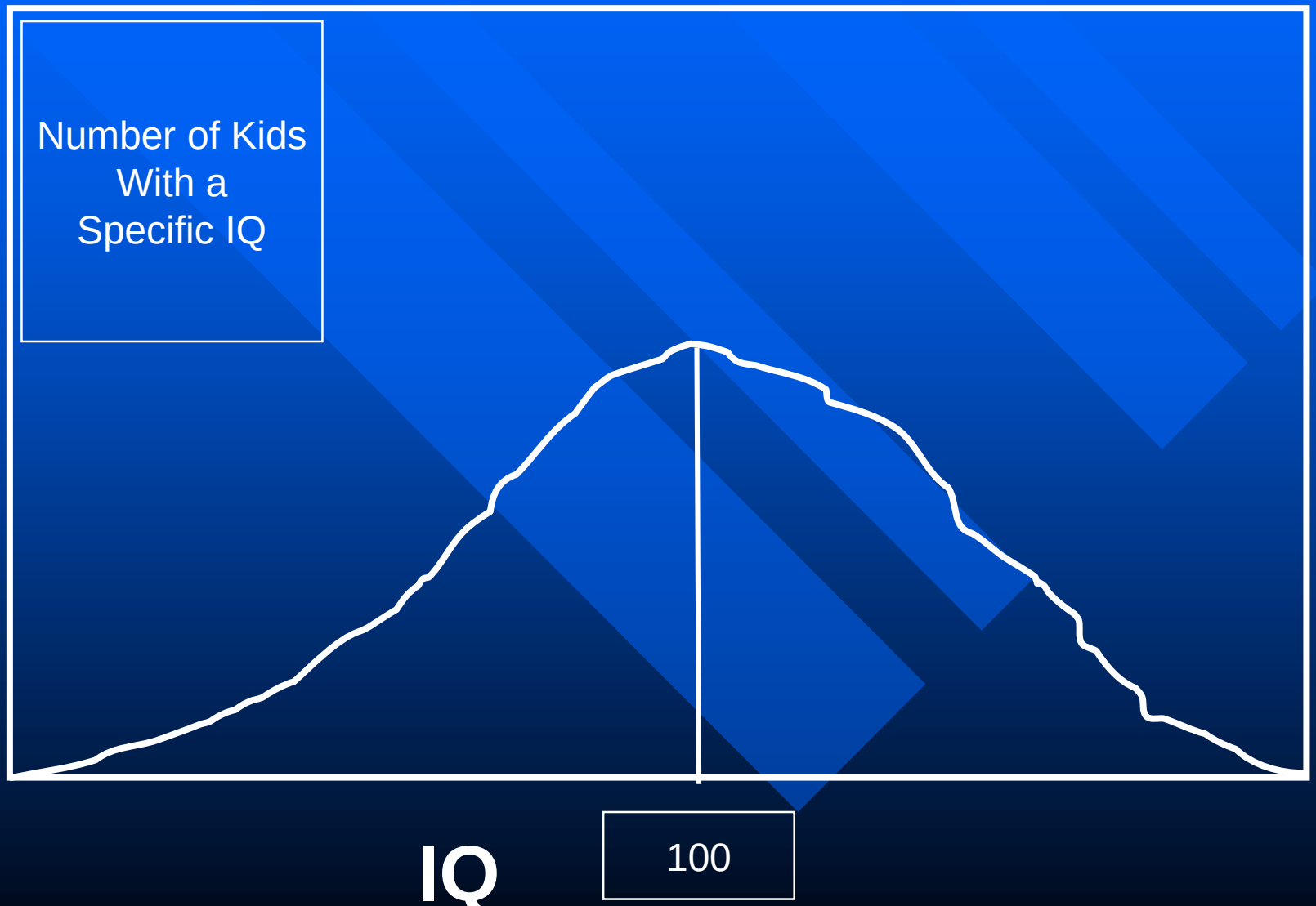
- The IQ of the women's children was measured at age 4 and again at 6-12 years
- For every 1 mg/L increase in the mother's urine F level the children lost an average of ***5-6 IQ points***, a very large effect.

