September 2014

Fluoridation News

Congratulations to Birmingham on 50 years of promoting oral health through water fluoridation

Birmingham City Council has received congratulations from the National Alliance for Equity in Dental Health (NAEDH) on reaching the 50th anniversary of a water fluoridation scheme that has slashed tooth decay rates among local children.

Big fall in numbers of children needing tooth extractions under a general anaesthetic

The fluoridation scheme started in 1964, when the City Council owned and operated the water supply. Figures from the Birmingham community dental health services showed that between 1965 and 1981 extractions of deciduous (first) teeth in children aged under 15 dropped from 35,000 per year to just over 9,000, and extractions of permanent teeth fell from around 11,000 to 3,500.

Over the same period, general anaesthetics for tooth extractions in under-15s fell from 18,000 per year to 2,000, whilst emergency dental visits because of bad toothache dropped from around 10,250 to 1,500.

Tooth decay levels down by nearly half within six years

A study published in the British Dental Journal in 1971 found that within six years of fluoridation having started tooth decay levels among children in the fluoridated Birmingham suburb of Northfield dropped by 46%, compared with a fall of just 2% over the same period among children in (then) non-fluoridated Dudley. (1)

Birmingham leading the way on oral health promotion

Reflecting on what has been achieved, ***Birmingham Council leader Sir Albert Bore*** said: “The introduction of water fluoridation in Birmingham helped transform children’s dental health. Of all the major cities in Britain, Birmingham led the way. Successive generations of children have been the main beneficiaries.”

NAEDH patron Sir Kevin Barron MP, a former chair of the House of Commons Health Select Committee, said Birmingham had shown strong public health leadership when, on the recommendation of its medical officer of health at the time, Dr Leslie Millar, it had made the decision to adjust the fluoride level in its water to the optimum for oral health.

He added: “I hope that many local authorities in Yorkshire and the North West with stubbornly high levels of children's tooth decay will reflect on the success that Birmingham and many other parts of the West Midlands have had in tackling the problem through water fluoridation.”

Fellow ***NAEDH patron Baroness Knight***, who was MP for the Edgbaston constituency in Birmingham between 1966 and 1997, said: “The fact that Birmingham children are much less likely than those from Manchester and Liverpool to need teeth removed in hospital under a general anaesthetic is testimony to the success of water fluoridation.”

Birmingham was the first major UK city to introduce a water fluoridation scheme to tackle high levels of tooth decay among children.

How Birmingham compares with Manchester

Recent surveys of children's oral health across English local authorities have found that:

- 5-year olds in fluoridated Birmingham have, on average, 34% fewer teeth affected by decay than those in non-fluoridated Manchester; (2)
- 12-year olds in fluoridated Birmingham have around 42% fewer teeth affected by decay than those in non-fluoridated Manchester. (3)

Children aged 0 to 19 in the mainly non-fluoridated North West of England are also reported to be several times more likely to have decayed teeth extracted under a general anaesthetic in hospital than those in the mainly fluoridated West Midlands. (4)

Changing the face of dentistry and reducing inequalities

Professor Damien Walmsley, professor of restorative dentistry at the University of Birmingham Dental School and scientific adviser to the British Dental Association, stressed that fluoridation had saved many thousands of teeth from having to be filled or extracted. He added: “It has changed the face of dentistry in this city.”

NAEDH patron Professor Michael Lennon, who has worked in dental public health and associated research in Manchester, Liverpool and Sheffield during his career, said water fluoridation had also reduced dental health inequalities between Birmingham children from the poorest and most affluent backgrounds. Citing a 1999 study, Professor Lennon said: “Children in fluoridated areas of Birmingham and other parts of the West Midlands had lower

How fluoridated Birmingham compares with non-fluoridated Manchester for tooth extractions under a general anaesthetic

A report of the Chief Medical Officer published in 2012 contains information on the number of children aged 1 to 4 admitted to hospital for dental caries, primarily to have decayed teeth extracted under a general anaesthetic.

Data for individual local authorities show that for the years 2009 to 2012 the rate of admissions for Manchester was 639 per 100,000 children, compared with 27 per 100,000 children for Birmingham.

Even allowing for possible variations between the two cities in the way hospital admissions for dental extractions are recorded, it is fair to assume that very young children in Manchester are much more likely than their Birmingham counterparts to need to have teeth removed in hospital under a general anaesthetic.

Writing in the *British Dental Journal*, Professor Ivor Chestnutt from Cardiff University (one of the authors of the York report on water fluoridation) said: “General anaesthesia for the extraction of teeth in children must surely represent the ultimate failure in dentistry.” (5)

