



Fluoridation

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This notes sets out the positions of various groups regarding the effects of fluoridation of drinking water and the Government's position. It is not a scientific critique.

Information on legislation relating to fluoridation can be found in standard note SN/SC/3135.

From 1st April 2013 local authorities became responsible for consulting and deciding on fluoridation schemes. In February 2013 the Government issued regulations instructing local authorities on the conduct of "consultations and decision making on proposals for either new fluoridation schemes or variations, maintenance or the termination of existing fluoridation schemes".

The Government will issue guidance to local authorities on implementation of the regulations "which will include sources of information on the latest research evidence on the effects of fluoridation, good practice on the conduct of consultations and advice to local authorities and water companies on assessing the feasibility of a fluoridation proposal". The guidance is yet to be published.

Contents

1	The issue	2
1.1	How widespread is fluoridation?	3
2	The York Review	3
2.1	Conclusions	4
2.2	Reaction to the review	5
3	Independent Scientific Committee on Health and Scientific Risks	6
4	Opinions	7
4.1	The British Medical Association	7

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4.2	The World Health Organisation	7
4.3	The British Dental Association	8
4.4	British Fluoridation Society	9
4.5	National Pure Water Association	9
4.6	Hampshire Against Fluoridation	10
5	The previous Government's position	10
5.1	The 1998 Green Paper	11
5.2	1999 Health White Paper	11
5.3	Post York Review	12
5.4	February 2008—Strategic Health Authority guidance	13
6	Coalition Government policy	13

1 The issue

Fluoridation of water is the process of artificially adjusting the natural fluoride content of drinking water in order to reduce the incidence of tooth decay. This is seen by some public health experts as an efficient way of tackling tooth decay in children and reducing health inequalities.¹

Fluoride is adjusted up to around 1.0mg/l, which is the recommended level of artificial fluoridation for drinking water to help prevent dental caries, particularly in children. Similar levels of fluoride are naturally found in drinking water in some areas of Britain.

Fluoridation was first proposed in the late 1930s and introduced to North America in 1945. It was introduced to Britain as part of an experimental programme in 1955 before being introduced more widely in the 1960s.

The safety and efficacy of fluoridation has been under almost constant review since it was first proposed. Both pro and anti-fluoridation campaigners cite extensive and contradictory scientific evidence and court judgements to support their arguments. It has been remarked that only smoking has been more extensively researched than fluoride.²

The EC drinking water directive (Directive 80/778/EEC) sets a level of 1.5mg/l for fluoride in drinking water. This is in line with the WHO guideline which represents a concentration which “does not result in any significant risk to the health of the consumer over a lifetime of consumption”. The WHO guidelines however do caution that concentrations above this value carry an increasing risk of dental fluorosis (cosmetic damage to tooth enamel), and much higher levels lead to skeletal fluorosis³ (damage to the joints and bones and more serious damage to teeth).⁴

¹ British Medical Association, Fluoridation of water, 12 January 2010, www.bma.org.uk

² Meeting of the All-Party, Water group, *Fluoridation of Water Supplies*, 10 February 1998. Comment by Dr Noel Olsen, Chairman of the UK Public Health Medicine Consultative Committee for the British Medical Association.

³ Library Research Paper 93/121, p 10

⁴ *ibid*

Fluoridation is seen, by those who support it, as a safe and effective means of reducing health inequalities and sparing many children the need to undergo teeth extraction with the associated administration of anaesthetic.

Those who oppose water fluoridation are concerned about the potential health impacts and they have some ethical objections.

1.1 How widespread is fluoridation?

In the UK around 6 million people receive naturally and artificially fluoridated water:

In the UK, around half a million people receive naturally fluoridated water. A further 5.5 million receive water which has been artificially fluoridated at, or around, the optimum level of one part per million (1ppm). West Midlands Strategic Health Authority (SHA) oversees the most extensive fluoridation scheme serving 84 per cent of its population. Smaller schemes are in place in the North East (34.8 per cent of population), East Midlands (13.8), Eastern England (5.4), North West (3.8) and Yorkshire and Humber (2.6). In other parts of the UK, there are no artificial fluoridation schemes in operation and only rural Morayshire in Scotland receives naturally fluoridated water.⁵

A map showing average fluoride levels in water across England and Wales can be seen [here](#).

