

## The deceptive complexity of caries

Exploring the potential value of using data on dental extractions under general anaesthesia (DGA) to monitor the impact of dental decay in children  
*Br Dent J* 2017; **222**: 778- 781 <http://dx.doi.org/10.1038/sj.bdj.2017.455>

Socioeconomic inequality in the provision of specific preventive dental interventions among children in the UK: Children's Dental Health Survey 2003  
*Br Dent J* 2017; **222**: 865-869 <http://dx.doi.org/10.1038/sj.bdj.2017.499>

Not so many years ago we were in near-celebratory mood because we seemed to have got caries on the run. The regular Child Dental Health Surveys were indicating significant falls in prevalence since the introduction of fluoride toothpaste in the 1970s and the overriding attention was on the 80:20 ratio where 80% of disease was said to be found in 20% of the population. This was sharpened somewhat with the advent of the consideration of health

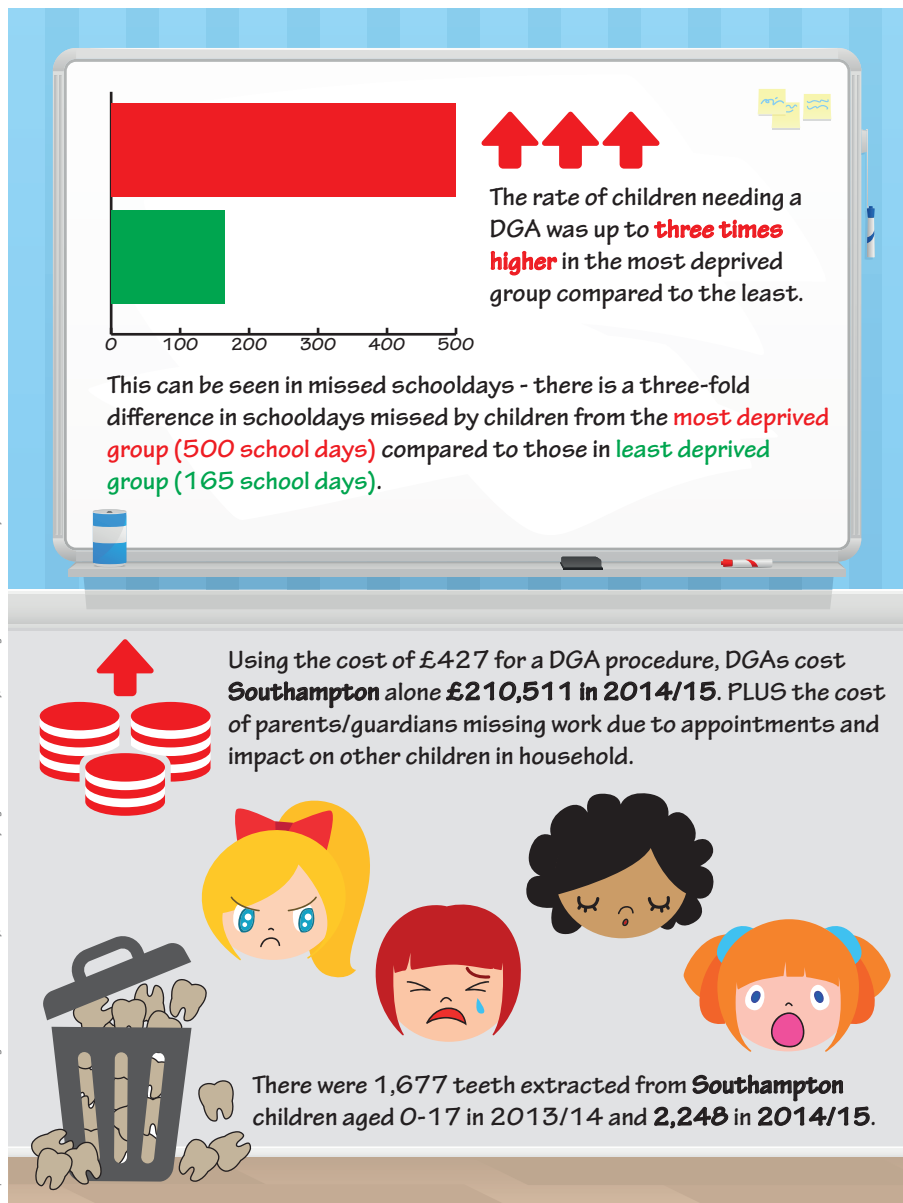
inequalities on a wider scale than oral disease alone and on a growing resurgence of the realisation that caries is a social disease. On reflection, perhaps such self-congratulation was premature.