Relationship between fluoride and IQ found in new study (Bashash et al. 2017)

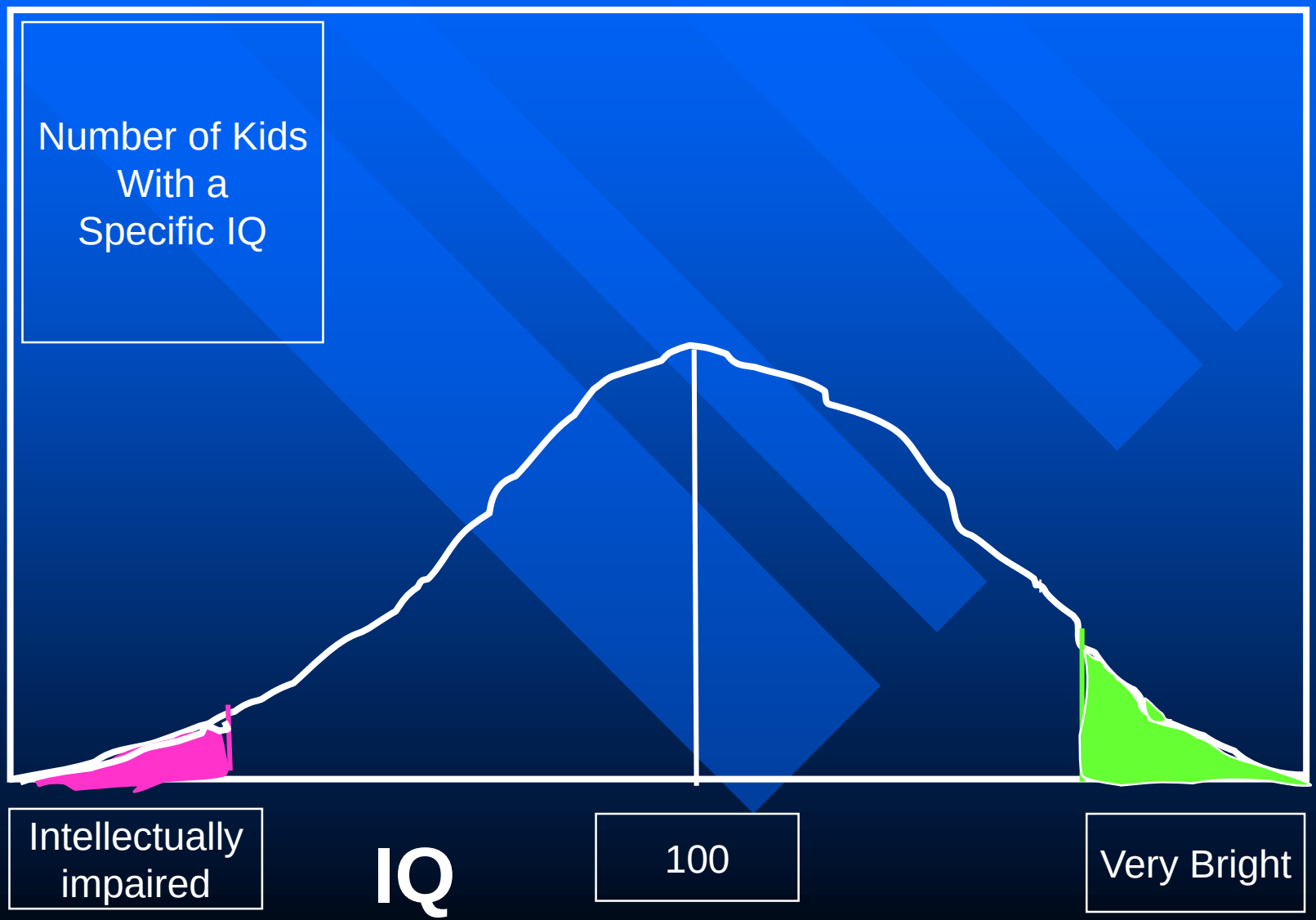


Why a loss of 5 IQ points