Fluoridation is a controversial issue worldwide. Lobbying from green parties in other European countries has curtailed a number of water fluoridation schemes and some Member States, such as France and Germany, have opted to add fluoride to salt instead of water.⁶

2 The York Review

In order to try and settle the debate about whether fluoride should be added to water, the Labour Government commissioned an independent expert review (the York review) in 1999 on the safety and benefits of fluoridation. The Department of Health commissioned the Centre for Reviews and Dissemination at York University to carry out an expert scientific review to assess the evidence on the efficacy and safety of population-wide drinking water fluoridation strategies to prevent caries. The review had four key objectives:

1. Assessment of the positive effects of fluoridation of public water supplies in preventing caries (is a causal relationship likely?).
2. If fluoridation is shown to have positive effects, what is the effect over and above that offered by the use of alternative interventions and strategies (i.e. fluoridated toothpaste, educational programmes, and increased self awareness of health issues?).
3. Assessment of the negative health effects of fluoridation.
4. Determination of whether fluoridation results in a reduction of caries across social groups and between geographical locations.

If the study confirmed that there were benefits to dental health from fluoridation and that there were no significant risks, the Government said it would introduce a legal obligation on water companies to fluoridate where there was strong local support for doing so. The review

⁵ British Medical Association, *Fluoridation of water*, viewed 12 January 2010

⁶ Fluoridation and dental health in Europe, information provided by the BFS on 18 March 1999

did not seek to examine issues such as the economic or the ethical implications of a mass programme of fluoridation.

The scientific review was led by Professor Jos Kleijnen, Director, National Health Service Centre for Reviews and Dissemination (CRD) at the University of York. An advisory group offering a range of expertise and perspectives was also appointed to oversee its scientific rigour and impartiality. This was chaired by Professor Trevor Sheldon, from the York Health Policy Group at University of York. The study employed a strict screening process to ensure that the 214 studies finally included were suitably robust. For example, only primary studies (not reviews) were used and only test results from studies on humans.

The commissioning of the review was generally welcomed by all involved in the debate. In its response to the Government's green paper on health, The National Pure Water Association had already made it known that it wanted to see a full, independent inquiry into the effects of water fluoridation.

2.1 Conclusions

The full report of the York Review is available on the website for the NHS Centre for Reviews and Dissemination:

www.york.ac.uk/inst/crd/fluores.htm

One of the main conclusions of the Review was that the quality of research carried out into the issue historically was surprisingly low:

Given the level of interest surrounding the issue of public water fluoridation, it is surprising to find that little high quality research has been undertaken. As such, this review should provide both researchers and commissioners of research with an overview of the methodological limitations of previous research conducted in this area.⁷

The study made the following key findings.

1. Assessment of the positive effects of fluoridation of public water supplies in preventing caries (is a causal relationship likely).

The best available evidence suggests that fluoridation of drinking water supplies does reduce caries prevalence, both as measured by the proportion of children who are caries free and by the mean change in dmft [lower decayed/missing/filled teeth] score. The studies were of moderate quality (level B), but of limited quantity. The degree to which caries is reduced, however, is not clear from the data available.

2. If fluoridation is shown to have positive effects, what is the effect over and above that offered by the use of alternative interventions and strategies (i.e. fluoridated toothpaste, educational programmes, and increased self awareness of health issues?).

The study concluded that, in those studies completed after 1974, a beneficial effect of water fluoridation was still evident in spite of the assumed exposure to non-water fluoride (for example, in toothpaste) in the populations studied.

3. Determination of whether fluoridation results in a reduction of caries across social groups and between geographical locations.

⁷ NHS Centre for Reviews and Dissemination, A Systematic Review of Public Water Fluoridation, October 2000. <http://www.york.ac.uk/inst/crd/fluores.htm>

The quality of the evidence of the studies was low, and the measures of social class that were used varied.....There appears to be some evidence that water fluoridation reduces the inequalities in dental health across social classes in 5 and 12 year-olds.