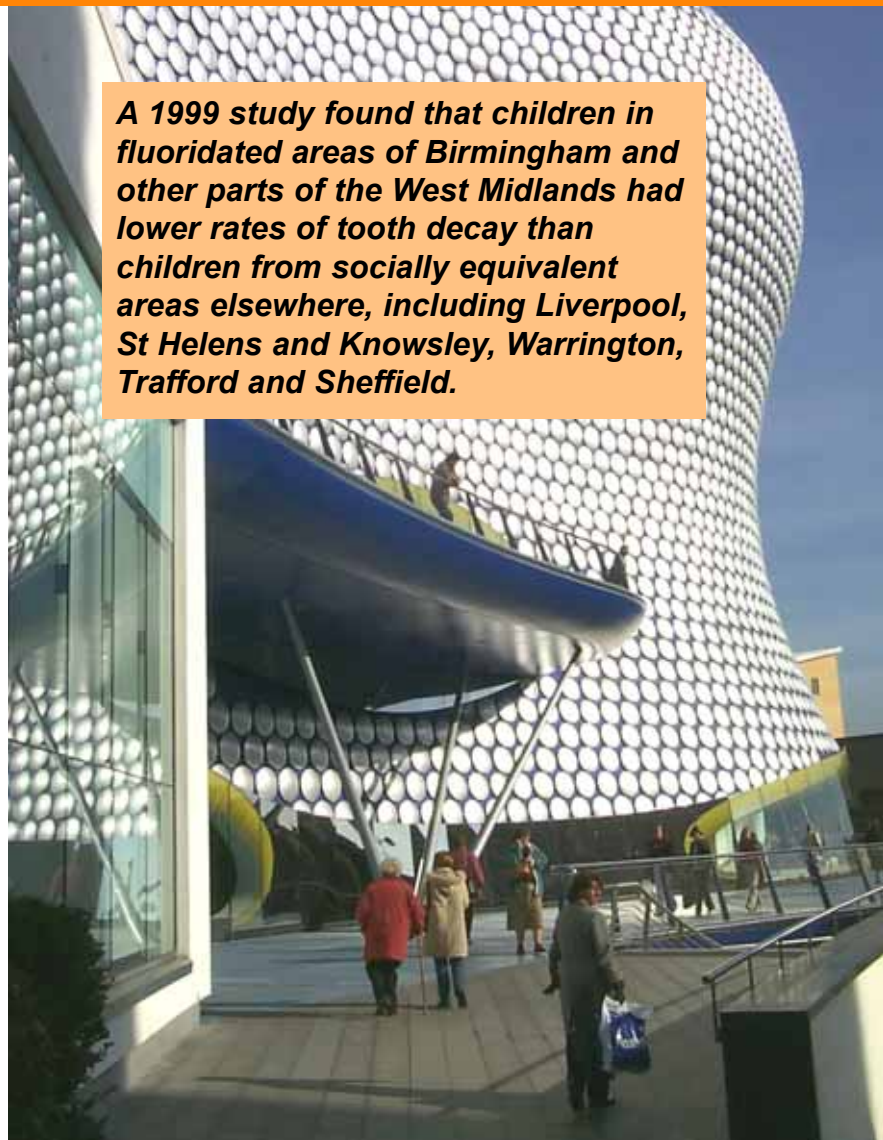
rates of tooth decay than children from socially equivalent areas elsewhere without fluoridation, including Liverpool, St Helens and Knowsley, Warrington, Trafford and Sheffield. The study also found that the difference in levels of tooth decay between poor and affluent children was narrower in fluoridated areas than in non-fluoridated ones." (5)

How things might have been very different without fluoridation

Birmingham dental practitioner and local dental committee secretary Eddie Crouch added his congratulations, saying: "Dentists who are practising in Birmingham today can only imagine the levels of tooth decay they would have encountered over the past 50 years if the City Council had not backed water fluoridation. When I meet colleagues from non-fluoridated areas that have a similar social make up to ours, but much higher levels of decay than we do, I realise what an effect we have benefited from here in Birmingham."

No evidence of harm over the past 50 years, despite dire warnings from opponents of fluoridation

Professor Rod Griffiths, a former president of the Faculty of Public Health of the Royal Colleges of Physicians, said: "As West Midlands regional director of public health from 1992 to 2004, I was satisfied that water fluoridation did not cause harm and that, on the contrary, it went a long way towards giving poor kids rich kids' teeth."



A 1999 study found that children in fluoridated areas of Birmingham and other parts of the West Midlands had lower rates of tooth decay than children from socially equivalent areas elsewhere, including Liverpool, St Helens and Knowsley, Warrington, Trafford and Sheffield.

An inspiration to many other communities

Lord Hunt of Kings Heath, president of the British Fluoridation Society and a resident of Birmingham, said: “Birmingham’s example inspired many other communities in this region to introduce their own fluoridation schemes. Our children now have better dental health than those in similar, but non-fluoridated, areas.”

A simple, cost-effective way of preventing tooth decay

Lord Colwyn, vice president of the British Fluoridation Society, commented: “Adjusting the level of a naturally occurring mineral in the water supply to the optimum for oral health is a simple, cost-effective way of preventing a significant amount of the tooth decay that children would otherwise have suffered.”

1. Beal J, James P (1971). *Dental caries prevalence in five year old children following five and a half years of fluoridation in Birmingham.* British Dental Journal, 130, 284.

2. NHS Dental Epidemiology Programme for England: Survey of 5-year olds - 2011/12

3. NHS Dental Epidemiology Programme for England: Survey of 12-year olds - 2008/09

4. Elmer TB, Langford JW, Morris AJ (2014): *An alternative marker for the effectiveness of water fluoridation: hospital extraction rates for dental decay, a two-region study.* British Dental Journal, 216 (5): E10 DOI: 10.1038/sj.bdj.2014.180.

5. Chestnutt IG (2014): *Commentary - An alternative marker for the effectiveness of water fluoridation: hospital extraction rates for dental decay, a two-region study.* British Dental Journal, 216 (5): E10.