is so serious at the population level

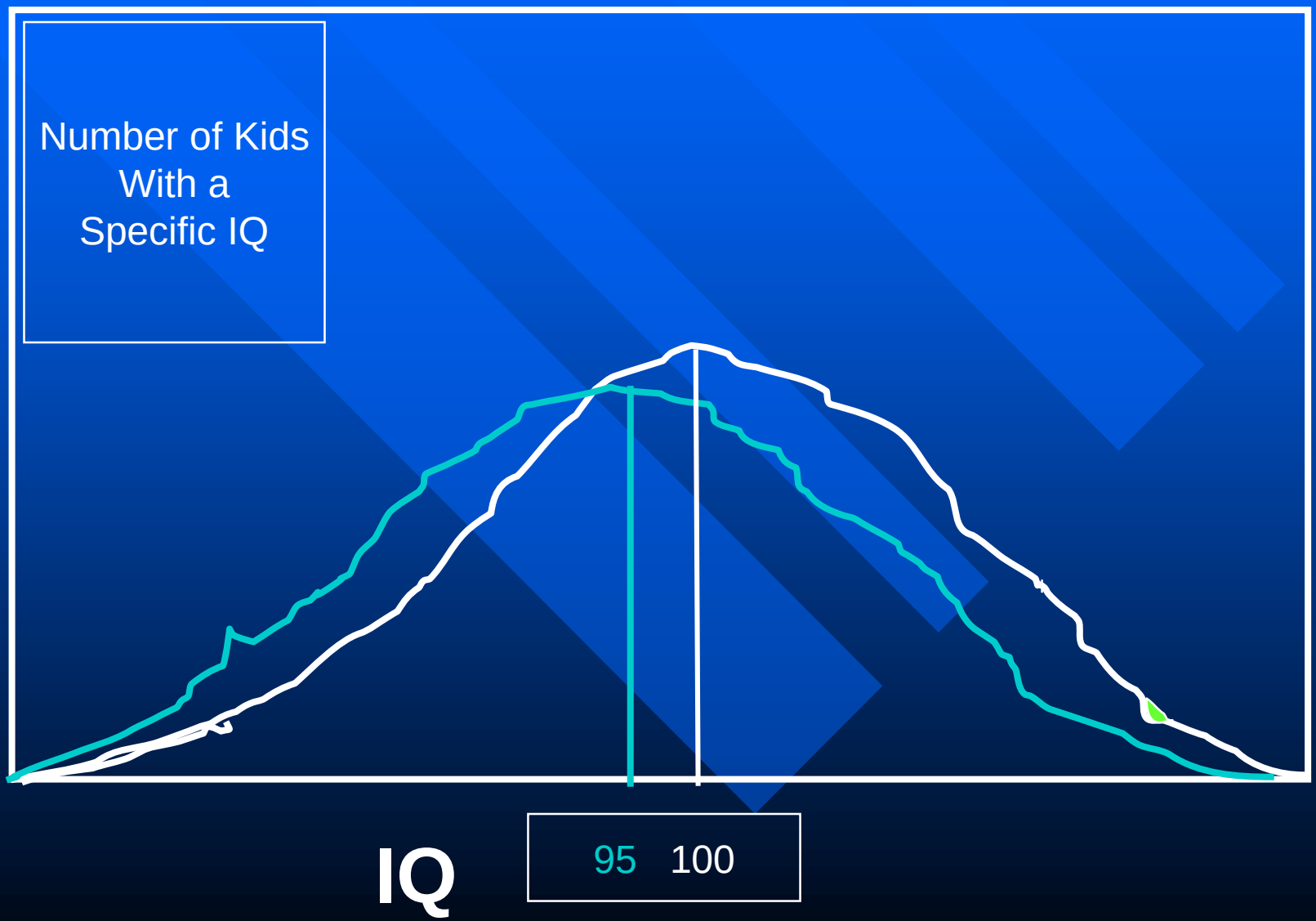
IQ and population



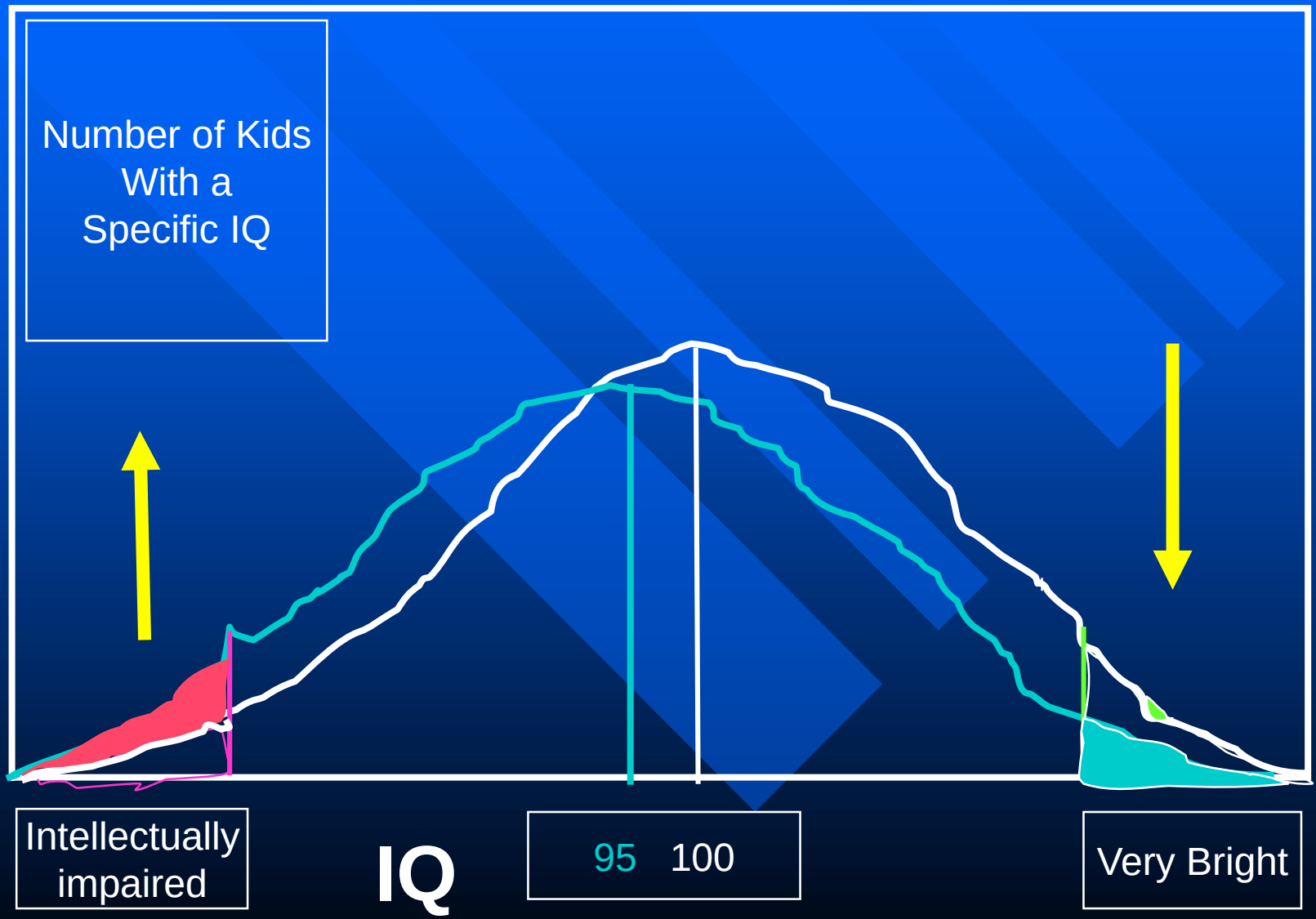
IQ and population



IQ and population



IQ and population



Within a few minutes of the publication the Bashash, 2017 study the ADA stated that:

