

## **Written evidence from National Pure Water Association Ltd**

### **Summary**

- National Pure Water Association is calling for the repeal of all legislation underpinning artificial water fluoridation
- Fluoride is not an essential nutrient
- Fluoridation is unethical
- There is no high-quality scientific evidence to show that fluoridation is either effective or safe
- Fluoridation is harmful
- Fluoridation is wasteful
- Fluoridation does not reduce inequalities in dental health and disadvantages the poor
- Water Act 2003 and Consultation Regulations – a Parliamentary Deception?
- The UK population is over-exposed to fluoride from all sources
- The tide has turned against fluoridation
- There is a safe, effective, equitable and cost-effective alternative to water fluoridation
- Conclusion

### **National Pure Water Association is calling for the repeal of all legislation underpinning artificial water fluoridation**

1. Since its inception in the 1940s, fluoridation has been highly controversial. Subsequent paragraphs in this document will support our view that all the UK's fluoridation legislation should be repealed and present fluoridation schemes ceased forthwith.

### **Fluoride is not an essential nutrient**

2. Scientists are in general agreement that fluoride is not an essential nutrient for humans. For example:
  - (a) "No essential function for fluoride (F) has been proven in humans." <sup>1</sup>
  - (b) "Fluoride is not essential for human growth and development..." <sup>2</sup>
3. As fluoride is not an essential nutrient for humans, its addition to water supplies is not in the same category as the addition of an essential vitamin or mineral to food.

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<sup>1</sup> Department of Health, Report on Health and Social Subjects, No. 41, *Dietary Reference Values for Food, Energy and Nutrients*, 1994.

<sup>2</sup> *Opinion of the Scientific Panel on Dietetic Products, Nutrition and Allergies on a request from the Commission related to the Tolerable Upper Intake Level of Fluoride* (Request N° EFSA-Q-2003-018) (adopted on 22 February 2005).

## Fluoridation is unethical

4. *Directive 2004/27/EC* on medicinal products for human use (31 March 2004) defines a 'medicinal product' as:
  - (a) Any substance or combination of substances presented as having properties for treating or preventing disease in human beings or
  - (b) Any substance or combination of substances which may be used in or administered to human beings either with a view to restoring, correcting or modifying physiological function by exerting a pharmacological, immunological or metabolic action, or to making a medical diagnosis.
5. Fluoridation clearly fulfils part (a) of this definition.
6. According to fundamental principles of medical ethics, it is quite wrong to subject any competent individual to a medical intervention he or she neither needs nor wants. Article five of the *European Convention on Human Rights and Biomedicine* states:

"An intervention in the health field may only be carried out after the person concerned has given free and informed consent to it."
7. Ergo: Water Fluoridation is an unethical act of mass-medication.
8. NPWA does not agree with the Nuffield Council on Bioethics' report – *Public health: ethical issues* (2007),<sup>3</sup> which concluded:

"The most appropriate way of deciding whether fluoride should be added to water supplies is to rely on democratic decision-making procedures. These should be implemented at the local and regional, rather than national level, because the need for, and perception of, water fluoridation varies in different areas."
9. Because fluoridation is unethical, we consider it inappropriate to hold consultations, voting procedures or referenda on whether it should be implemented.
10. Suggestions have been made that it is unethical to deprive young children of the benefits of fluoridation. NPWA rejects this as Alice-in-Wonderland ethics. As will be explained, fluoridation has no health benefits. The evidence of any benefit to teeth is extremely weak and the evidence that it causes harm is mounting.

## There is no high-quality scientific evidence to show that fluoridation is effective or safe

11. In 2000, 55 years after fluoridation began in the USA, the York Review<sup>4</sup> team was unable to identify one high-quality study to show that the practice is effective or safe. On 28 October 2003, because of misrepresentation of its findings by fluoridation proponents, the York

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<sup>3</sup> Nuffield Council on Bioethics, *Public health: ethical issues*, 2007.

