Children and Young People Committee
Inquiry into Children's Oral Health

Evidence from Gwynedd Health Authority

MEMORANDUM

Response to the Welsh Assembly for Wales' Children and Young People Committee inquiry into children's oral health

From Huw Thomas, formerly Chief Executive, Gwynedd Health Authority

9th September, 2011

My reasons for writing this memorandum

Personal Background

Born 1st March, 1939, Gorseinon Hospital
My career was as a health service manager, mostly in Wales.
Trainee administrator, Cardiff Royal Infirmary 1963. In 1970 after posts in Birmingham, Kenya and Plymouth, I returned to Wales to commission the University Hospital of Wales.
From 1974 – 1979 I was District Administrator for Swansea Health District, responsible for hospital and community health services in Swansea and the surrounding area.
In 1979 I was appointed as Chief Administrator, later Chief Executive, of the Gwynedd Health Authority. This covered the present county of Gwynedd, Anglesey and part of Conwy, including Llandudno.
After my retirement, from 1999 - 2003 I worked as Programme Director of Aga Khan Health Service, Tajikistan heading up a major health aid programme.
[The state of children's oral health in Kenya and Tajikistan was much better than Wales]

My particular interest in children's oral health in Wales

The Gwynedd Health Authority inherited two water fluoridation schemes on Anglesey. The standard of oral health of the children on the island was twice as good as that on mainland Gwynedd. It was as good as the best in the UK. We took particular pride that the oral health of the children of Holyhead [then the 13th most deprived community in the UK] was as good as in the most affluent areas of the south east of England.
In 1991 Welsh Water decided unilaterally to stop fluoridation on the grounds they were not satisfied with the indemnity. The result of this decision was that within 5 years children's oral health on Anglesey had deteriorated to the same level as mainland Gwynedd. There was proportionally a greater deterioration amongst children from the most deprived backgrounds. A great deal of unnecessary pain and suffering has been inflicted on the children since.

The need to consider fluoridation of water supplies in Wales

Wales has a poor record of children's oral health compared with the rest of the UK. It has a high proportion of the worst areas. There is a particular problem with the oral health of children from deprived areas. The gap between the more affluent areas and the poorest ones is widening.
Dental caries is a preventable disease. Wales is wasting precious resources on treating a condition which could be substantially reduced by the introduction of fluoridation of water supply, where this is cost effective and where there has been an effective process of public consultation. This safe and effective public health measure would relieve a great deal of suffering, and would save scarce resources that could be utilized for other health needs.

Acknowledgements

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Dr John Langford, Consultant in Dental Public Health, West Midlands Strategic Health Authority
Professor Mike Lennon, Chairman British Fluoridation Society
Dr Joe J Mullen, Principal Dental Surgeon, North Western Health Board, Republic of Ireland
Dr Sandra Sandham, Director of Dental Public Health, North Wales

There is a problem

It is encouraging that the Children and Young People Committee is inquiring into the oral health of children, particularly in deprived areas. The Committee will be receiving up to date statistics from the experts.
I would highlight:

a. Results of the latest survey I have seen of the dental health of 5 year olds in Great Britain [British Association for the Study of Community Dentistry 2007] found that ;
    - 53% of children in Wales have tooth decay
    - 20 of the 22 former Welsh Local Health Boards are in the bottom half of a table of the 179 health districts ranked by severity of tooth decay
    - 5 of the former LHBs are amongst the worst 10; Caerphilly, Neath and Port Talbot, Torfaen, Merthyr Tydfil and Blaenau Gwent
    - Young children living in Blaenau Gwent have the worst dental health of all, with an average of almost 4 decayed, missing or filled teeth per child
b. The previous Minister for Health, in a statement to the Assembly on the 13th November 2007, said "Some of our children have some of the worst teeth in Europe. The dental health of the five- year-old in Wales is the worst in Great Britain."
c. Bad though the figures are, they are averages masking a much worse situation for children from deprived backgrounds. The link between poverty and ill health is well established. This applies equally to dental health. There is a plethora of academic evidence relating a direct correlation between deprivation and oral health in the UK. Recognising this link, the concept of dental planning areas [dpas] was developed in Wales in the early 90s. This enabled accurate information in much smaller areas to be obtained on the prevalence of disease and social variations. Dental status can be measured against the Welsh Index of Multiple Deprivation.
d. An example from North Wales showed that in the 2005 survey of 5 year olds the average prevalence of dental caries for Wrexham dpa was 46%, but this average spanned 31% in Bangor-is-y-Coed to 74% in Rhosllanerchrugog. This shows that complacency must be avoided when considering data on larger populations.
e. I have not had access to comparative figures for the dpas within the former Blaenau Gwent LHB, but when the Committee members examine these figures it might cause them to bite their lips.
f. In this memorandum, I have concentrated on the oral health of 5 year olds. However, the figures for 15 year olds show a worse picture. No doubt the dental experts will provide data on this group for the Committee.
g. The high level of dental decay in Wales means that there is a relatively higher level of tooth extraction than other parts of the UK. Tooth extraction is generally carried out under general anaesthetic. During 2005-06 in South East Wales [population 1.3 million] 6029 general anaesthetics were administered to children under the age of 12 for multiple tooth extractions for severe dental decay. I estimate the total figure for Wales is between 8500 and 9000 children per year receive a general anaesthetic for dental extractions. Each case represents an anxious child

and parent facing a procedure, which even with improved techniques, is not without risk. Direct costs could be as high as £4 million pa. This does not include the disruption and costs incurred by families with lost schooling and days off work. The operating team of paediatric dental surgeon, anaesthetist, theatre nurses, operating theatre attendants and porters could be employed more usefully treating patients who are suffering diseases that are less preventable.

h. Dental health is not just a matter of rotten teeth and its treatment, that at its best is unpleasant for healthy individuals. There can be serious general health consequences from dental decay:
    - Dental sepsis is a serious condition that can lead to major consequences, particularly if it tracks to the sinuses, brain or windpipe, and can even cause death. A study in the British Medical Journal published in June 2008, followed by correspondence, demonstrated that hospital admissions in England for drainage of dental abscess have doubled in the last ten years. The greatest increase was for people living in deprived areas, a three fold increase over nine years. 86.3% of the total 8896 admissions were classified as emergencies. I have not seen any comparable figures for Wales, but if there is the same trend it is extremely worrying.
    - Tooth decay and its treatment can present far more serious risks for certain groups of patients. People suffering certain physical or mental disabilities are particularly vulnerable. The cardiac status of children and adults with heart problems may be seriously affected by dental disease.
    - Conditions including mental impairment, cystic fibrosis, blood disorders and some cancers can mean routine dental treatment becomes problematic and even a risk to general health.
    - Medical conditions such as diabetes or people on long term medication such as methadone for drug users or anti-asthmatics can aggravate dental disease and make treatment more difficult.

i. I would recommend that the Committee examine the question of accessibility of dental treatment for people from deprived areas. Surveys have reported improvements in the UK in the number of sound and untreated teeth in adults between 1978 and 1998, but this trend has since flattened out. The number of decayed, missing or filled teeth has declined albeit modestly in recent years. However, there is evidence that improvements have been far less in the most deprived communities, with claims of less availability of a general dental service. Possible reasons for this are:
    - In my part of North Wales in the not so recent past it was virtually impossible to register with an NHS dentist. There were reports of difficulties in other parts of Wales. The National Institute for Clinical Evidence recommends that adults should have regular dental check ups every 3 to 24 months, depending on individual need. Changes to dentists' remuneration in the 1990s led many dentists to reduce their NHS workload. This was accompanied by a decline in the number of adults in England registered with an NHS dentist from 23 million in 1994 to around 17 million in 2003-04. I do not have the comparable figures for Wales, but I would be surprised if the trend was significantly different.
    - More affluent people now have private dental care.
    - Not all people register with a General Dental Practitioner. The figures for March 2004 show 47.8% in England and 51% in Wales
    - In 2004 reasons from those who had not gone to see a dentist in the previous year were: 47% felt a visit was unnecessary, 26% thought treatment too expensive, 16% anxiety, 8% unable to find an NHS dentist and 3% unable to find a dentist to register them.

- An increasing proportion of elderly people in the population means it is becoming more of a challenge to maintain the dental health of people who are housebound, or who have mental impairment.