However, the small quantity of studies, differences between these studies, and their low quality rating, suggest caution in interpreting these results.

4. Assessment of the negative health effects of fluoridation.

The most widely studied effect was found to be dental fluorosis. There were 88 studies included but these were of low quality:

The prevalence of fluorosis at a water fluoride level of 1.0 ppm was estimated to be 48% [...] and for fluorosis of aesthetic concern it was predicted to be 12.5%.

The study also found no association of fluoridation with increased bone fractures. In addition, overall, no clear association between water fluoridation and incidence or mortality of bone cancers, thyroid cancer, all cancers or other health problems was found.

5. To determine if there are differences in the effects of natural and artificial water fluoridation.

The review found that there were not enough studies in this area and the evidence was not adequate to draw a conclusion regarding this objective. The summary of the report also concluded the following:

The evidence of a benefit of a reduction in caries should be considered together with the increased prevalence of dental fluorosis. The research evidence is of insufficient quality to allow confident statements about other potential harms or whether there is an impact on social inequalities. This evidence on benefits and harms needs to be considered along with the ethical, environmental, ecological, costs and legal issues that surround any decisions about water fluoridation. All of these issues fell outside the scope of this review.

Any future research into the safety and efficacy of water fluoridation should be carried out with appropriate methodology to improve the quality of the existing evidence base.⁸

2.2 Reaction to the review

The process of the review was praised on all sides for the openness with which it was carried out, with various report drafts and minutes of all meetings available on the internet.⁹

The Labour Government welcomed the publication of the Review and saw it as validating its positive stance on fluoridation. The British Dental Association on behalf of the National Alliance for Equity in Dental Health commented that the findings were:

...in line with at least 18 other reviews by eminent scientific, medical and legal bodies. The Alliance will now be pressing Government to act on its White Paper pledge to

⁸ NHS Centre for Reviews and Dissemination, A Systematic Review of Public Water Fluoridation, October 2000. <http://www.york.ac.uk/inst/crd/fluores.htm>

⁹ NHS Centre For Reviews and Dissemination, Fluoridation of Drinking Water: a Systematic Review of its Efficacy and Safety, <http://www.york.ac.uk/inst/crd/fluorid.htm>

introduce new legislation to ensure that decisions about fluoridation are taken by local communities, not water companies.¹⁰

However, the All Party Parliamentary Group Against Fluoridation highlighted the low quality of research found by the York Review:

The report of the systemic review, although the most (because the only) reliable work in fifty years of water fluoridation, was thus constrained in many ways, and when it speaks of the "best available evidence" suggesting a certain conclusion... this needs to be borne in mind. At no point was the best available evidence good evidence, and for this reason the York report follows other less rigorous reports in calling for more studies to be done to clarify an uncertain evidence base in a contentious area of public health.¹¹

The National Pure Water Association criticised the review for not including studies which used animals or looked at exposure to fluoride from sources other than water.¹²

3 Independent Scientific Committee on Health and Scientific Risks

The European Commission is advised by a number of independent scientific bodies. The Commission asked the Scientific Committee on Health and Scientific Risks to review the evidence on health risks and health benefits of fluoridation. It reported in May 2011.

In short it concluded that there was not sufficient evidence to support the various claims of serious health impacts from fluoridated drinking water. It found that there was a risk of dental fluorosis in children exposed to fluoride from multiple sources. It concluded that fluoridation appears to be primarily beneficial for reducing dental caries in children from lower socioeconomic groups who might not otherwise be exposed to fluoride. However, it said that a "very narrow margin exists between achieving the beneficial effects of fluoride in caries prevention and the adverse effects of dental fluorosis":¹³

There is a risk for dental fluorosis in children with systemic fluoride exposure, and a threshold cannot be detected.

The occurrence of endemic skeletal fluorosis has not been reported in the EU general population.

There is not sufficient evidence linking fluoride in the drinking water to the development of osteosarcoma.

Fluoride intake from drinking water at the level occurring in the EU does not appear to hamper children's neurodevelopment and IQ levels.

Human studies do not suggest adverse thyroid effects at realistic human exposures to fluoride.