- **“the findings are not applicable to the U.S.”**

The response of the principle author –Dr. Howard Hu – to the ADA

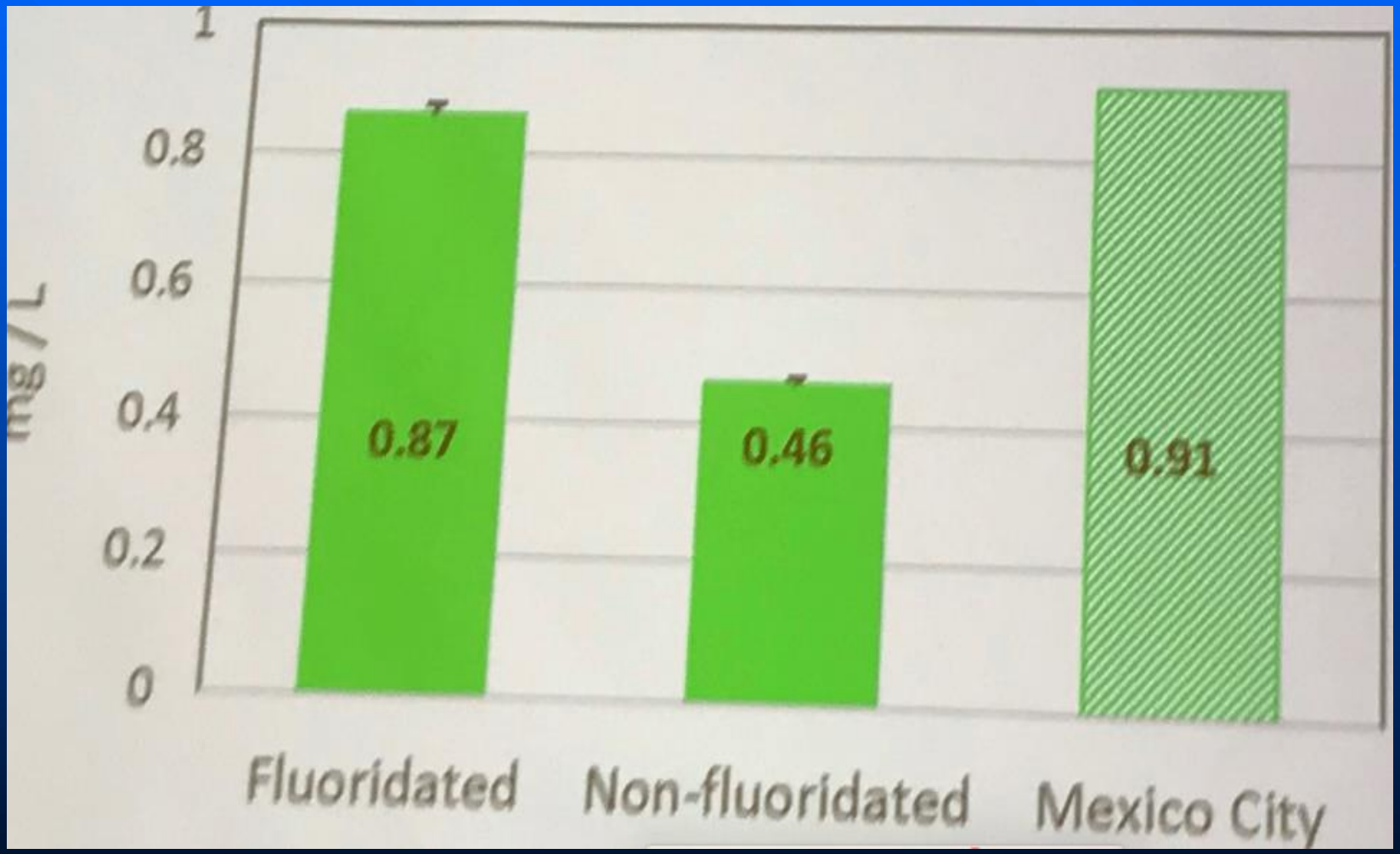
- **"This is a very rigorous epidemiology study. You just can't deny it. It's directly related to whether fluoride is a risk for the neurodevelopment of children. So to say it has no relevance to the folks in the U.S. seems disingenuous."**

Dr. Howard Hu (Toronto U.)

Till et al., 2018

Found levels of fluoride in the urine of pregnant women in fluoridated communities in Canada that were approximately the same as the levels in the Bashash study done in Mexico City.

Urinary fluoride levels in pregnant women in Canada (Till, 2018)



Review by David Bellinger, in *Pediatric Medicine*, 2018

Review Article

Environmental chemical exposures and neurodevelopmental impairments in children

David C. Bellinger[1,2,3]

[1]Department of Neurology and Psychiatry, Boston Children's Hospital, Boston, MA, USA; [2]Department of Neurology and Psychiatry, Harvard Medical School, Boston, MA, USA; [3]Department of Environmental Health, Harvard T.H. Chan School of Public Health, Boston, MA, USA
Correspondence to: David C. Bellinger. Boston Children's Hospital, 300 Longwood Avenue, Boston, MA 02115, USA.
Email: david.bellinger@childrens.harvard.edu.