Response of the Welsh Assembly

Designed to Smile

The response of the Welsh Assembly to the serious situation regarding the poor state of oral health in children and particularly those in deprived areas, has been some strengthening of the community dental service and the project "Designed to Smile". This is a worthy initiative and I have no doubt has been implemented with enthusiasm and professional commitment throughout Wales.

Clearly I do not have access to the responses regarding its effectiveness. It is to be hoped that an impact has been made.

However, I would question whether the programme can make a significant impact, particularly on those children in the most deprived communities. My reasons for doubt are;

- The children in the deprived areas are notoriously difficult to reach
- The scheme is very labour intensive
- There must be doubts about its sustainability over time
- At a time of severe financial constraints it is necessary to consider an alternative which is more effective and certain to benefit the most deprived children

I would argue that if a substantial improvement in the oral health of the children of Blaenau Gwent has not been made, say 25% since the start of the programme, then it is time to consider the alternative of fluoridation of water supply, where this cost effective.

Health Promotion

The Assembly issues very sensible advice for parents about the prevention of tooth decay. This message is reinforced by General Dental Practitioners and Community Dentists.

I am a firm supporter of health education [Gwynedd Health Authority was the first health authority in Wales to appoint a Health Education Officer].

However, the reality is that health promotion has limited success in changing behaviour, particularly for the poorest in society. We have known about the link between smoking with cancer and heart disease for over 50 years. There has been extensive publicity about the dangers of smoking, yet in Wales nearly a quarter of young people take up smoking. There is a problem of alcohol abuse, in spite of the publicity given to the dangers. The need for healthy eating and taking exercise is not being heeded by an increasing number of people.

With regard to oral health it is unrealistic to expect health promotion can make a significant impact on a significant section of the population, certainly in the short term. That is not to denigrate health promotion – it should continue, but a much more radical solution is needed.

It Does Not Have To Be Like This
The facts about fluoridation of water supply and its benefits

There is a fair degree of ignorance, and some misrepresentation of the facts about fluoridation

a. Facts
   - All water supplies contain fluoride naturally
   - Water fluoridation is the process of topping up the natural fluoride content of public water supplies to a level that is known to improve dental health safely and effectively. In temperate climates this is 1 part per million [1ppm]. This is a level that occurs naturally in many parts of the world. In the UK such a level is reached in Hartlepool and Uttoxeter

b. What are the dental benefits?
   Despite an overall improvement to dental health in the UK, including Wales, in the last 30 years, this improvement has now flattened out. Tooth decay remains a significant health problem in some parts of the UK, including Wales. Inequalities in dental health are widespread throughout the UK, with children living in the poorest, non-fluoridated communities continuing to suffer unacceptably high levels of tooth decay. Many studies have confirmed that water fluoridation reduces tooth decay, and has no harmful side effects. Children are the group who benefit most from water fluoridation, but adults benefit too.

c. Are there any effects on general health?
   Oral health and general health are strongly linked. Fluoridation improves a population's dental health, and as a consequence its general health. Because of the criticism of fluoridation from some individuals and organizations, it is probably the most studied of all public health measures. Every allegation that fluoridation is linked with a particular condition or ailment has to be examined scientifically with independent studies. Studies and independent reviews of the relevant medical and scientific literature over many years have consistently failed to find evidence that water fluoridation has *any* effect on the health of the body other than reducing dental decay.

d. How is water fluoridated?
   Fluoridation takes place at the water treatment works where a calculated solution of fluoride is added to water under close control. The chemicals used in water fluoridation are specifically manufactured to very high quality standards, and must meet Department of the Environment purity specifications. There is no difference between fluoride added to water supplies and that which occurs naturally. Water fluoridation has an excellent safety record.

