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IN THIS ISSUE

From the Chair

The committee is pleased to report that the policy document 'Dental Neglect in Children' is the first of our guidelines and policy documents to be accepted for inclusion onto the NHS Evidence Oral Health Library. In order to be included, a strict protocol and search strategy has to be adhered to, and we obviously hope that more of our guidelines and policy documents will be included in the future.

Two guidelines and one policy document have been extensively updated and will become available on the BSPD website this year. The guidelines are 'The use of fissure sealants and management of the stained fissure in first permanent molars' and 'Treatment of traumatically intruded permanent teeth in children'. The policy document is 'Management of caries in the primary dentition'.

A number of guidelines and policy documents are under review by members of the Trainees Group, and there are currently two new guidelines under development. They are 'Periodontal Diseases in Children', which is a joint guideline with the British Periodontal Society, and 'Oral Soft Tissue Lesions in Children'. The first draft of both guidelines should soon be available for circulation to members.

Chris Deery will be stepping down as Editor to the Clinical Effectiveness Bulletin this year. I am incredibly grateful to Chris for his hard work and inspiration in getting the bulletin up and running over the last 3 years. He has been assisted by Peter Day and Fiona Gilchrist. I think the Bulletin has become firmly embedded in the proceedings of BSPD and is something members look forward to reading.

Deborah Franklin
Chair, BSPD Clinical Effectiveness Committee

An audit of prescribing practices of the Eastman Dental Hospital, Department of Paediatric Dentistry

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Introduction: Clinical audit has been defined as the systematic, critical analysis of the quality of patient care.[1] The criteria for undertaking an audit is to address issues that are relevant to practice, which are common, significant or serious, and that should benefit the patient and lead to greater effectiveness.[1]

Antibiotics are an invaluable adjunct in the management of oro-facial infections. Although they are not a substitute for definitive treatment, their use can shorten and minimise infection periods and their associated risks.[2] The emergence of bacterial resistant strains and the improper used of antibiotics are of worldwide concern.[3] It is estimated that in 2008, General Dental Practitioners' (GDPs) prescribed approximately 3,699,862 antibiotics, and 40 million prescriptions in total were dispensed in England in that year.[4] The Bulletin of the World Health Organisation estimated that approximately 0.04% of deaths due to anaphylaxis occur as a result of antibiotic use.[3] The Faculty of General Dental Practice (FGDP) has produced guidelines on the appropriate use of antibiotics to manage oro-facial infection for adults.[2,5] No antimicrobial prescribing guidelines are available in the UK focussing on prescribing in children, although guidelines are available from the European Association of Paediatric Dentists and American Academy of Paediatric Dentistry. We therefore rely on the guidance of the FGDP, which advises that patients presenting with oro-facial swelling should be treated as shown in Fig. 1. From Fig. 1, it can be seen that a temperature should be taken to determine if the patient has pyrexia or not. Antibiotics should only be prescribed if there is systemic involvement.

In the Paediatric Dental Department at the Eastman Dental Hospital, a separate prescription book is used to record the following information: patient identification, clinician identification, date, prescription number, and prescription (i.e., drug, dose, and duration).

Previous audits on antibiotic prescribing were carried out in the Department, in 2005 and 2006. The 2006 audit was part of a three centre Pan-Thames regional audit. The centres involved were Eastman Dental Hospital, Royal London Hospital, and Guy's. The centres were audited over a 6-month period and a total of 112 patients were included. Of interest in that audit, the most treated condition was dental abscess and the most common antibiotic prescribed was amoxicillin, of the 112 patients seen, only 10% of these had their temperature recorded.

Aim: The aim of the present audit was to see if the Department of Paediatric Dentistry at the Eastman Dental Hospital has improved in the following areas:

1. Whether patients in the Department were prescribed antibiotics in accordance FGDP guidance.
2. To determine if the correct drug, dosage, and duration of course was prescribed.
3. To ascertain if the patient's notes and prescription book were recorded correctly.

Standards:

- All patients should have their temperature recorded in notes.
- All patients should be prescribed the appropriate drug regime.
- All prescribed medicines should be recorded correctly in the patient's notes and prescription book.

Methods: One hundred sets of case notes were selected retrospectively from the prescription book between March and October 2008 and relevant data recorded (Recording proforma available on line http://www.bspd.co.uk/).