[www.nuffieldbioethics.org/public-health](http://www.nuffieldbioethics.org/public-health)

<sup>4</sup> McDonagh et al. The NHS Centre for Reviews and Dissemination at the University of York - *A Systematic Review of Public Water Fluoridation*, 2000.

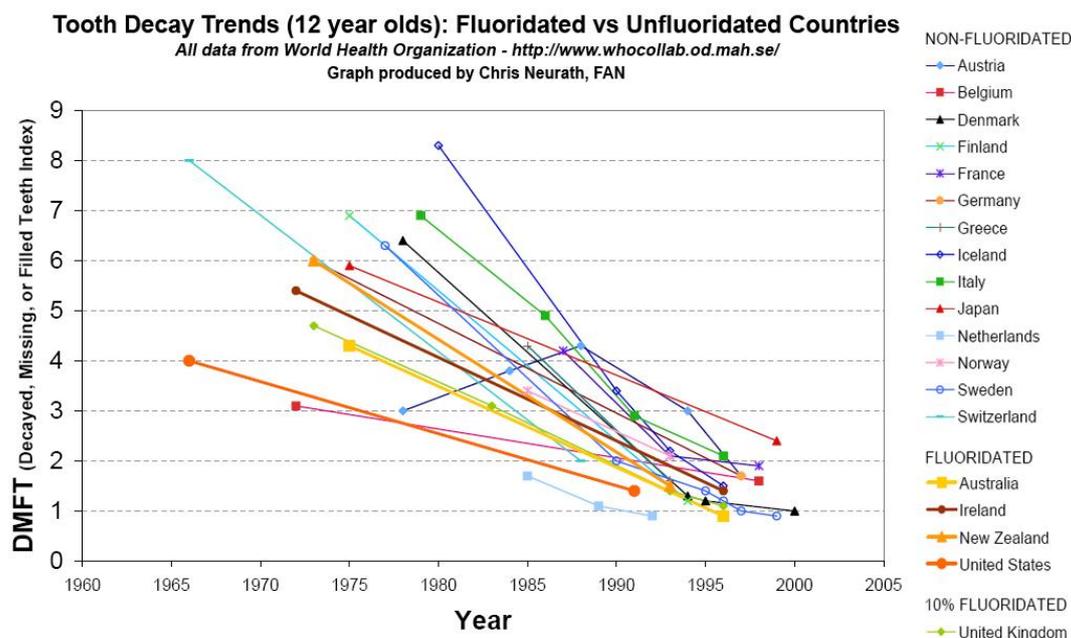
[www.york.ac.uk/inst/crd/fluorid.htm](http://www.york.ac.uk/inst/crd/fluorid.htm)

team issued a statement - *What the York Review on the fluoridation of drinking water really found*, which includes:

"We were unable to discover any reliable good-quality evidence in the fluoridation literature world-wide. What evidence we found suggested that water fluoridation was likely to have a beneficial effect, but that the range could be anywhere from a substantial benefit to a slight disbenefit to children's teeth.

This beneficial effect comes at the expense of an increase in the prevalence of [dental] fluorosis."

12. UK BASCD surveys<sup>5</sup> of childhood dental health were rejected by the York Review team as they did not meet the team's minimum criteria for evidence, which was Grade C – *Low quality, High Risk of Bias*.<sup>6</sup>
13. The (US) Center for Disease Control (CDC) conceded, in 1999, that the predominant benefit of fluoride in reducing tooth decay is mainly topical and not systemic.<sup>7</sup>
14. The graph below shows that tooth decay has declined sharply over the last 30 years. The fluoridation status of any country appears to have had no significant effect on the trend.



15. The latest (2010) 5yr-old tooth decay figures for fluoridated Birmingham<sup>8</sup> are worse than the national average.