e. Is dental fluorosis [marks on the teeth a serious problem?
   Dental fluorosis appears as mottling or marks on the tooth surface. It is likely to affect 3% of children in fluoridated areas and 1% in non- fluoridated, to a level of that might be of aesthetic concern to the children or their parents. In most cases fluorosis appears as barely visible flecks on the surface of the tooth and is undetectable, except by an expert. The most severe

cosmetically forms, prevalent in some tropical countries, is uncommon in the UK. The risk of fluorosis can be reduced by simply following dentists' advice on the use of fluoride toothpaste and fluoride supplements. If it needs to be treated, which is very rarely, it may be done so without anaesthetic and without drilling, using a very simple polishing technique. It does not cause disease and for most people it may actually improve appearance [making the teeth have a slight ivory sheen]. In contrast caries is destructive, can be infectious and dangerous in that it may lead to abcesses, hospitalisation and general anaesthetic treatments

f. What is the impact on the environment?
   Fluorides are very common in the environment. Reviews of literature and environmental impact assessments have found no evidence of any adverse environmental effects resulting from water fluoridation. Water fluoridation is environmentally friendly since it ensures maximum utilization of natural resources and reduces waste.
g. How much support is there for water fluoridation?
   There is strong professional and public support for fluoridation. Worldwide, every major health body that has ever considered the evidence, including the World Health Organisation, has confirmed the effectiveness of water fluoridation and found no evidence of harm.
   Independently conducted opinion surveys, including ones on Anglesey and in North Wales, consistently show that between 65 and 70% of the public believe that fluoride should be added to water supplies to prevent tooth decay.
h. Is it cost effective to fluoridate water supplies?
   Water fluoridation is highly cost effective where tooth decay rates remain high [much of Wales] and the local treatment works serve a significant number of people.
   There is a one off capital cost to provide the treatment plant, which should have a life of 25 years. Thereafter the running costs are low. Reducing decay rates means less treatments required, so less need for payments to NHS dentists, fewer hospital admissions and fewer general anaesthetics. In the West Midlands, for example the cost of the main fluoridation plant is 16 pence per head of population pa.
i. Where is water fluoridated at present?
   In the UK 5.5 million people [approximately 10% of the population] currently receive a fluoridated water supply. The West Midlands is the most extensively fluoridated region. A new scheme will be implemented in the Southampton area in the near future.
   Worldwide around 400 million people benefit from a fluoridated water supply, with the USA being one of the most extensively fluoridated countries.
j. Is it ethical to fluoridate water?
   From an ethical perspective, water fluoridation can be seen as replicating the benefits already conferred on those communities whose water supplies naturally contain optimum levels of fluoride. Fluoride –free drinking water is not a basic human right, but a question of individual preference. However, in a society where people come together for mutual benefit, such personal preferences must be balanced against the common good – particularly when the beneficiaries are children as they are least able to help themselves.

Water fluoridation – a brief history

During the 1930s researchers discovered that people living in areas where drinking water contained naturally elevated levels of fluoride experienced less tooth decay. Further work demonstrated that, in temperate climates, a level of 1 part per million was 'optimal' for the prevention of tooth decay.

In 1944 a trial was established in Grand Rapids, USA to test the hypothesis that the benefits of naturally occurring fluoride might be replicated in communities where the drinking water was low in fluoride by artificially adjusting the level to 1ppm. The results of this and other trials worldwide showed the clear benefits to dental health.

In 1953 the UK Medical Research Council recommended that an expert committee should visit the USA trial sites. On the basis of the committee's report the government established demonstration sites, including Anglesey. Detailed reports were published after 5 and 11 years. Impressed by the results, Birmingham and Newcastle established new fluoridation schemes. Despite these success stories, subsequent efforts to extend fluoridation have been thwarted by inadequate legislation and a small but vocal anti-fluoridation lobby. Between 1987 and 1992 most regional health authorities proposed to introduce fluoridation schemes, but could not do so because under the 1985 Water [Fluoridation] Act, water companies could refuse health authority requests for fluoridation schemes.

Members of Parliament favoured a clarification of the law [which was supported by the water industry]. On 16th November 2003, in a free vote MPs voted overwhelmingly [284 votes to 181] in support of fluoridation. The Water Act 2003 became law on the 20th November 2003. The Act states:

" If requested to so by a relevant authority, a water undertaker shall enter into arrangements with the relevant authority to increase the fluoride content of the water supplied by that undertaker to premises specified in the arrangements". The replacement of the 'may' by the word 'shall' was a critically important change.

Section 58 puts a new emphasis on the requirement for consultation before any new fluoridation schemes are requested [or an existing scheme terminated].