Results: Of the 100 notes requested, 89 were available for analysis. The 11 missing case notes were in other departments or off-site at another hospital. The case notes were analysed for the grade of clinician who had completed the prescription (Table 1). The mean age of patients seen was 8.4 years (range 1–16 years). Slightly more males were seen (58%) compared with females (42%). The most frequent clinical condition treated was dental abscesses (42%), followed by oral-facial swelling (18%) (Fig. 2). Other conditions

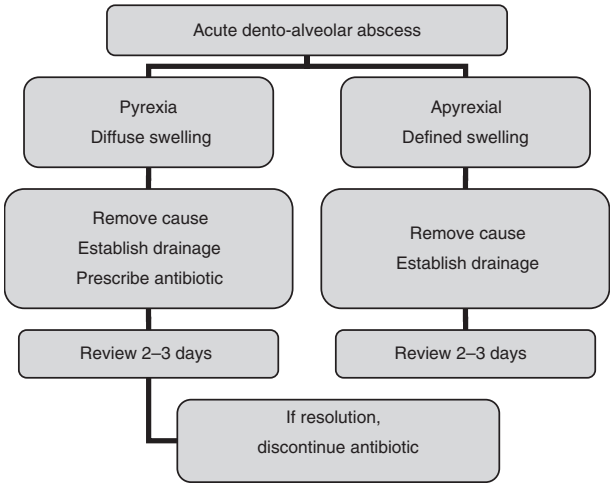

Fig. 1. FGDP Guidelines on treating adult patients with oral facial swellings.

Table 1. Number of prescriptions by grade of health professional prescribing (n = 89).

Grade of health professional	Number of prescriptions
Consultant	26
SpR (including specialist)	19
Graduate	17
SHO	27

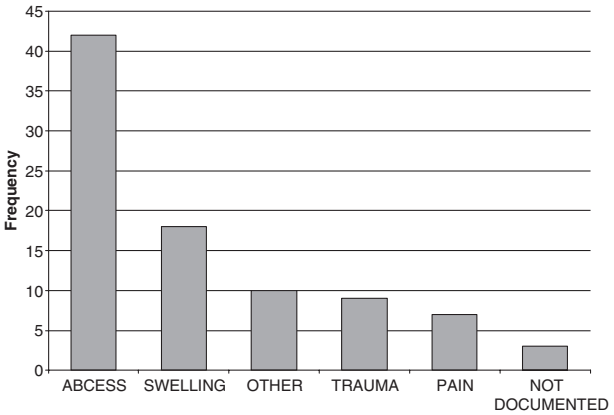

Fig. 2. Frequency of clinical condition seen, n = 89 patients.

included trauma related conditions, dry sockets, and pericoronitis. It must be noted, however, that the clinical condition was not documented in 4% of patients.

The most commonly prescribed antibiotic was amoxicillin (82%), followed by metronidazole (8%). Only 10% of the patients prescribed antibitiotics had their temperature taken. Of the 89 prescriptions written, 21(23%) patients were prescribed the wrong dose of drug according to their age; of these: seven patients (33%) were prescribed a lower than recommended dose and 14 (66%) were prescribed a higher than recommended dose.

Analysis of the prescription book was further split into five fields: patient identification, clinician identification, date, prescription number, and prescription (i.e., drug, dose, and duration). Investigation of these fields revealed that out of 89 entries, one entry did not have a patient identification, 14 entries had no clinician identification, 24 had no date and 14 had no prescription number. In total, only 39 (41%) of the prescriptions were filled out correctly with regard to drug, dose, and duration.

With regards to patient follow up, 65% were seen within 5 days, and 31% of patients were treated on the same day as attendance.

Discussion: The results of this audit demonstrated that not all of the FGDP guidelines were adhered to. Almost all patients (90%) did not have their temperature measured before antibiotics were prescribed. The use of an antibiotic is to combat systemic dissemination of an infection, often presenting as swelling, malaise, lymphadenopathy, and an increase in temperature of a patient.[2,5] The FGDP guidelines state that an antibiotic should not be prescribed unless there are signs of systemic spread and drainage is established. In an adult patient this can be achieved, however, in a child, establishing drainage is often difficult and requires a reasonable amount of cooperation. If a child is in a lot of pain and distressed, this can often be unachievable.

Twenty one (23%) patients were prescribed the incorrect dosage for their age according to the *British Nationally Formulary* (BNF).[6] Age bands are not uniform for all medicines, for example, the age range for amoxicillin is 1–5 and 5–18 years, whereas for metronidazole the age range is: 1–3, 3–7, 7–10, and 10–18 years.[6] This is why the use of the BNF is crucial and reliance should not be based on memory.

Only 31% of patients received treatment on the day of attendance. Ideally, this figure should be higher, however, children presenting were often distressed and treatment was not always possible at the time. Finally, 59% of the prescription book was incorrectly filled. The prescription needs to be filled correctly as part of legislation. This is in order to track prescriptions that are dispensed and audit for improvement in patient treatment.

In comparison to the previous 2005/2006 audits, there has been little improvement in antibiotic prescribing in the department. In the 2006 audit, which was part of a three centre regional audit, again only 10% of patients had their temperature taken. Despite providing disposable thermometers in the department, and highlighting the need for taking a temperature in audit meetings, there has been no improvement since the previous audit.

It has been shown in medical practice that the use of guidelines to a set standard, and the publication of such guidelines can improve prescribing.[2,6] Appropriate, contemporaneous prescribing of an antibiotic is therefore essential not only to treat conditions effectively but also to reduce bacterial resistance. It may be useful if guidelines for prescribing in children could be developed and subsequently determine if this improves prescribing practice.