In dealing with caries on an everyday basis we often speak of it as needing a multi-disciplinary approach. Clinically this usually means restorative dentists, prosthodontists, cariologists, maybe even microbiologists and others

who specialise in the minutiae of diagnosing, monitoring and treating the disease process and its ramifications. Yet the insinuation of caries into the structure not just of our oral hard tissues but also into the cultural fabric of society means that if we are to have any chance of success at all in even coming close to eradicating this notionally 'preventable' disease, the multi-disciplinary team has to include a far wider range of individuals. Some of these are included in the two research studies highlighted here; public health dentists, salaried dentists, general dental practitioners, epidemiologists, statisticians, health service officials and those only hinted at but ultimately intrinsically essential in the process – politicians.

The study from Southampton aims, amongst other things, to see if the data from dental general anaesthetics for child tooth extractions could be used as a surrogate measure to enable prevention on a wider scale; and meets with some success. It is a potentially useful tool and one that does help to catch the wider public attention through garnering media interest. The paper includes a reference to a BBC broadcast and, significantly, the media coverage we have managed to attract for the current paper is widespread in print, television and radio broadcasts. What is frustrating though (again) is that Southampton has been struggling against the usual anti-fluoridation barrage to implement water fluoridation. Had this been successful it would by now, provenly, have started to reduce the very painful, expensive and wasteful set of circumstances on which this paper reports. It is valuable to have the costs to society and to individuals so explicitly highlighted; for example, days lost from school in a group already disadvantaged and potentially held back further in their life's journey. How truly bizarre to contemplate the reality that the ecology of micro-organisms can dictate one's educational and life achievements.

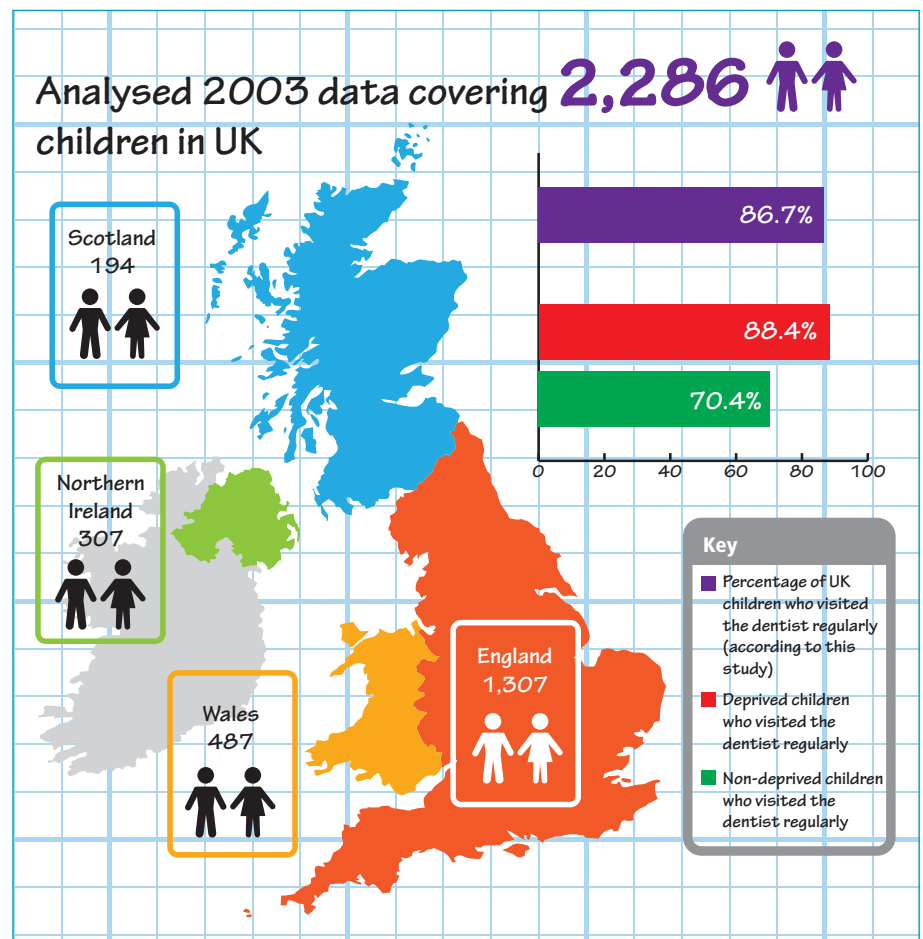
The paper by Shaban and co-authors takes a similar socio-economic viewpoint but this time at specific caries preventive measures. In concluding that while there are socioeconomic