The legal situation in Wales

My understanding is that the Water Act 2003 applies to Wales and that "The power of the Assembly to make regulations…… shall be exercised by Statutory Instrument". The regulations governing Consultation and Indemnities that came into effect in England on 1st April 2005, do not apply to Wales. The Act requires the National Assembly for Wales to enact Consultation and Indemnity Regulations before any fluoridation schemes could proceed.

The Welsh Dimension – Fluoridation of water supplies on Anglesey

Anglesey County Council had the wisdom to appoint Dr Gwilym Wyn Griffiths as their Medical Officer of Health. Gwilym was an outstanding public health doctor, who later held a senior position with the World Health Organisation.

In June 1951, Anglesey County Council agreed to ask the government for a grant to introduce water fluoridation on the island. The decision was a result of the recently published preliminary reports of the American fluoridation trials, and the favourable, and separate views from the council's health, education and water committees. The County Council pursued the matter again in September 1953, when it pressed the Minister of Health to include Anglesey in the proposed demonstration projects. The Government agreed, and on November 17th 1995 water fluoridation started on a part of Anglesey. The results after 5 years were favourable, and in 1964 the County council extended the scheme to the rest of the island.

In 1974 the new Gwynedd Health Authority inherited responsibility for the scheme. The results of fluoridation on children's dental health were dramatic. In 1987 the dmft was 0.8 compared with 2.3 on mainland Gwynedd – 65% better on the island. Anglesey was amongst the very best in the UK. What is more, the beneficial effect was across the full spectrum of socio-economic groups. The dental health of children in Holyhead [then the 13th most deprived community in the UK] was as good as that of children in the most affluent parts of the South East of England.

The Public Health Department closely monitored the general health of the population of Anglesey to identify if there were any harmful effects of fluoridation on general health. There were none. All the indicators showed that in all other respects, apart from dental health, the people of Anglesey had comparable health with the people on mainland Gwynedd.

An important study by Derek Thomas, our Chief Dental Officer, of mothers at St David's Hospital, Bangor, studying the dental health of mothers who were lifelong residents on the island and had been born since fluoridation, demonstrated that the benefits continued into adult life.

By the mid 1980s the original fluoridation plants were showing signs of age. In 1991 the health authority and the northern division of Welsh Water agreed to the installation of new fluoridation plant at both the Cefni and Alaw works. This was completed at the Cefni in March 1991, at a cost of £110,000 to the health authority. However, in August both plants were turned off and on February 19th 1992 the Chairman of Welsh Water informed the health authority that the company was not willing to undertake further fluoridation schemes anywhere in Wales. The reason given for the decision was that although Welsh Water had a civil indemnity from the government, it wanted a criminal indemnity.

There followed two meetings which I attended. There was a robust exchange of views, but Welsh Water would not relent. In a ruling in England on a case brought by Newcastle and North Tyneside Health Authority, Mr Justice Collins ruled that Northumbrian Water "did not have a public body duty and was entitled to take the interests of its shareholders into account".

The result of the unilateral decision by Welsh Water was that the dental health of the children on Anglesey deteriorated. In 1993/94, after only 5 years, the dmft had increased to 2.14, the same as mainland Gwynedd. In Holyhead 30% of 5 year old children suffered from toothache and 17% had dental extractions under general anaesthetic.
A subsequent independent opinion poll held on Anglesey showed 69% approved of fluoridation, and significantly the approval rating by young people and households containing young children was 83%.
The Assembly can be confident that if it were to re-introduce fluoridation to Wales, it can replicate the achievements of the ground breaking initiative on Anglesey.

Learning from the Neighbours

West Midlands

Around 3.7 million people in the West Midlands receive fluoridated water supplies. The dental benefits of fluoridation for children in the West Midlands can be seen from the national survey of 5 year olds, completed in 2008, which shows that children from fluoridated areas of the West Midlands enjoy some of the best dental health in the UK. This includes some of the most socially deprived areas in the UK. South Staffordshire has the third lowest average dmft out of 152 Primary Care Trusts in England. Fluoridated Wolverhampton, Warwickshire, Worcestershire, Solihull and Dudley are among the top 20% of Primary Care Trusts in England for children's dental health.

