

# General dental practitioner's views on dental general anaesthesia services.

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**Objective** Policy has recently changed on provision of dental general anaesthetic services in England. The aim of this study was to investigate general dental practitioners' views about dental general anaesthetics, the reduction in its availability and the impact on care of children with toothache. **Research Design** Qualitative study using semi-structured interviews and clinical case scenarios. **Participants** General dental practitioners providing NHS services in the North West of England. **Results** 93 general dental practitioners were interviewed and 91 answered a clinical case scenario about the care they would provide for a 7-year-old child with multiple decayed teeth presenting with toothache. Scenario responses showed variation; 8% would immediately refer for general anaesthesia, 25% would initially prescribe antibiotics, but the majority would attempt to either restore or extract the tooth causing pain. Interview responses also demonstrated variation in care, however most dentists agree general anaesthesia has a role for nervous children but only refer as a last resort. The responses indicated an increase in inequalities, and that access to services did not match population needs, leaving some children waiting in pain. **Conclusions** Most general dental practitioners support moving dental general anaesthesia into hospitals but some believe that it has widened health inequalities and there is also a problem associated with variation in treatment provision. Additional general anaesthetic services in some areas with high levels of tooth decay are needed and evidence based guidelines about caring for children with toothache are required.

*Key words:* children, dental, general anaesthetic, pain

## Introduction

During the 20<sup>th</sup> century dental extraction under general anaesthesia was the principal means of treating children with painful, decayed teeth. The numbers of dental general anaesthetics undertaken in the UK declined dramatically from the mid-1960s, mirroring the falls in the levels of dental disease. (Department of Health, 2000) This fall in activity accelerated (Whittle et al., 1998) following the publication of the 'Poswillo report' of 1990 (Report of an Expert Working Party 1990), the recommendations of which aimed to reduce the risks of dental treatment under general anaesthesia. In the years after this report 'specialist' general anaesthetic practices were established, which were responsible for a rise in general anaesthetic rates in the early nineties (Whittle, 2000).

During the 1990s, two to three deaths were reported each year following dental general anaesthetics delivered in primary care (Cartwright, 1999). These tragic incidents drew attention to the way general anaesthesia, provided by the General Dental Services, was regulated and in 2000, the Department of Health produced the report 'A Conscious Decision' (Department of Health, 2000) which recommended that from 31<sup>st</sup> December 2001 dental general anaesthetics should only be provided on a hospital site. This abrupt change in policy greatly reduced the availability of dental general anaesthetic services and, one assumes, had a significant impact on the working lives of general dental practitioners (GDPs) and their approach to the care of young children with toothache. The effect

of this policy change on the care of children presenting with toothache has not been documented. The aim of this research was to investigate the care GDPs now provide to children presenting with toothache following this policy change and report their views about the use of general anaesthesia, the reduction in its availability, and the impact this has had on children presenting with pain.

## Methods

The study population was drawn from GDPs practising in Lancashire, Cheshire, and Greater Manchester in 2003. Dentists providing care for children under General Dental Service regulations were selected at random from the General Dental Council's register and invited by letter to participate in the study until approximately 100 GDPs had agreed to participate. Random sampling was not used to ensure that the sample was statistically representative but was done to avoid any bias associated with a convenience sample. All of the dentists who replied and wanted to participate were entered into the study and interviewed. In this way the research team had no influence on the dentists included in the study. The sample size aimed to be sufficiently large to capture the full range of views and opinions of GDPs working in these areas.

Data were collected using two methods, clinical case scenarios and a semi-structured interview, this enabled triangulation of the research findings. A reference panel of experienced GDPs and specialists in paediatric dentistry produced six hypothetical case scenarios representing a

range of commonly seen children's dental problems, and a set of topics important to paediatric dentistry around which the semi-structured interviews would be based. One of the key topics identified was the use, and changes in the availability of general anaesthesia.