¹⁰ Alliance for Equity in Dental Health Press Release, *Health organisations welcome water fluoridation review and call on government to act on pledge to change law*, 6 October 2000
http://www.derweb.co.uk/bfs/york_rev.html

¹¹ All Party Group Against Fluoridation, *Limitations of the systematic scientific review of water fluoridation by the NHS Centre for Reviews and Dissemination*, 18 November 2000.

¹² National Pure Water Association Website, http://www.npwa.freeseerve.co.uk/sheldon_letter.html 18 January 2000

¹³ Scientific Committee on Health and Environmental Risks, *Critical review of any new evidence on the hazard profile, health effects, and human exposure to fluoride and the fluoridating agents of drinking water*, 16 May 2011

There is no new evidence from human studies indicating that fluoride in drinking water influences male and female reproductive capacity.

The upper tolerable intake level (UL) is not exceeded for adults and children between 12 and 15 years living in areas with fluoridated drinking water where the concentration of fluoride does not exceed 0.8 mg/L.

The UL was exceeded in children between 6 and 12 years living in areas with fluoridated drinking water (with levels above 0.8 mg/L) when consuming more than 1 L water/day and using adult toothpaste containing 0.15% fluoride.

The UL is exceeded in children between 1 and 6 years of age living in areas with fluoridated drinking water (at fluoride concentration levels above 0.8 mg/L) when consuming more than 0.5 L water and using adult toothpaste containing 0.15% fluoride.

For infants, when the fluoride concentration in drinking water is above 0.8 mg/L, the exposure to fluoride is estimated to exceed 0.1 mg/kg/day.

Water fluoridation as well as topical fluoride applications, e.g. fluoridated toothpaste or varnish, appears to prevent caries, primarily on permanent dentition, but topical application is the more efficient measure.

In children, a very narrow margin exists between achieving the beneficial effects of fluoride in caries prevention and the adverse effects of dental fluorosis.¹⁴

4 Opinions

4.1 The British Medical Association

The British Medical Association supported fluoridation. It said on 12 January 2010:

Fluoridation of water is a cost-effective public health strategy for reducing tooth decay in a population. Fluoride has been found to be highly protective against dental caries, and there is no convincing evidence of any adverse risk to human health by the introduction of water fluoridation. Through targeting of areas with a high prevalence of tooth decay, artificial water fluoridation is an effective strategy for reducing dental health inequalities...

The BMA remains committed to the fluoridation of mains water supplies, after appropriate public consultation, on the grounds of effectiveness, safety and equity. The BMA believes that local authorities should be more proactive in helping to reduce the dental inequalities that exist across social groups in the United Kingdom (UK).¹⁵

The BMA website set out evidence to support this view on its [website](#).

4.2 The World Health Organisation

In 2007 the World Health Organisation (WHO) stressed the importance of tackling oral diseases and recommended that governments should place particular emphasis on a number of policy measures including fluoridation:

¹⁴ Scientific Committee on Health and Environmental Risks, *Critical review of any new evidence on the hazard profile, health effects, and human exposure to fluoride and the fluoridating agents of drinking water*, 16 May 2011

¹⁵ British Medical Association, Fluoridation of water, 12 January 2010, www.bma.org.uk

To strengthen the formulation or adjustment of policies and strategies for oral health and its integration in national and community health programmes, particular emphasis should be laid on... establishment of national plans for use of fluoride, based on appropriate programmes for automatic administration of fluoride through drinking-water, salt, or milk, or topical use of fluoride such as affordable fluoride toothpaste. Salt fluoridation programmes should be linked to iodization schemes;¹⁶

The WHO published [guidelines](#) in 2006 for fluoride in water that stressed both the benefits of fluoridation and the importance of preventing over exposure. It included an analysis of research into various health claims made about fluoridation.

4.3 The British Dental Association

The BDA supported fluoridation as it “reduces the levels of tooth decay and mitigates the impact of oral health inequalities”.¹⁷ In 2003 the BDA and other healthcare organisations supported an amendment to the *Water Act 1991*, now enacted in England, which “compels water companies to fluoridate water supplies where, following consultation with the local community, the [Strategic Health Authority] requests it”.¹⁸ In response to a recent consultation the BDA said:

Fluoridation of the water supply reduces dental decay across all age groups of the population affected...