## Fluoridation is physically and psychologically harmful

16. 'Dental fluorosis' is the term for the damage to the enamel of

<sup>5</sup> British Association for the Study of Community Dentistry survey data - [www.dundee.ac.uk/tuith/search/bdsearch.html](http://www.dundee.ac.uk/tuith/search/bdsearch.html)

<sup>6</sup> Ibid

<sup>7</sup> US CDC, *Morbidity and Mortality Weekly Report*, 48(41):933-940,1999

<sup>8</sup> *Birmingham MCD Health Profile (2010)*. Association of Public Health Observatories – [www.apho.org.uk/resource/view.aspx?QN=HP\\_RESULTS&GEOGRAPHY=C3](http://www.apho.org.uk/resource/view.aspx?QN=HP_RESULTS&GEOGRAPHY=C3)

developing teeth caused by fluoride and is dose-dependent. The condition was first recognised in the 1930s and consists of opaque white patches (mottling), streaking, brown staining and pitting on up to 100% of the tooth surfaces.

17. When the so-called 'optimum' level of 1 ppm for fluoridation was set, it was expected that 10% of children would be affected by very mild mottling of no more than 25% of the tooth surfaces.<sup>9</sup> The York Review (2000) estimated that 48% of children in fluoridated areas showed some degree of dental fluorosis *and* 12.5% had fluorosis severe enough to be of aesthetic concern. The United States, Canada, New Zealand, and the Irish Republic are all experiencing high levels of dental fluorosis and have, in recent years, reduced their target fluoridation levels to 0.7 ppm. Hong Kong reduced its level to 0.5 ppm in 1998.
18. Whenever fluoridation is implemented there will be a predictable increase in moderate and severe dental fluorosis. The unfortunate victims who cannot afford veneering at £250 to £450 per tooth suffer discrimination because their teeth are perceived to be dirty. They suffer disadvantage in the labour-market and psychological distress.<sup>10</sup>
19. In 2006, Bassin et al<sup>11</sup> published a case control study which demonstrated a clear 5- to 7-fold excess of osteosarcomas in males aged less than 20 living in a particular area if they had been exposed to a fluoridated water supply between the ages of 5 and 8 (the time of a significant growth spurt, involving bone remodelling).
20. Ian E Packington, MA Chemistry (Oxon), Cert Tox (Barts), a scientific adviser to NPWA, has attributed the statistically significant and persistent excess of neonatal mortality in the West Midlands, compared with the rest of England and Wales, to the adverse gestational effects of fluoridation.<sup>12</sup> This follows from the discovery that only in the fluoridated District Health Authorities were a substantial number of excess neonatal deaths found.
21. In November 2006, the American Dental Association issued an eGram – *Interim Guidance on Reconstituted Infant Formula*<sup>13</sup> telling its members (dentists) not to recommend that mothers use fluoridated water for mixing infant formula feed. The (US) Center for Disease Control and the British Fluoridation Society, soon afterwards, also

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<sup>9</sup> Dean HT, Testimony of Isadore Zipkin, PhD, National Institutes of Health, Bethesda, Md, in Chemicals in Foods and Cosmetics: Hearings Before the House Select Committee to Investigate the Use of Chemicals in Foods and Cosmetics, House of Representatives, 82<sup>nd</sup> Congress (Washington, DC: US Government Printing Office, 1952), p1652.

<sup>10</sup> Glasser G and Jones J, *Smile, Please - but don't say 'Cheese'*, published by NPWA and SPWA, July 2006. [www.npwa.org.uk/files/smile\\_please\\_aug08.pdf](http://www.npwa.org.uk/files/smile_please_aug08.pdf)

<sup>11</sup> Bassin, Elise B, Wypij, David, Davis, Roger B, Mittleman, Murray A, 2006, Age-specific fluoride exposure in drinking water and osteosarcoma (United States). *Cancer Causes and Control*, 17:421-428.

