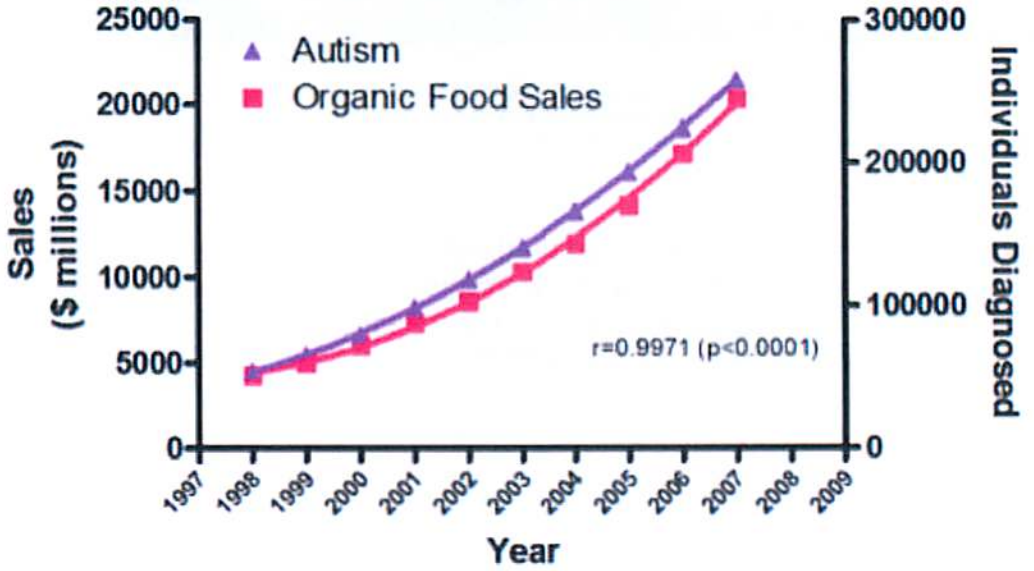
FLUORIDATION

The Board of Health, Health Department and the City of Gloucester have not conducted any tests or studies on the safety and efficacy of fluoridation. As with all health and medical issues we have confidently relied on the advice of NIH, CDC and Mass DPH since these groups are the best interpreters of the relevant science.

Unlike political activism, science does not proceed by first deciding on an action or point of view and then assembling whatever evidence (of whatever quality) can be found in support of the desired outcome. Science, through dispassionate, skeptical scrutiny, is valuable because it is the best way we have devised at getting closer to the truth.

That said, 'doing science' on humans is difficult at least in part because each of us is different and live in different environments. Consequently, experimental data often has to rely on studies of populations with control or comparison groups carefully chosen. However, even with careful experimental designs, causation is often implied from what is simply a correlation. For example,

The real cause of increasing autism prevalence?