Comparison with the North West of England

There are many similarities between the West Midlands and the North West. They have similar economies and social mix, with pockets of high levels of social deprivation.
On average 5 year old children in the mainly non-fluoridated North West Region have 57% more tooth decay than children in the mainly fluoridated West Midlands. On average children from non fluoridated Manchester have about 140% more decay than children living in south Birmingham. Manchester children have 40% more tooth decay than children living in Heart of Birmingham PCT, which is rated as the most socially deprived PCT in England.

Improvements

Large parts of the Black Country were fluoridated in the mid 1980s. Local dental health consultants compared the baseline in 1985 and tracked changes to 1997 and estimated that a total of approximately 103,000 children's teeth had been saved from decay during that period.

The impact of Fluoridation on Reducing Health Inequalities

Numerous studies have shown that there is a link between tooth decay and social deprivation. Ordinarily, communities with the highest levels of social deprivation would expect to have the highest levels of tooth decay among children. [The picture in Wales].
Yet some of the most socially deprived parts of the West Midlands served by water fluoridation have better children's dental health than some comparatively affluent areas that do not receive fluoridated water. For example:

- In fluoridated Birmingham East and North PCT [the 10th most socially deprived PCT in England] 5 year olds have an average of 10% less tooth decay than children in non fluoridated Berkshire East PCT [16th most affluent PCT in England that includes places such as Ascot, Maidenhead and Windsor]
- In fluoridated Wolverhampton PCT [among the 20% most socially deprived PCTs in England] 5 year olds have an average of 28% less tooth decay than children in this age in non fluoridated Buckinghamshire [the 2nd most affluent PCT in England, that includes places such as Gerrards Cross, Amersham, Chesham and Beaconsfield]

An analysis of 2001/02 data on tooth decay rates across the West Midlands show that:

- Children in fluoridated areas with relatively high levels of social deprivation often have better dental health than children in relatively affluent areas where water supplies are not fluoridated.
- In fluoridated areas there is a smaller difference in tooth decay rates between children in the most affluent areas and most socially deprived families than there is between children from these different social groups in non-fluoridated areas.

Reduced need for use of General Anaesthetics to Extract Decayed Teeth from Children

The fluoridated West Midlands have seen a massive reduction in the number of general anaesthetic sessions needed each year to extract decayed teeth from children.

Figures for 2003/4, for example, show that around six times more general anaesthetics were administered to children aged under 10 in non- fluoridated greater Manchester for tooth extractions [3,424] than in fluoridated Birmingham and the Black Country [683], and three times more than the whole of the West Midlands region [992].

Compare that with the estimate for Wales of 8,500 to 9000 pa in Wales.

Achievements in the West Midlands

- **Lower tooth decay rates**
- **More children entirely free from tooth decay**
- **Much lower need for tooth extractions under general anaesthesia**
- **Reductions in dental health inequalities, with a narrowing of the gap between children from socially disadvantaged and affluent backgrounds.**

Lessons for Wales

If Wales were to follow the lead of the West Midlands, there is the potential for:

- The children of Blaenau Gwent to have the same standard of oral health as those in Buckinghamshire, or better still, Wolverhampton.
- Lower tooth decay rates across Wales
- A reduction of 80% in the need for general anaesthetics for tooth extractions
- More children entirely free from tooth decay

There is an irony that the main source of fluoridated water for the West Midlands is in Wales.

Republic of Ireland

The Republic of Ireland introduced fluoridation of most of its water supplies in the early 60s and now covers 71% of the population. It has one of the lowest rates of tooth decay in Western Europe. In 2002 the dmft rate for 5year olds was 1.0, at a time when it was 1.8 in Northern Ireland. The rate for 15 year olds was 2.1 in the Republic and 3.6 in the North.

Again a meaningful comparison can be made. Northern Ireland does not have fluoridated water. The prevalence of dental decay is approximately 30-50% lower in fluoridated areas of the Republic compared with non-fluoridated areas in Northern Ireland.