A recent UK-wide data survey of hundreds of thousands of children clearly illustrates the benefits of fluoridation on children’s dental health. This survey by the British Association of Community Dentistry found that the dental health of children in primary care trusts in fluoridated areas was significantly better than those in non-fluoridated areas.

In addition to the studies cited in the consultation document, research carried out on adults in the US, who lived all or most of their lives in fluoridated areas (2007), were found to have experienced 27% less tooth decay than adults in non-fluoridated areas.

Fluoridation of the water supply at one part per million (1ppm) is the level defined as safe and sufficient to ensure improved dental health of the population as a whole, in line with the provisions of the *Water Act 2003*.⁴ The basis for dental health improvements at 1ppm is concisely explained by the World Health Organisation (WHO): “the level of dental caries (measured as the mean number of decayed, missing or filled teeth) falls from seven at a fluoride concentration of 0.1 mg l to around 3.5 at a fluoride concentration of 1.0 mg l.” It should be added that the WHO specifically supports fluoridation at a ratio of 1ppm. Although the references cited below refer to the last 20 years, the ratio of 1ppm has been supported by research by the dental profession and other healthcare colleagues since the 1940s.

Fluoridation of the water supply is the safest means to achieve a significant beneficial effect on dental health across the whole population affected.

This benefit is illustrated by the following example: In areas where water is fluoridated, only 25% of 5-year olds in South Birmingham and 23% from South Staffordshire have experienced tooth decay compared with 42% of 5- year olds from Southampton.

¹⁶ World Health Organisation, Fluoride in drinking water, 2006, www.who.int

¹⁷ British Dental Association, letter to South Central Strategic Health Authority, 24 September 2008, www.bda.org

¹⁸ *ibid*

Fluoridated water would also be expected to play an important role in helping to maintain the oral health of an ageing population: it is predicted that by 2020 there will be 24 per cent increase in Southampton of residents aged 65-75. This group may experience decreased mobility and dexterity, making it more difficult for them to brush their teeth properly or visit a dentist.

Main problems

Dental fluorosis. In the overwhelming majority of cases, this cannot be observed by the untrained eye. The prevalence of fluorosis is typically 3 – 4% higher in fluoridated areas. However, this must be balanced against the disfigurement/discomfort of having decayed or missing teeth, which fluoridation helps to decrease. Fluoridation is also an effective measure for reducing dental health inequalities, as demonstrated by the marked difference found in the dental health of children in Southampton compared with children in fluoridated areas.

Another concern in relation to fluoridating the water supply is the increase in overall exposure to fluoride. However, the intended fluoridation ratio, at 1ppm, falls well within a wider WHO guideline rate for fluoride in the water supply in Western ('temperate') climates of 1.5 ppm. This guideline, initially set in 1984, was reaffirmed in 1996 and 2004.¹⁹

4.4 British Fluoridation Society

The British Fluoridation Society (BFS) supports water fluoridation. Founder members of the BFS included Eric Lubbock MP (now Lord Avebury, and Vice-chair of the Parliamentary Human Rights Group). The BFS provided extensive briefing on all aspects of the fluoridation issue on its website:

www.bfsweb.org

4.5 National Pure Water Association

One of the largest groups opposed to fluoridation is the National Pure Water Association (NPWA). It argued that it is unethical to provide fluoride to the whole population, which it believes is "mass medication and an abuse of human rights". It also stated that fluoride "is toxic waste"²⁰ and made a variety of claims about the health impacts:

If exposed to fluoridated water, vulnerable groups are in serious danger of ingesting more fluoride than is good for them. Examples are babies whose formula feed is mixed with fluoridated water, kidney patients, thyroid patients, allergy sufferers and the elderly.

Proponents parrot "fluoridation is safe and effective" but this claim is clearly not supported by any high quality scientific evidence.²¹

Fluorides inhibit cellular enzymes, cause skeletal damage, suppress the thyroid gland and are toxic to the central nervous system.