<sup>12</sup> Packington I, Perinatal Mortality and Fluoridation in the West Midlands, UK. *Fluoride Jnl*, 41(3) 243-244. [www.fluoridresearch.org/413/files/FJ2008\\_v41\\_n3\\_p233-258.pdf](http://www.fluoridresearch.org/413/files/FJ2008_v41_n3_p233-258.pdf)

<sup>13</sup> ADA, eGram – *Interim Guidance on Reconstituted Infant Formula*, 2006. [www.fluoridealert.org/ada.egram.pdf](http://www.fluoridealert.org/ada.egram.pdf)

acknowledged that regularly mixing a baby's formula with fluoridated water can cause dental fluorosis.

22. In 2006, a toxicological review of fluoride by the US National Research Council <sup>14</sup> found that the US EPA's Maximum Contaminant Level Goal (MCLG) for fluoride of 4 mg/Litre (4 ppm) was not protective of health for severe dental enamel fluorosis, Stage II skeletal fluorosis and bone fracture in the elderly. Although the NRC Review did not evaluate the safety or efficacy of fluoridation at 1 ppm, their MCLG finding means there is legitimate doubt as to whether fluoridation allows for an adequate margin of safety to protect all consumers from fluoride's toxic effects.
23. NPWA is concerned by other issues considered by the NRC's Toxicological Review team. These are the effects of fluoride on the endocrine system (e.g. thyroid and pineal glands), cellular enzymes, cancer rates, the kidneys and the brain (and particularly the developing brain as a number of studies indicate that fluoride lowers IQ in children). Further research in these areas is warranted.
24. The late Dr George Waldbott's list of symptoms of 'Chronic Fluoride Toxicity Syndrome' <sup>15</sup> bears remarkable similarities to present-day problems of irritable bowel syndrome and ME/CFS, though these symptoms may have other causes besides fluoride. A Toxicological Profile <sup>16</sup> by the US Dept of Health and Human Services emphasizes the inhibitory effect of fluoride on enzymes of glycolysis and the tricarboxylic acid cycle – the cellular enzymes which convert nutrients to energy. Such an inhibitory effect on enzymes is precisely what could bring about a wide range of symptoms and particularly those described by Waldbott. The Profile also notes that some subsets of the population are more susceptible than others to the toxic effects of fluoride and its compounds. These are people with cardiovascular problems, renal insufficiency, or poor nutritional status particularly in respect of calcium, magnesium and vitamin C.
25. Fluoride is a cumulative poison, the kidneys removing it at only about 1/3 to 1/2 the rate of intake, the rest being stored mainly in the bones. The effects of accumulated fluoride may not become apparent for decades, may mimic other illnesses such as arthritis and in the absence of testing may never be ascribed to fluoride. Most physicians are totally unaware of fluoride's toxic effects.
26. In India, crippling skeletal fluorosis caused by (natural) high levels of fluoride in ground water has disabled thousands of people. Professor Dr A K Susheela, a histocytochemist and a senior advisor to the Indian Government, is one of the world's leading researchers on the

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<sup>14</sup> US NRC, *Fluoride in Drinking Water, A Scientific Appraisal of EPA's Standards*, National Academies Press, 2006.

<sup>15</sup> Waldbott G, *Fluoridation: The Great Dilemma*, Coronado Press Inc, 1978. List of Major Symptoms: Chronic Fluoride Toxicity Syndrome', pp 392-393.