The North-South children's survey demonstrated a significant benefit from fluoridation. The figures for 2002 from a detailed analysis by the University of Cork show:

5 Year olds

Republic of Ireland full fluoridation		Northern Ireland non-fluoridated	
Non-disadvantaged	1.1 dmft	Non-D	1.7
Disadvantaged	1.9	Disadvantaged	3.3

15 Year olds

Non-D	2.5	Non-D	3.8
Disadvantaged	3.0	Disadvantaged	5.3

Dr Mullen has confirmed that the health data show the all Ireland cancer rates show no higher rates in the Republic compared with the North

The ethical arguments in the Republic of Ireland

The main arguments about the fluoridation of water supplies centre round the ethics. It is very instructive to examine the debate that was held in the Republic.

In December 1960 the Irish Parliament [Oireachtas] passed the Health [Fluoridation of Water Supplies] Act which gave the Minister for Health the power to require health authorities to arrange for fluoridation of water supplies.

Following the passage of the act, a resident of Dublin applied to the Irish high court to have it overturned on the grounds that it was unconstitutional. In a hearing lasting 65 days, the counsel for the plaintiff argued that the Act had overridden the inalienable rights of the individual, which the state had a duty to respect and, as far as practicable, to defend its laws. These rights, it was argued, included that of 'bodily integrity'.

Personal rights not unlimited

In his final judgement, delivered in 1963, Mr Justice Kenny stated:

'None of the personal rights of the citizen are unlimited: their exercise may be limited by Parliament [Oireachtas] when the common good requires this'

He added:

'*When dealing with controversial social, economic and medical matters Parliament has to reconcile the exercise of personal rights with the claims of the common good and its decision on the reconciliation should prevail unless it was oppressive to all or some of the citizens or unless there is no reasonable proportion between the benefit which the legislation will confer on the citizen or a substantial body of them and the interference with the personal rights of the citizen'*

On the question of bodily integrity, Mr Justice Kenny accepted that it would be oppressive to impose on a country's citizens any process which might be dangerous. But he also accepted the arguments that fluoridation was safe and that it constituted no danger to individual's bodily integrity. He concluded:

'*In my judgement, the fluoridation of the public water supplies in this country is not a violation of any of the plaintiff's constitutional rights and this action must be dismissed*'

The judgement of Mr Justice Kenny was upheld by the Irish Supreme Court in July 1964. Chief Justice O'Dalaigh commented:

'*The effect on the teeth [of fluoridation] is demonstrably beneficial. The purpose and the effect of fluoridation is to improve children's teeth and so, indirectly, their health. These benefits are to a great extent carried forward into adult life'*

Replicating nature's benefits

Rejecting the plaintiff's contention of possible violation of bodily integrity, the Supreme Court stated:

'*Fluoride ions occur naturally in water and in many foods. The Act has for its object where water is deficient in fluoride ions to bring it to the optimal level of fluoridation. Fluoride ions thus added differ in no respect from fluoride ions naturally occurring in water. In modern life the provision of public water supplies in cities is necessarily a community obligation, and if water occurring naturally is deficient in some of its wholesome elements, it is the right if not the obligation of the community to make good the deficiency where this can be done without harm or danger to the public. The desirability of adding to food or water elements in which they are deficient or removing elements which may be harmful has been widely recognized and frequently exercised.*

Water is chlorinated, salt iodised, vitamins added to margarine, flour fortified whenever these measures are found to be beneficial'

Duty to protect citizens against disease

The Supreme Court went on to develop the argument that the State has a duty to protect its citizens from disease. It said:

'Dental caries is no new thing. It has adversely affected generation after generation and will continue to do so if measures are not taken. This constitutes the type of danger from which the State has not merely the right but the duty to protect its citizens. To deal with the problem, parliament has chosen a method, namely the fluoridation of the public water supply. The plaintiff has failed to refute the evidence that this is not only the most effective method but is indeed the only effective method.'