In advance of the semi-structured interview each participant was asked to complete a data collection form describing the care they would provide if they were seeing a child for the first time in each of the six case scenarios. Here we report the answers to scenario five; a 7-year-old child presenting with eight primary teeth affected by extensive tooth decay and indicating pain in one of the teeth. This scenario was chosen because of its relevance to the option of using general dental anaesthesia to manage the care of young children. The answers to the case scenario were collected at interview, coded, and analysed quantitatively.

Each dentist was interviewed separately by one of three trained interviewers who were not dentists. The interviews took place in the dentist's homes or place of work and each dentist was encouraged to speak freely about the care they provide to young children with carious primary teeth. All interviews were tape recorded, numbered for anonymity, and transcribed verbatim. Two members of the study team reviewed all interview transcripts independently and identified themes that emerged from the data about general anaesthesia. The data was then grouped around these themes and a data matrix was used to capture the different responses of the interviewees to each of these themes. In addition four other team members read a 30 percent sample of transcripts. At a group meeting team members presented their interpretation of these data, which were then discussed. There was unanimous consensus on the key themes that emerged from the data. Here we report the responses of participants about the use, and changes in the availability of general anaesthesia.

## Results

In total 311 dentists were invited to participate and 96 initially agreed to participate, two withdrew from the study because of time constraints in practice and one because of illness. Therefore 93 dentists were included in the study.

Completed case scenario responses were collected from 91 of the 93 GDPs; the responses demonstrated large variation in treatment planning. Some 33 (36%) dentists would provide pulp therapy or place some sort of filling in the tooth which was causing the pain, 29 (32%) dentists would try to extract the painful tooth under local anaesthetic, 21 (23%) dentists would prescribe antibiotics, of whom 18 would not intervene clinically unless the child re-attended in pain, and 8 dentists (9%) would refer the child for multiple extractions under general anaesthetic without attempting treatment themselves.

All 93 dentists were interviewed. During the analysis four themes about general anaesthesia emerged from the transcripts; the attitudes of dentists towards the use of general anaesthesia and the impact of moving general anaesthesia from primary care into hospitals from dental practices, the impact on the treatment provided by GDPs due to the withdrawal of general anaesthesia from pri-

mary care and the impact on patients in need of general anaesthetic of the withdrawal of general anaesthetic from primary care.

### *The attitudes of dentists towards the use of general anaesthetic*

In the past the attitude of many dentists towards using general anaesthesia to treat children was one of routine acceptance, dentist 1000 '*...15 years ago, we would say he has 6 bad teeth, one of them is hurting, I'll refer him down to my colleague down the road, he has a GA tomorrow, we would ring them up and he would say yes the more the merrier and that would be the end of it.*'. Now there is an acute awareness of the risks of general anaesthetic among dentists and nearly all of the dentists interviewed would only refer for general anaesthesia as a last resort, mainly to treat uncooperative and very young children with multiple carious teeth. Dentist 1336 was typical '*If we do need to do an extraction and we can't get it out with local and the kid is very difficult or nervous then I do refer them to the hospital*'. Many dentists had anxieties about providing general anaesthesia in primary care and believed it was right to restrict its provision to hospital. Dentist 1150 illustrates this point '*To tell you the truth before the government intervention about having GA's in surgeries, I never liked it. I was always fearful of something going wrong. I always used to feel that a general anaesthetic should be applied in a hospital environment*'. However, a small number of dentists, principally practicing in deprived areas, thought that general anaesthetic services in primary care should have continued, believing it is easier and less stressful for the patient to have the procedure undertaken in familiar, local surroundings. For example dentist 552 '*Nitrous oxide anaesthesia ought to be available in general practice...Because we would be able to take children's teeth out in practice which is a lot less stressful.*'