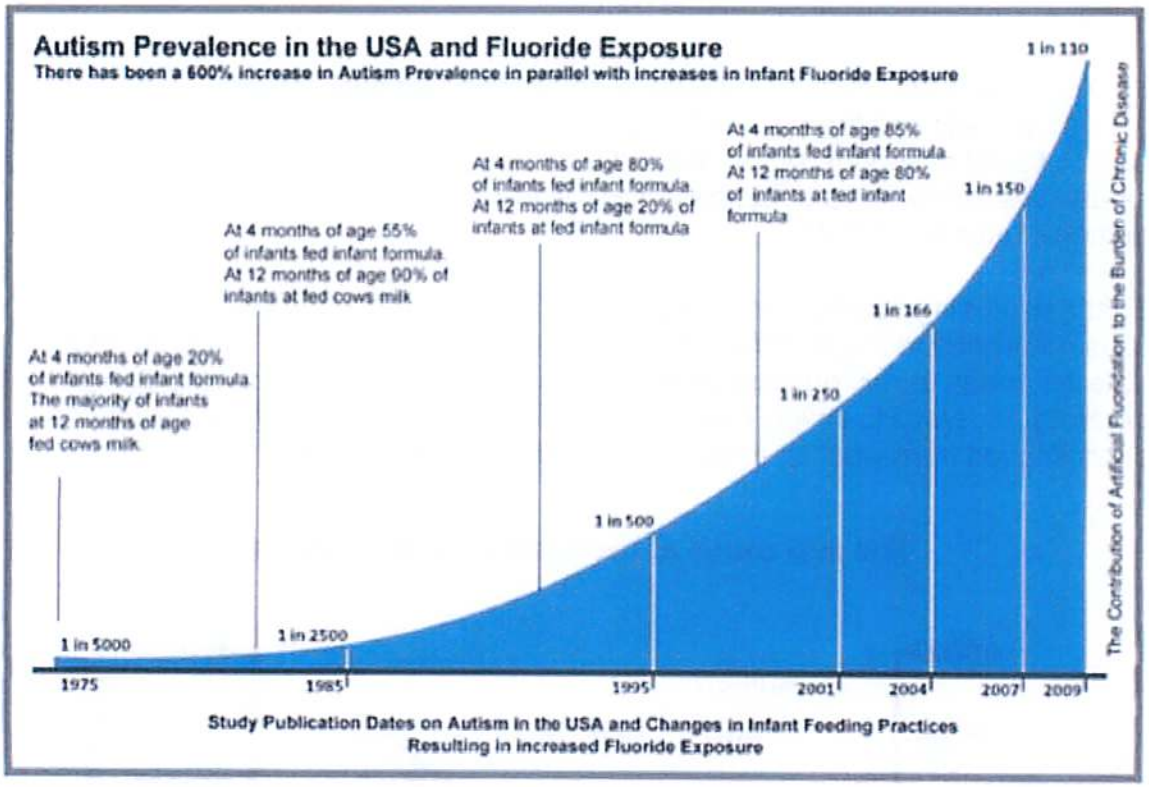


Sources: Organic Trade Association, 2011 Organic Industry Survey, U.S. Department of Education, Office of Special Education Programs, Data Analysis System (DANS), OMB# 1820-0043: "Children with Disabilities Receiving Special Education Under Part B of the Individuals with Disabilities Education Act

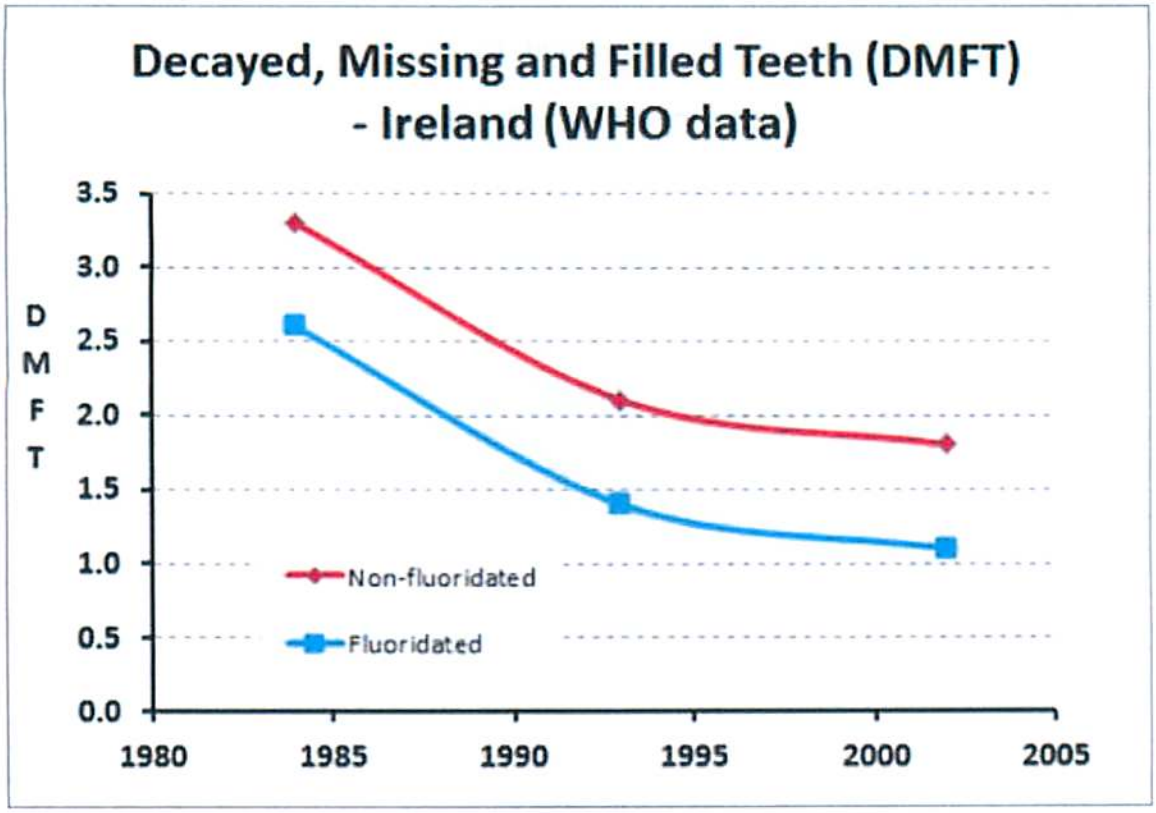
Most of us would find the suggestion that eating organic food is the cause of autism silly and we are not at all convinced- despite the excellent correlation.