inequalities in regular dental visits the authors find no similar pattern discernible with regard to the specific interventions studied, such as fissure sealants. While they caution on the limited sample size under scrutiny, these findings do perhaps offer a small ray of optimism that active preventive measures can provide advantages across social divides.

From a scientific viewpoint we probably know more about caries now than we ever have. This has enabled detailed new approaches to both its treatment and prevention and logically to philosophies such as minimal intervention techniques. In encouraging detailed assessment of the factors involved; host response, caries risk, preventive options, patient engagement and, if necessary, appropriate minimal operative intervention this provides us with an analytical approach which follows a logical scientific heritage. Holistically, we could draw a parallel with the situation we were once in clinically with the well-meaning but ultimately somewhat clumsy and now outdated world of Black's classification of cavity design. Prevention is best, clinical is acceptable, but in the future 'social' is essential.

By Stephen Hancocks



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### Expert view

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As all dental professionals are acutely aware, oral diseases stubbornly remain a major public health problem in the UK. Despite being largely preventable, dental caries and periodontal diseases in particular are very common chronic conditions that have a significant negative impact on people's quality of life. Clinicians are also very aware of the strong association between their patients' socio-economic background and levels of oral disease. A very strong body of scientific evidence now highlights the detailed nature of oral health inequalities across the life span from early childhood to later life.<sup>1,2</sup>

Shaban and colleagues in their analysis of admittedly rather dated child dental health

survey data, provide additional evidence on social inequalities in dental visits but interestingly not on the provision of preventive interventions. Dental extractions under general anaesthesia have a major impact on the children and families involved, and in their *BDJ* paper Mortimore *et al.* have shown stark inequalities in this procedure through their analysis of hospital data from Southampton. They have also estimated the time off school associated with having a GA and again demonstrated major inequalities. Excessive time off school clearly could negatively affect children's future educational outcomes and employment opportunities, and therefore contribute to later socio-economic inequalities – yet another illustration of how much oral health really matters.

Both these new articles provide interesting insights into the nature and impact of oral health inequalities in children. It is now time, however, to move beyond merely describing oral health inequalities, to instead taking action to address this persistent and complex problem. The London Charter on Oral Health Inequalities has outlined the need for action at local, national

and international levels.<sup>3</sup> It is now widely recognised that (oral) health inequalities are caused by an array of interlinked individual, social, economic and political factors that require upstream action beyond the scope of dental clinicians. However, dental teams and dental professional associations have an important role to play in acting as oral health advocates for the necessary policy change.<sup>4</sup> Collectively as a profession we need to take action to promote good oral health across our communities. It is simply unfair and unjust that in a modern society people from poorer backgrounds experience higher levels of oral diseases. It is time for action. ■

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