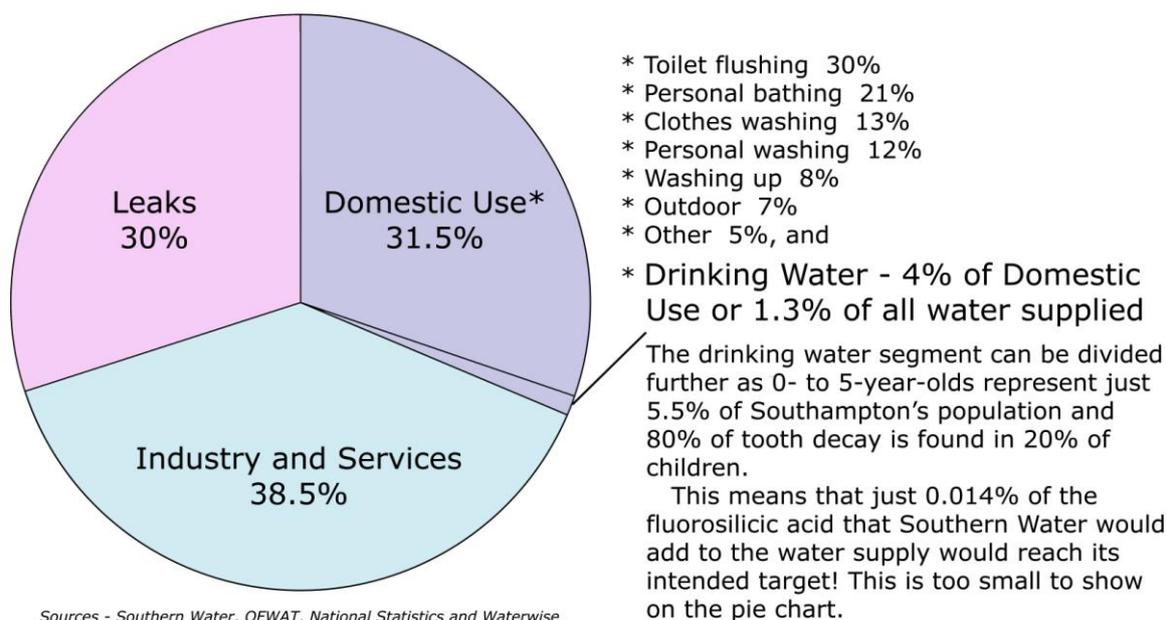
<sup>16</sup> Agency for Toxic Substances and Disease Registry (ATSDR), US Public Health Service, Toxicological Profile for Fluorides, Hydrogen Fluoride, and Fluorine, TP-91/17, Page 112, Sec. 2.7 (Health Impacts), April 1993. [www.fluoridealert.org/ATSDR-Fluoride.pdf](http://www.fluoridealert.org/ATSDR-Fluoride.pdf)

harmful effects of fluoride. In her book, 'A Treatise on Fluorosis', she shows that fluoride has adverse effects on the red blood cells, calcium metabolism, tooth enamel, the gut lining, muscle, bone, connective tissue, the foetus and DNA.<sup>17</sup> On 26 October 1998, Dr Susheela gave a presentation in the UK Parliament before the then Health Minister Tessa Jowell.<sup>18</sup> Ms Jowell asked "Why haven't we seen these health problems in our fluoridated areas?" Dr Susheela's reply was "You don't even have a government laboratory to test fluoride levels in blood and urine. If you don't look for the problems, how do you hope to find them?" Dr Susheela is strongly against fluoridation and advises 'the less fluoride the better'.

### Fluoridation is wasteful

27. During the 2008 Southampton consultation, NPWA analysed where the City's water goes. We found that, if Southampton's water was fluoridated, only 0.014% of the fluorosilicic acid added would reach the target of 0- to 5-year-olds – an amount so tiny it does not show on the pie chart below.

## Where Southampton's water goes



<sup>17</sup> Susheela, A K A Treatise on Fluorosis (2000) Fluorosis Research and Rural Development Foundation, B-1, Saransh, 34 I.P. Extension, Delhi 110 092. India. [www.fluorideandfluorosis.com/Publications/Publications\\_Human.html](http://www.fluorideandfluorosis.com/Publications/Publications_Human.html)

<sup>18</sup> Susheela A K, *Scientific Evidence on Adverse Effects of Fluoride on Human tissues*, Fluorosis Research Foundation of India, Presentation to UK Parliament, October 1998. [www.fluorideandfluorosis.com/BritishParliament/Content.html](http://www.fluorideandfluorosis.com/BritishParliament/Content.html)

## **Fluoridation does not reduce inequalities in dental health and disadvantages the poor**

28. The York Review team's report stated:

"The evidence about reducing inequalities in dental health was of poor quality, contradictory and unreliable."

