September 2014

Fluoridation News

# A tale of two regions: hospital admissions of children and adolescents for tooth extractions

Children and adolescents aged between 0 and 19 in the mainly non-fluoridated North West of England are much more likely than those in the mainly fluoridated West Midlands to need admission to hospital for the extraction of decayed teeth under a general anaesthetic.

This has emerged in a new study comparing figures from both regions for the three years between 2006/07 and 2008/09. (1)

## Huge difference between mainly fluoridated and mainly non-fluoridated regions

The researchers found that in 2007/08 hospitals in the North West recorded 742% more admissions of 0-19 year olds for tooth extractions than hospitals in the West Midlands (amounting to around 6,000 more cases over the year). Significant differences between the West Midlands and North West were also seen for 2006/07 and 2008/09.

There are only 31% more 0-19 year olds in the North West than in the West Midlands. Relative sizes of population are not, therefore, a major factor for the huge difference between the two regions in the number of tooth extractions under a general anaesthetic.


**In 2007/08 hospitals in the mainly non-fluoridated North West recorded 742% more admissions of 0-19 year olds for tooth extractions than hospitals in the mainly fluoridated West Midlands. This represented around 6,000 more cases over the year.**

## Major financial implications for the NHS in the North West

But there are significant financial implications from their findings, say the authors. At an average cost of around £558 per general anaesthetic procedure, in 2007/08 the NHS spent about £4 million more annually on extracting teeth from 0-19 year olds in the North West than it did in the West Midlands.

## Psychological impact on young patients of having teeth removed in hospital

Other implications identified in their report include the psychological impact on young patients of having teeth removed in hospital and consequently feeling more anxious about undergoing dental treatment in the future. Children having to take time off school to undergo the procedure, and parents taking time off work to be with them, must also be taken into account.

The authors considered the possibility that there might be different procedures between the regions in the recording of tooth extractions performed under a general anaesthetic in hospitals. However, they concluded that this was unlikely and that it would not explain the magnitude of the difference in numbers of admissions.

## Water fluoridation likely to account for lower rate in West Midlands

Water fluoridation may be a significant contributor to the differences, they observed. Around 70% of people in the West Midlands are supplied with water whose naturally occurring fluoride content has been adjusted to the optimum for dental health. Only around 4% of people in the North West – in West Cumbria and southern parts of Cheshire – receive fluoridated water.

**In 2007/08 the NHS spent about £4 million more on extracting teeth from 0-19 year olds under a general anaesthetic in the mainly non-fluoridated North West than it did in the mainly fluoridated West Midlands.**

## General anaesthesia for tooth extractions represents 'the ultimate failure in dentistry' - Professor Ivor Chestnutt

Commenting in the *British Dental Journal* on this study, Professor Ivor Chestnutt of Cardiff University – himself an author of the much-cited York report published in 2000 – said: "General anaesthesia for the extraction of teeth in children must surely represent the ultimate failure in dentistry." (2)

Importantly, Professor Chestnutt concluded that water fluoridation could play a very significant part in alleviating the misery of a dental general anaesthetic in children, particularly those in the most disadvantaged circumstances who were at greatest risk of dental decay.

1. 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.

2. 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.

**"General anaesthesia for the extraction of teeth in children must surely represent the ultimate failure in dentistry....there can be little doubt that water fluoridation can play a very significant part in alleviating the misery of a dental general anaesthesia in children, particularly in the case of those in the most disadvantaged circumstances at the greatest risk of dental decay."**

**Professor Ivor Chestnutt, Professor in Dental Public Health, University of Cardiff, writing in the *British Dental Journal***