There is also evidence that fluoridation raises the incidence of osteosarcoma in young males.²²

¹⁹ British Dental Association, response to South Central Strategic Health Authority consultation, viewed 23 September 2010, www.bda.org

²⁰ National Pure Water Association, Say no to water fluoridation, www.npwa.org.uk, viewed 23 September 2010

²¹ National Pure Water Association, About us, www.npwa.org.uk, viewed 23 September 2010, www.npwa.org.uk

²² National Pure Water Association, Say no to water fluoridation, www.npwa.org.uk, viewed 23 September 2010

4.6 Hampshire Against Fluoridation

This group is campaigning against moves to introduce fluoridation in the Southampton area. The group believes that fluoridation is not safe and has a negative impact on the environment. It said:

The British Dental Association backed by the British Fluoride Society over many years has tried to introduce fluoridation to the water supply in the UK for our own good. They now insist that fluoridation helps everybody. The logic of that is it helps those without teeth those suffering kidney failure, the thyroid patients and those who claim that they are allergic to fluoride. There have always been people and bodies who object such as the National Pure Water Association. At one time the very effective secretary Jane Jones who believed that her thyroid problem was caused by fluoridated West Midlands water strove over many years to have fluoride removed.

The NHS got fed up with the resistance by water companies and councils so they set up a review of all the evidence by the York University and the government promised that if the York found that fluoridation was effective and safe they would take the councils and the water companies rights away and allow the local NHS head administration (Strategic Health Authority) in the area to decide after the people were consulted. The York did not find convincing proof either way except that it found damage to teeth called fluorosis was prevalent in fluoridated areas. It also said the fluorosis was not just cosmetic and to remedy the affects was very expensive and not paid for by the NHS. The York review called for more investigation and the NHS then funded two, one a laughingly inadequate investigation on whether the fluoride ion from artificial fluoridation fluorosilicic acid and natural calcium was the same. The few students that took part over just a few months did not show any difference except one who was so much different they discounted it. (Perhaps he drank Guinness brewed in Ireland's fluoridated water.)

The other investigation was on papers that the York review had looked at or rejected. But on this evidence the NHS got the government to amend the water act to insure the water company against loss or liability. It prevents the councils from saying no although their opinion will be taken into account.²³

More information can be found on the group's website:

www.hampshireagainstfluoridation.org/

5 The previous Government's position

Both the previous Conservative and Labour Governments have advocated fluoridation as safe and effective.^{24,25} In June 1997, the Minister of State, Alan Milburn said:

The overwhelming weight of medical, dental and scientific opinion throughout the world considers water fluoridation, at the optimal level of 1 part per million in temperate climes, to be a safe and effective means of reducing dental decay, particularly among children.²⁶

²³ Hampshire Against Fluoridation, [History of fluoride in Southampton](#), viewed 23 September 2010,

²⁴ Department of Health press release 95\271, *Fluoridation is safe and effective*, 2 June 1995

²⁵ HC Deb 10 June 1997 c 422w

²⁶ HC Deb 10 June 1997 c 422w

5.1 The 1998 Green Paper

The Labour Government's position on fluoridation was set out in the Green Paper, *Our Healthier Nation*²⁷ which was published for consultation in February 1998:

3.33 There is still unacceptably wide inequality in the levels of tooth decay in children. The evidence shows that fluoridation of the water supply to the optimum level of one part in a million can substantially reduce the amount of decay in children from similar backgrounds.

3.34 Current legislation leaves the water industry in the position of deciding whether to agree to local Health Authority requests for new fluoridation schemes. The Government believes this needs to be reviewed but acknowledges the strongly held views on the issue of water fluoridation. It is concerned to explore ways of bridging the gap between those that are opposed to any fluoridation of the water supply and those that believe that the only way the children most at risk be protected against the damaging effects of tooth decay. The Government would therefore welcome ideas on how best to test public opinion in particular localities, but it is of the view that fluoridation offers an important and effective method of protecting the population from tooth decay.

The Government made it clear at the time that a forthcoming White Paper on public health would clarify the Government's position taking into account the responses to the Green Paper.