It is therefore indefensible for anyone to claim that fluoridation helps the poor.

29. Fluoridation involves costs for anyone who wishes to avoid fluoride and thus also disadvantages the poor. The relatively inexpensive activated carbon water filters do not remove fluoride. Distillers and reverse osmosis machines can remove fluoride but are expensive to buy and to operate. The price of bottled water is prohibitive for the poor.

## **Water Act 2003 and Consultation Regulations – a Parliamentary Deception?**

30. As the Water Act 2003 passed through both Houses of Parliament many assurances were given by Ministers that fluoridation schemes would not be imposed on communities without a majority of the population in favour. For example:

"We do not intend that water should be fluoridated come what may in those areas which do not currently receive naturally or artificially fluoridated water at a level capable of reducing dental decay. In fact, the enactment of the amendment may not lead to any new fluoridation schemes—that would depend on what people decided locally—but it would give local communities the choice of having their water supply fluoridated."<sup>19</sup>

31. The 2004 draft Consultation Regulations<sup>20</sup> were in accordance with the many Parliamentary assurances given. The final Consultation Regulations, approved by both Houses of Parliament in early 2005, were not.<sup>21</sup> The 2005 regulation allowed South Central SHA, on 26 February 2006, to ignore the local community's rejection of the proposed scheme for Southampton and south west Hampshire. Both respondents to the consultation and those who took part in the SHA-commissioned telephone poll opposed the scheme by a majority. This sham consultation was an abuse of the principles of democracy. Local Members of Parliament have declared they will do all they can to thwart the fluoridation scheme.

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<sup>19</sup> Lord Warner, PUSS, DoH, Lords Hansard, *Water Bill [HL]*, 9 July 2003: Column 300. [www.publications.parliament.uk/pa/ld200203/ldhansrd/vo030709/text/30709-07.htm](http://www.publications.parliament.uk/pa/ld200203/ldhansrd/vo030709/text/30709-07.htm)

<sup>20</sup> Department of Health, *The Water Fluoridation (Consultation) Regulations 2004*. [http://webarchive.nationalarchives.gov.uk/+www.dh.gov.uk/en/Consultations/Closedconsultations/DH\\_4093268](http://webarchive.nationalarchives.gov.uk/+www.dh.gov.uk/en/Consultations/Closedconsultations/DH_4093268)

<sup>21</sup> Department of Health, *The Water Fluoridation (Consultation) Regulations 2005*. [www.legislation.gov.uk/ukSI/2005/921/made](http://www.legislation.gov.uk/ukSI/2005/921/made)

32. If a fluoridation scheme is imposed on Hampshire residents it will violate their right to refuse consent to a medical intervention. This is completely unacceptable to the members and supporters of NPWA. Only by repeal of the relevant fluoridation legislation may our proper democratic rights and freedoms be restored. This authoritarian legislation must be removed from *our* Statute Book.

### **The UK population is over-exposed to fluoride from all sources**

33. In 2010, a study by Dr Peter Mansfield revealed that we are already over-exposed to fluoride, with 25% of us getting more than is safe. This figure rises to 67% in fluoridated areas.<sup>22</sup>

34. British people are nowadays more likely to obtain excessive amounts of fluoride from sources other than water. The concentration of fluoride in the water tells us nothing about any individual's dose, which depends on the quantity of water drunk and the intake of fluoride from tea, fish and other foods, toothpaste, toiletries, medicines and dental treatments. Fluoridation gives absolutely no control over any individual's fluoride intake. A fluoridated water supply can add 2, 3 or more milligrams a day to a person's toxic load.