Only those very hostile to organic food would take this seriously and only their overarching agenda might lead them to claim this as evidence and promote their 'case' with such data.

However, replace organic food sales with carefully chosen vaccination statistics and we can find a demographic who seriously believe vaccinations are harmful. The same has been done with fluoridation statistics:



Since the original studies in 1945, hundreds of millions of people have used fluoridated water and it is clear that it lowered rates of decay in all segments of many populations. Perhaps the best recent data is from WHO, for Ireland- using within country data (rather than comparing the Republic to N Ireland) data:



Reports of what happened in communities that stopped fluoridation without an increase in decay might appear to contradict the use of fluoride, but the authors of two of those reports think otherwise:

In La Salud, Cuba, the authors suggest:

"A possible explanation for this unexpected finding and for the good oral health status of the children in La Salud is the effect of the school mouthrinsing programme, which has involved fortnightly mouthrinses with 0.2% NaF solutions (i.e. 15 times/year) since 1990."

Similarly, in two E German cities, the authors of the report state:

"The causes for the changed caries trend were seen on the one hand in improvements in attitudes towards oral health behaviour and, on the other hand, to the broader availability and application of preventive measures (F-salt, F-toothpastes, fissure sealants etc.)."

The widespread certainty of the efficacy of fluoride is also evident in the data from countries with limited or no fluoridation of water supplies: (from the New Zealand National Fluoride Information Service)

Countries with widespread water fluoridation programmes include Australia, the United States of America, Canada, the United Kingdom, Ireland, Spain, Israel, Brazil, Brunei, Chile, Argentina, Colombia, Hong Kong, South Korea, Singapore

and Malaysia. Countries with limited water fluoridation programmes include Vietnam, Fiji, Papua New Guinea, and South Korea.

Several countries are unable to introduce water fluoridation programmes due to technical, financial or socio-cultural reasons. As an alternative, both salt and milk have been found to be reliable and convenient vehicles for increasing fluoride intake to an optimal level for hard to reach and low socio-economic communities. Studies have found them to be as effective as community water fluoridation schemes.

Some European, Latin American, and Caribbean countries, including France, Switzerland, Germany, Costa Rica, Colombia and Jamaica currently use fluoridated salt schemes. Mexico and most Latin American and Caribbean countries (apart from Argentina, Brazil, Chile and French Guyana) have or have had salt fluoridation programmes.