### *The impact on dental practices of moving general anaesthetic from primary care into hospitals*

The impact on dental practices of moving general anaesthetic into hospitals depended on the length of the local hospital waiting list for general anaesthesia, the ease of the referral mechanism, and the patient mix at the practice. A striking finding was the difference felt by dentists practising in deprived (high decay prevalence) and affluent (low decay prevalence) areas. Most of the GDPs from affluent areas had noticed little effect on their practice as they only referred a small number of patients each year for general anaesthesia but some had experienced problems with referrals, dentist 1694 '*I'm in a good catchment area.....But there are two or three patients a year who need GA extractions who have loads of problems.*' In contrast GDPs practising in deprived areas often saw children presenting in pain with rampant decay and nearly all were feeling overwhelmed and angry about long waiting times and difficulties in referring for general anaesthesia, dentist 797 view was typical, '*I think the GA situation should be improved, and that there should be more access for these poor kids.*'

*The impact on the treatment provided by GDPs due to the withdrawal of general anaesthetic from primary care*

The interviews, like the case scenario results, demonstrated variation in the dentist's care of children they would previously have referred for general anaesthesia. For some dentists the reduction in availability encouraged less intervention, but for most the principal effect has been to increase the number of root canal treatments and extractions under local anaesthesia. For example, dentist 802, *'I tend to do more root canal treatments, as opposed to say six or seven years ago when GA was still on....I probably would have done ten in a year in 1990, and I probably do three or four a week now...'* whilst dentist 645 now tended to extract teeth using local anaesthetic *'...basically, if a child is in pain, if I can get the tooth out at that visit I will.'* Whilst extractions using local anaesthesia were now more common there was a widespread belief that patients needed to be carefully selected to reduce the risk of making the child anxious about dentistry. Dentist 1084 explains *'I have started to do more and more extractions myself just with a local anaesthetic. You have to pick your cases very carefully; otherwise you have got a dental phobic for life'*. Some dentists prescribed antibiotics in the hope of avoiding general anaesthesia and as a temporary solution for patients on waiting lists, for example dentist 631 states *'if there is a bad tooth, a rotten tooth ... there will be a time when it flares up, in other words it gets infected, gets an abscess, so I give them antibiotics at that stage. Then only if it flares up say, three times then will I refer them for general anaesthetic because of the risk of anaesthetic you see.'* and dentist 392 noted *'...the general anaesthetic service has been reduced which can be a hindrance if you have a child in pain and they need to be seen as soon as possible. Sometimes the only way to deal with it is to give them antibiotics or whatever to tide them over...'*

For many dentists, very young children with multiple carious teeth and uncooperative children were the most difficult to treat. Dentist 280 explains *'But the real difficult one is where you have the child who is uncooperative, is in a great deal of dental pain and we have no immediate access to get it treated'* and dentist 1233 comments *'three or four year olds who need loads of teeth out, and I can't do that under local, well I could, but kids would come out psychologically affected'*.

*The impact on patients in need of general anaesthesia of the withdrawal of general anaesthetic service from primary care*

The dentist's views about the impact on patients depended on the ease of access to hospital services. Those that reported easy access to hospital general anaesthetic were unconcerned but there was a strong belief among many dentists that some patients were suffering while waiting for general anaesthetic extractions. For example, dentist 107 recounted *'Some friends of mine came to the practice...they came because their child, about five, was suffering from extreme pain. He was a little bit nervous ...and I didn't feel I wanted to put him through local anaesthesia procedures. So I made a referral and the*

*whole process took about eight to ten weeks from the day I saw him until the day of the GA extraction. And really a lot of those weeks he was up in the night with pain. It certainly reflected badly on the NHS that he had to wait so long'*.

## Discussion

This paper reports the findings of a qualitative study that was designed to deepen understanding about the impact of recent general anaesthesia policy changes on GDP's working lives and their young patients, rather than describing the quantitative effects of the change. Different methods of data collection and analysis were used to ensure the themes gleaned from the interviews were consistent with responses from the scenarios. This triangulation of results expanded our understanding of dentists' views on the issue of dental general anaesthesia and minimised the risks of the researchers' own preconceptions emerging in the selected themes.