Abstract: Children are widely viewed as the population subgroup that is most vulnerable to the toxicities that result from exposure to environmental chemicals. Their enhanced vulnerability is due to a variety of behavioral and physiologic factors. For many chemicals, the central nervous system (CNS) is the most sensitive target organ. In general, the impacts depend on a chemical's mode of action, the dose, and the stage of development at which exposure occurs. This paper surveys the toxicology of environmental chemicals, specifically the impacts on children's intellectual development. It focuses on metals (or metalloids), including mercury, lead, arsenic, fluoride, as well as on pesticides, air pollution, synthetic organic chemicals, and endocrine disruptors. The final section discusses issues germane to estimating the global burden of disease associated with exposures to neurotoxic environmental chemicals.

Keywords: Chemicals; children; epidemiology; neurodevelopment; toxicology

Received: 20 November 2018; Accepted: 27 November 2018; Published: 10 December 2018.
doi: 10.21037/pm.2018.11.03
View this article at: http://dx.doi.org/10.21037/pm.2018.11.03

David Bellinger is one of the world's leading neuroscientists and **the** leading authority on the neurotoxicity of lead

1. Department of Neurology and Psychiatry, Boston Children's Hospital.
2. Department of Neurology and Psychiatry, Harvard Medical School.
3. Department of Environmental Health, Harvard T.H. Chan School of Public Health.

Bellinger - section on fluoride

A review of nearly three dozen studies conducted in China, mostly ecologic in design and comparing children from a low-exposure village to a high-exposure village, concluded that exposure to water with greater fluoride concentrations is associated with lower IQ scores (66). Such studies provide only weak evidence, however, lacking data on internal exposures (i.e., blood concentrations of fluoride in individual participants or severity of dental fluorosis). Also the villages compared likely differed not only in water fluoride concentrations, but in also in terms of other factors that might affect the distributions of their IQ scores (e.g., socioeconomic status, access to medical care, quality of schools, etc.). Recently, studies that address these limitations have been reported. 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).

66. Choi AL, Sun G, Zhang Y, et al. Developmental fluoride neurotoxicity: a systematic review and meta-analysis. Environ Health Perspect 2012;120:1362-8.
67. Choi AL, Zhang Y, Sun G, et al. Association of lifetime exposure to fluoride and cognitive functions in Chinese children: a pilot study. Neurotoxicol Teratol 2015;47:96-101.
68. Khan SA, Singh RK, Navit S, et al. Relationship between dental fluorosis and intelligence quotient of school going children in and around Lucknow district: a cross-sectional study. J Clin Diagn Res 2015;9:ZC10-5.
69. Bashash M, Thomas D, Hu H, et al. Prenatal fluoride exposure and cognitive outcomes in children at 4 and 6-12 years of age in Mexico. Environ Health Perspect 2017;125:097017.
70. Malin AJ, Till C. Exposure to fluoridated water and attention deficit hyperactivity disorder prevalence among children and adolescents in the United States: an ecological association. Environ Health 2015;14:17.
71. Bashash M, Marchand M, Hu H, et al. Prenatal fluoride exposure and attention deficit hyperactivity disorder (ADHD. symptoms in children at 6-12 years of age in Mexico City. Environ Int 2018;121:658-66.

Malin et al., 2018

Found that fluoride exposure increased TSH levels (a biomarker of hypothyroidism – underactive thyroid) in those already compromised by low iodine intake

A pregnant woman with lowered thyroid function has a greater risk of producing a child with lowered IQ

Conclusions

1. For any community to continue fluoridation with all these studies - including several US-government funded studies - on the table is reckless.

2. The risks to fetal and infant brain development far outweigh any benefit to teeth from ingestion of fluoride during fetal and infant development.

3.Other countries have shown that these benefits can be secured by other means

Latest study on benefits, Sanders et al.

JAMA Pediatr. Published online January 28, 2019.

- The **absolute benefits** for all income levels are fairly small. For the average income level child in the USA (income to poverty ratio about 2.5)
- **primary teeth** show a benefit of **about 1.1 dfs** (fluoridated 3.3, unfluoridated 4.4) and **permanent teeth** show a benefit of about **0.45 DMFS** (fluoridated 0.65, unfluoridated 1.10).