In July 1997, the Department of Health commissioned an independent report to contribute to the development of the White Paper and a new strategy for health. The inquiry, chaired by Sir Donald Acheson reported in November 1998.²⁸ The report recommended the fluoridation of the water supply²⁹ and an amendment to the *Water Fluoridation Act 1985* to ensure fluoridation of the water supplies in areas where this has been recommended following the present legal processes. At the time over 60 health authorities had completed the publicity and consultation required by the Act but could not have their decisions on fluoridation implemented because the water companies involved exercised the element of discretion afforded to them by the Act.

5.2 1999 Health White Paper

On 6 July 1999, the Labour Government published the Health White Paper entitled *Saving Lives: Our Healthier Nation*. Regarding fluoridation it stated the following policy:

'water fluoridation improves dental health and significantly reduces inequality'

There are wide variations in dental health across the country. The Acheson Inquiry reinforced the fact that there is strong evidence that water fluoridation improves dental health and significantly reduces inequality in dental health. Children in deprived areas where the water supply is not fluoridated can have up to four times more tooth decay than children in affluent areas, or where water is fluoridated. Responses to the Green Paper were overwhelmingly in support of fluoridation in areas where the level of tooth decay was high.

'the present legislation on fluoridation is not working'

²⁷ *Our healthier Nation: A contract for health*, February 1998, Cm 3852

²⁸ Donald Acheson, Independent Inquiry into Inequalities in Health Report, November 1998

²⁹ *ibid*, p 72

It is clear that the present legislation on fluoridation is not working. No new schemes have been implemented since 1985. Once a health authority has established that there is strong local support for doing so it may request a water company to fluoridate the water supply. Over 50 health authorities have made such requests to water companies, but to date none has been agreed. The companies are reluctant to take this step when a small but vocal minority are opposed to it. As a result there is deadlock.

'we have commissioned an expert scientific review of fluoride and health'

We are conscious that the extensive research linking water fluoridation to improved dental health was mostly undertaken a few years ago. So we have commissioned the Centre for Reviews and Dissemination at York University to carry out an up-to-date expert scientific review of fluoride and health. If it confirms that there are benefits to dental health from fluoridation and that there are no significant risks, we intend to introduce a legal obligation on water companies to fluoridate where there is strong local support for doing so. And to ensure that the extent and validity of that public support is beyond all doubt we envisage transferring from health authorities to local authorities the requirement to undertake public consultation on fluoridating the local water supply.³⁰

5.3 Post York Review

The York Review highlighted that despite the large number of studies carried out over several decades, the Government had a “dearth” of reliable evidence upon which to inform policy. In an open letter to the Government, Professor Trevor Sheldon the Chair of the Review Advisory Panel stated that:

Until high quality studies are undertaken providing more definitive evidence, there will continue to be legitimate scientific controversy over the likely effects and costs of water fluoridation.³¹

In responding to the review, the Department of Health made it clear its view that the study supported water fluoridation as an effective way of reducing caries in the children:

The Government will encourage health authorities in areas with particular dental health problems to consider adding fluoride to their water to help reduce tooth decay.³²

and

Welcoming the report, the Government said it clearly shows that fluoridating water helps to reduce tooth decay. In areas where overall health is lower than average, dental health is much higher if the water is fluoridated.

The report also responds to concerns about the health effects of water fluoridation. It concludes that no association has been shown between water fluoridation and cancer, bone fracture or Down's Syndrome.³³

As York University was critical of the quality of some of the evidence, the Government asked the Medical Research Council to advise on any further research priorities.³⁴

³⁰ *Saving Lives: Our Healthier Nation*, 5 July 1999, Cm 4386, p 112, para 9.18-9.20

³¹ Open letter, Professor Trevor Sheldon, Department of Health Studies, University of York, 3 January 2001.