The closure of general anaesthetic primary care services in the UK has not been mirrored by an equivalent expansion of hospital services, therefore there has been fall in the number of children receiving general anaesthetic. (Dental Public Health Northern Quality Improvement Group, 2003) The North West has the highest levels of tooth decay in 5 year-old-children (Pitts et al., 2003) and had the highest rates of dental general anaesthetics (Whittle et al., 1998) in England prior to this policy shift, so many GDPs and child patients in this area will have been affected by this change to services. We interviewed a large number of GDPs in the North West to gain their views about general anaesthetic and this abrupt change of service and found that the majority were acutely aware of the potential risks of general anaesthetic, supported the moving dental general anaesthetic from primary care into hospitals and refer children only as a last resort. The GDPs accepted that the reduction in the risk of having a dental general anaesthetic is a good thing, but many report that the overall impact of the policy change has not been wholly beneficial. Those practising in areas of with very high caries levels in children report that the policy has widened inequalities and left some children waiting in pain for unacceptable periods. In addition both the interviews and the written care plans for the clinical case scenario suggest that there is now substantial and important variation in the care given to children presenting with toothache and poor dental health.

The dentists interviewed believed that some children with toothache are too young or anxious to accept treatment with local anaesthesia and need to be referred for general anaesthesia. In affluent areas children rarely needed referring but in deprived areas dentists reported that they often need to refer, and in many, but not all, of these areas dentists believed that the availability of general anaesthesia was inadequate for their population's needs. Regrettably the moving of general anaesthesia from primary care into hospitals has tended to reinforce the 'inverse care law', (Tudor-Hart, 1971) making access to services for children living in some poor areas more difficult.



The clinical response of many of the dentists to the reduction in availability of general anaesthetic was largely unplanned; none had a clear policy or protocol for the care of children who in the past they would refer for general anaesthetic. This improvised response is likely to be resulting in important variation in care. The care plans for the clinical case scenario suggest that a child with a painful primary tooth would have the tooth restored by some dentists but extracted by others. Such variation in practice is difficult to accept but it is perhaps understandable given the lack of an evidence base to inform the management of the dental care of children (Milsom et al., 2003). The dentists report that they use methods that work best for them, and this pragmatic approach was often supported by prescription of antibiotics to manage pain. This pattern of treatment is worrying both in terms of treating pain effectively and heightening the risk of developing antibiotic resistance. Recent studies have been critical of the antimicrobial prescribing behaviour of GPs, (Palmer et al., 2001) but dentists have few options when confronted with a young child in pain who is unwilling or unable to accept treatment under local anaesthetic but faces a long wait for hospital treatment.

This study shows how a policy change with important health benefits for the whole population that is initially well-supported by the clinicians but is under-resourced can have a detrimental impact on some groups of patients and lead to resentment among some clinicians. The change in general anaesthetic policy was not adequately followed by a redistribution of resources to fund sufficient expansion of hospital services in areas of greatest need or to support training programmes for dentists to enable them to manage their patients using methods other than general anaesthetic. This has led to resentment among some GPs who are finding it difficult to access services for patients that they believe need general anaesthetic, a problem which is especially acute among GPs practising in some of the poorest communities. A troubling finding is that many GPs report that some children are suffering with dental pain for long periods while waiting for a hospital appointment.

In this era of evidence-based medicine more services are coming under scrutiny and could be withdrawn if they are shown to be ineffective. A lesson to be learnt from this study is that before changing services the impact on health inequalities and care pathways should be carefully considered. Since 2006 all NHS dental services are the responsibility of PCTs and those with high levels of dental disease face the challenge of what to do about the care of

children with toothache. If PCTs are to avoid providing child dental services that unwittingly disadvantage some of the most needy a two stage strategy is needed. In the short term in some areas additional general anaesthetic services will be needed, but the longer term focus should be around effective population prevention measures, such as water fluoridation and the introduction of evidence based guidelines and clinical care pathways to provide effective and safe care for children with toothache.

### Acknowledgments

This study was funded through a health services research project grant from the Wellcome Trust and approved by North West Multi-Centre Research Ethics Committee. The authors are indebted to the dental practitioners and their staff who participated in the study.

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