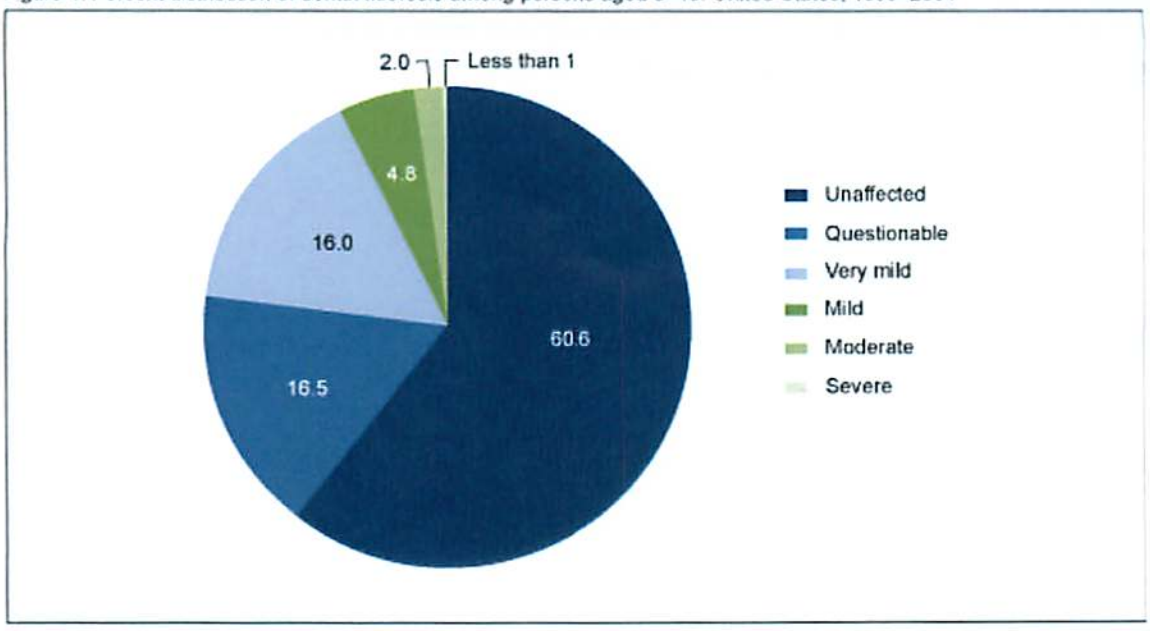
A smaller number of countries currently have fluoridated milk programmes, including Bulgaria, Chile, China, Peru, Russia, Thailand and the United Kingdom

Some country regions have optimal amounts of naturally occurring fluoride which provides good protection for oral health. Examples of countries supplied with naturally fluoridated water at or around the optimum level needed to prevent dental decay include the United Kingdom (estimated 329,000 people), United States of America (estimated 10,078,000 people) Canada (estimated 300,000 people) and Australia (estimated 144,000 people).

While the efficacy of fluoride is clear, it is also apparent that fluoride can be delivered via several alternatives. The 'issue' for delivering fluoride by the water supply then becomes a question of whether any of the alternatives could potentially reach everyone as cheaply as fluoridated water supplies. Finding and funding such an alternative is a political issue. Absent a viable alternative and since virtually all health agencies are pledged to social justice, the larger social good will win out over individual freedom in this instance.

Optimal doses and concentrations are very difficult to ascertain for humans, especially for an agent like fluoride that is naturally present in most water supplies. What can be done is to target levels that are safe and efficacious. Reduction of the target is no doubt a recognition of the increased presence of fluoride in toothpaste etc. Rates of clinically significant fluorosis are very low:

Figure 1. Percent distribution of dental fluorosis among persons aged 6–49: United States, 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.

SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey, 1999–2004

Regarding infant formula:

The American Dental Association advises:

Yes, it is safe to use fluoridated water to mix infant formula. If your baby is primarily fed infant formula, using fluoridated water might increase the chance for mild enamel fluorosis, but enamel fluorosis does not affect the health of your child or the health of your child's teeth. Parents and caregivers are encouraged to talk to their dentists about what's best for their child.

The CDC advises:

Fluoride intake from water and other fluoride sources, such as toothpaste and mouthrinses, during the ages when teeth are forming (from birth through age 8) also can result in changes in the appearance of the tooth's surface called dental fluorosis. In the United States, the majority of dental fluorosis is mild and appears as white spots that are barely noticeable and difficult for anyone except a dental health care professional to see.

Recent evidence suggests that mixing powdered or liquid infant formula concentrate with fluoridated water on a regular basis may increase the chance of a child developing the faint, white markings of very mild or mild enamel fluorosis.

You can use fluoridated water for preparing infant formula. However, if your child is exclusively consuming infant formula reconstituted with fluoridated water, there may be an increased chance for mild dental fluorosis. ***To lessen***

this chance, parents can use low-fluoride bottled water some of the time to mix infant formula; these bottled waters are labeled as de-ionized, purified, demineralized, or distilled. *(emphasis added)*