The judgement continued:

'The court is left in no doubt that the fluoridation of water to the extent proposed in the Dublin Health Authority area where the plaintiff resides cannot be said to involve physical changes which affect in any way either the wholeness or the soundness of the person concerned. The ingestion of the fluoridated water cannot, therefore, be said to constitute an infringement of or a failure to respect the bodily integrity of the plaintiff or her children'

The Court also firmly rejected the anti-fluoridation argument of 'mass medication'. It said:

"The Court does not accept that the fluoridation of water is, or can be described as, the mass medication or mass administration of "drugs" through water. This matter was examined in detail by the Commission set up by the Government of New Zealand to inquire into the desirability of fluoridation and the conclusion was reached that "fluoride is not a drug but a nutrient and fluoridation is a process of food fortification". It is, in the opinion of the Court, a misuse of words to refer to this process as mass medication or mass administration of drugs"

I make no apology for quoting these judgements at length for two reasons;

1. They are clear and concise about the main issues involved in the matter of fluoridation of public water supplies
2. The Welsh Assembly has been adopting similar health and social measures as those in the Republic, witness the ban on smoking in public places and the use of plastic bags.

We can learn and share good practice with our Celtic cousins.

I would recommend that the Committee [with the Minister for Health] invite representatives of the Department of Health in the Republic of Ireland and the West Midlands Strategic Health Authority to discuss the issue of fluoridation of public water supplies.

CONCLUSION

1. There is a serious problem of high levels of tooth decay among children in Wales, with particularly high levels in socially deprived areas.
2. Oral health can have an impact on general health.
3. The present service is costly and not very effective.
4. Dental caries can be prevented.
5. Fluoridation of water supplies, which replicates what happens naturally is:
    a. Safe. Many studies have been undertaken which show fluoridation at a level of 1ppm has no adverse effects on general health.
    b. It reduces levels of tooth decay significantly.
    c. It is particularly effective in improving the dental health of the most socially deprived.
    d. It would lead to a significant reduction in the number of general anaesthetics.
    e. It is cost effective. There are potential savings or resources could be available for other priorities.
6. There is support from professional organisations such as the British Medical Association and the British Dental Association.
7. Independent public opinion surveys how 65-70% of people favour fluoridation.
8. Fluoridation is accepted and has public support in the USA, where 64% of the population receive fluoridated water. The USA is a country famed for fierce individualism. Fluoridation is not just in the eastern and western seaboard states which are traditionally considered 'liberal', but in the 'conservative' Mid-west. Australians, who are not noted for their deference to authority, have 61% of the population receiving fluoridated water.
9. It is understandable that people are cautious about anything to do with adding an additional chemical to water supplies. There is no doubt that there are people who are anti fluoridation and their views must be respected. It is necessary to disentangle concerns that are unwarranted, such as doubts about safety or its effectiveness in reducing dental decay from concerns based on people's views on ethics. There are those who do not consider the State should be involved in the health of individuals, others who have concerns about bodily integrity, and others who consider individuals are responsible for their own health and the State should not intervene if they do not heed health warnings.
10. It should be noted that chemicals are added to water supplies to make it safe to drink. The Drinking Water Inspectorate and the Welsh Assembly authorise 81 chemicals that can be added to water supplies. [The number would be dependent on the nature of the water

supply] Apart from those needed to make water potable, there are others to reduce corrosion in pipes and for aesthetic reasons.

11. In a liberal democracy there is scope for different points of view on the ethics of any major issue of public policy, including fluoridation. However, in aspects of our daily lives there is a question of balancing individual preferences against the common good. Given the scale of the problem in Wales and the main beneficiaries are children, who are least able to help themselves, there is a compelling case to introduce fluoridation of public water supplies where this is cost effective, and subject to meaningful public consultation.
12. The Assembly was courageous in implementing the ban on smoking in public places, which is bringing significant health benefits to the people of Wales. They followed the evidence rather than listening to special pleading. The Assembly should at least give serious consideration to this other public health measure, which will make a difference to the lives of many thousands of children, particularly the most socially deprived.

Recommendations

1. The Committee and the Minister for Health meet with people involved with fluoridation in the Republic of Ireland and the West Midlands to discuss all aspects of fluoridation of public water supplies.
2. The Committee recommends to the Minister for Health that she commissions a feasibility study for the introduction of fluoridation of water supplies in parts of Wales, where this is cost effective.
3. The issue of fluoridation is included in the Oral Health Plan for Wales
4. The Committee recommends to the Minister for Health that she places before the Assembly the necessary enabling Statutory Instrument to allow fluoridation of water supplies, if this were to be decided in the future.