### **The tide has turned against fluoridation**

35. Worldwide, the practice of fluoridation is far from extensive. Only 6% of the world's population has fluoride administered to them via their water supplies. In Europe, only 2% of the population receive artificially fluoridated water.

36. Since 1990 at least 270 communities worldwide have rejected fluoridation. Switzerland ceased fluoridation in 2003, its scientists citing:

- 1) Lack of evidence that water fluoridation is more effective than salt fluoridation in reducing tooth decay, and
- 2) The inefficiency/wastefulness of water fluoridation.

37. To date 3,722 professionals, many of them eminent in their field, have signed the US-based Fluoride Action Network's Professionals' Statement calling for an end to water fluoridation.<sup>23</sup>

38. Slowly but surely people from around world are learning the truth about fluoride and fluoridation. The tide has turned against fluoridation and it is only a matter of time before fluoridation ends.

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<sup>22</sup> Mansfield P, Water fluoridation and total fluoride intake, *Fluoride Journal*, 2010, v4, n4, p223-231.

[http://fluorideresearch.powweb.com/wpgeneral/434/files/FJ2010\\_v43\\_n4\\_p223-231.pdf](http://fluorideresearch.powweb.com/wpgeneral/434/files/FJ2010_v43_n4_p223-231.pdf)

<sup>23</sup> Fluoride Action Network, *Professionals' Statement to End Fluoridation*.

<http://fluoridealert.org/professionals.statement.html>

## **There is a safe, effective, equitable and cost-effective alternative to water fluoridation**

39. A better way to improve oral health in those at high risk is the needs-based programme first trialed in Varmland County, Sweden. Initially focusing on expectant mothers in order to minimize the transmission of Strep mutans from mother to baby, this integrated dental care programme, together with the encouragement of personal responsibility for oral health, has proved highly successful in Sweden and other Scandinavian countries.<sup>24</sup>

### **Conclusion**

40. Far from being a safe and effective caries intervention for children and adults of all ages, fluoridation is a singularly ineffective and harmful use of scarce NHS dental funds which could, and should, be far more carefully targeted at the families most in need of oral health education and dental treatment.

41. Politicians and health authorities are irresponsible to call for fluoridation in the face of the evidence presented above. The Precautionary Principle should be adopted, the legislation repealed and fluoridation ceased rather than extended to thousands more unwilling consumers.

### Recommended reading:

*The Case Against Fluoride: How Hazardous Waste Ended Up in Our Drinking Water and the Bad Science and Powerful Politics That Keep It There* by Professors Paul Connett, James Beck, Spedding Micklem (2010). Chelsea Green Publishing. ISBN: 978-1603582872

*Fluoride in Drinking Water – A scientific evaluation of EPA’s standards* (March 2006). The US National Research Council ISBN: 978-0309101288  
[http://www.nap.edu/catalog.php?record\\_id=11571](http://www.nap.edu/catalog.php?record_id=11571)

*FLUORIDE FATIGUE Fluoride Poisoning: is fluoride in drinking water - and from other sources - making you sick?* by Dr Bruce Spittle (2008). ISBN: 978-0473129910  
<http://www.pauapress.com/fluoride/files/1418.pdf>

*The Fluoride Deception* by Christopher Bryson (2006). Pub. Seven Stories Press. ISBN: 978-1583227008

Susheela A K, *A Treatise on Fluorosis* (2000) Fluorosis Research and Rural Development Foundation, B-1, Saransh, 34 I.P. Extension, Delhi 110 092 India.  
<http://www.fluorideandfluorosis.com/index.htm>

### Websites

[www.npwa.org.uk](http://www.npwa.org.uk)    [www.fluoridealert.org](http://www.fluoridealert.org)

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<sup>24</sup> Packington I, *Successful Control of Dental Caries in Sweden Without Fluoridation*, NPWA, November 2008. [www.npwa.org.uk/files/varmland\\_general\\_fin.pdf](http://www.npwa.org.uk/files/varmland_general_fin.pdf)