³² Department of Health Press Release, [Government welcomes new report on water fluoridation](#), 6 October 2000,

³³ *ibid*

The Government waited for the MRC report before reviewing the need for new legislation.³⁵ The Department of Health found nothing in the report to suggest any reason why water fluoridation should not be considered as a public health measure in areas where dental health remains a serious problem. The Chief Medical Officer, Sir Liam Donaldson, and the Chief Dental Officer, Dame Margaret Seward, were asked to advise on the implications of the report for government policy on fluoridation. Because of the MRC report, the Department of Health commissioned a project on the absorption of fluoride.³⁶

In 2003, the Government introduced provisions in the Water Act 2003 to allow strategic health authorities to require water companies to fluoridate water, after consultation with the local population. Previously they could make a request but the water companies did not have to accede to this (the legislation relating to fluoridation is set out in Library Standard Note 3135 *Fluoridation: Legislation*).

The Labour Government said that if future research findings show a significant increase in fluoride intakes it would consider whether people living in fluoridated areas should be advised that they do not need to use dental products like fluoride drops and tablets—and whether the designation of 1ppm as the optimal level of water fluoridation should be reviewed.³⁷

5.4 February 2008—Strategic Health Authority guidance

In February 2008 guidance for SHA's was published that encouraged those with areas of poor dental hygiene to fluoridate water supplies. The Health Minister said:

"Fluoridation is scientifically supported, it is legal, and it is our policy, but only two or three areas currently have it and we need to go much further in areas where dental health needs to be improved. It is an effective and relatively easy way to help address health inequalities - giving children from poorer backgrounds a dental health boost that can last a lifetime, reducing tooth decay and thereby cutting down on the amount of dental work they need in the future.

"But there are people who hold strong views on this subject, so it is important that any proposed schemes are fully and widely consulted on. The guidance published today will help local health bodies to ensure there is an opportunity for everyone to put forward their views. The extra funding I am announcing means that, should local people decide to support fluoridation, SHAs have the resources to implement it." ³⁸

6 Coalition Government policy

The former Minister for Public Health highlighted the role fluoridation can play in reducing health inequalities in response to a PQ:

Anne Milton: There have been no new fluoridation schemes since 2003. However, the potential that fluoridation offers for reducing inequalities in oral health is well illustrated by data from nationally coordinated surveys of child dental health, a copy of which has been placed in the Library and is available at:

www.bascd.org/annual_survey_results.php

³⁴ HC deb 13 March 2003 c520

³⁵ HC Deb 29 November 2000 c 631w

³⁶ MRC, *Fluoridation and Health*, September 2002

³⁷ HL Deb 9 March 1999 c 21WA

³⁸ DoH, *Press release*, 5 February 2008

By way of example, a survey conducted in 2007-08 shows five-year-old children in Sandwell, in the fluoridated West Midlands, have on average 1.1 decayed, missing or filled tooth compared with an average of 2.4 in Blackburn, an area of a similar socio-economic profile in the North West where the water is not fluoridated. Equally significant is information from the 2009 health profile for the West Midlands, which covered a wide range of indices including life expectancy, infant deaths, violent crime and drug misuse. The profile shows that, of all the indices, only those for tooth decay and road injuries and deaths in the West Midlands were below the national average. A copy of the profile has been placed in the Library and is available at:

www.apho.org.uk/default.aspx?QN=HP_REGIONS_2009³⁹

As a result of government NHS reforms, which abolished Strategic Health Authorities, first tier local authorities became responsible for consulting and deciding on fluoridation schemes from 1st April 2013. The Government believed that this “would make decisions on fluoridation more democratically accountable.”⁴⁰ In February 2013 the Government [issued regulations instructing local authorities](#) on the conduct of “consultations and decision making on proposals for either new fluoridation schemes or variations, maintenance or the termination of existing fluoridation schemes”.

The Government said that it would issue guidance to local authorities on implementation of the regulations “which will include sources of information on the latest research evidence on the effects of fluoridation, good practice on the conduct of consultations and advice to local authorities and water companies on assessing the feasibility of a fluoridation proposal”.⁴¹ The guidance will be prepared by the chief dental officer and Public Health England.⁴² The guidance is yet to be published.

³⁹ HC Deb 7 July 2010 c344W

⁴⁰ PBC 31 March 2011 c1284

⁴¹ Explanatory memorandum to [The Water Fluoridation \(proposals and consultation\) \(England\) Regulations 2013](#)

⁴² HL Deb 12 December 2012 WA230