Action plan: Following presentation of the findings of this audit, a memo was sent out with recommendations as to under what conditions an antibiotic should be prescribed. It was further reiterated that all supervising clinicians should ensure a temperature is taken, and that the BNF is used when writing the prescription. An aide memoir has also been produced for the prescription book, to remind clinicians of the information required. The audit will be repeated in 6–9 months and further changes implemented depending on the results.

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Prescription practices in three paediatric dental departments in the North of England

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Introduction: The prevalence of antibiotic resistance is increasing and studies have shown that there are no antibiotics to which bacteria have not yet developed resistance.[1] It is recommended that in order to decrease the rate of the development of resistance, colonisation resistance, and reduce the development of hypersensitivity that anti-microbials should be reserved for life-threatening situations.[2]

Dailey *et al.* reported that antibiotics were often prescribed as a substitute for operative intervention and in the absence of systemic symptoms.[3] In addition, an audit in Eastern Deanery found that prescriptions were raised for reasons such as: 'patient expectation', 'uncertainty of diagnosis', and 'patient going on holiday'.[4] Of the prescriptions audited, 71% were found to be inappropriate in the pre-audit period, reducing to 51% following an educational session.[3]

The American Academy of Paediatric Dentistry (AAPD) has produced clinical guidelines, which advise in the judicious use of these drugs in paediatric dental patients.[5] Similar guidance exists in the United Kingdom for adults.[2] The AAPD recommendations state that antibiotics should only be provided under the following circumstances:

- The management of oral wounds contaminated with extrinsic bacteria.
- Acute facial swelling of dental origin.
- Dental trauma.
- Paediatric periodontal disease (e.g., neutropenia, Papillon-Lefevre, leucocyte adhesion deficiency).

These recommendations are supported by the findings of a recent systematic review.[6] The authors concluded that penicillin did not

reduce pain when compared with the placebo in patients suffering from irreversible pulpitis.

The *British National Formulary* (BNF) contains clear guidance regarding the completion of prescriptions.[7] It states that prescriptions must contain: the date; the patient's name, and address; the age of the patient if under 12 years; quantity (e.g., elixir, tablets, etc.), drug name, dose and frequency and length of the course of treatment, together with the prescriber's signature and contact details. In addition, Delivering Better Oral Health recommends that children at high caries risk should receive sugar-free medicines where possible.[8]

Aim: The aim of this audit was to compare prescribing practices in the paediatric dental departments of Manchester, Liverpool, and Sheffield dental hospitals.

Objectives:

1. To identify which antibiotics were prescribed.
2. To assess appropriate use of antibiotic therapy in paediatric dental patients.
3. To assess prescription accuracy.

Standard: One hundred per cent of prescriptions issued should be in accordance with the AAPD clinical guidelines and the recommendations in the BNF and should stipulate 'sugar-free' where these are not dispensed routinely.

Methods: A retrospective case-note evaluation of 90 paediatric dental patients who had been issued with a prescription was performed. Thirty patients were identified from each of the three centres. Data were collected using a data collection sheet over a period of 8 months (March–October 2009), which was piloted on five patients in Sheffield in February 2009. Data were analysed using Microsoft Excel® 2007.

Results: A total of 90 paediatric dental patients were included in this audit. All but one prescription issued was for an antibiotic. The most commonly prescribed antibiotic was amoxicillin (73%), followed by metronidazole (14%), a combination of amoxicillin and metronidazole (6%), phenoxymethylpenicillin (3%), and erythromycin (2%). The reason for prescription of these antibiotics is shown in Fig. 1.

Of the prescriptions issued 21 (24%) were deemed appropriate. These included 15 (17%) for diffuse swelling and six (7%) for management of an open wound.

A total of 44 (49%) prescriptions contained errors, of these 15 (17%) contained more than one error, with two containing five errors each. One (1%) prescription was not signed, four (4%) had no prescriber details, two (2%) had no date, one (1%) was devoid of frequency, and 23 (26%) had no quantity stipulated.

As Manchester Dental Hospital routinely dispenses sugar-free elixirs, only prescriptions from Sheffield and Liverpool were analysed for the omission of 'sugar-free'. This was omitted from the prescription on 27 (45%) occasions. There was little variation in drugs prescribed, the number of errors and inappropriate prescriptions between the three dental hospitals.

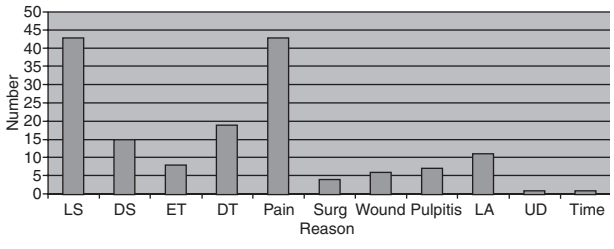

Fig. 1. Reason given for prescribing antibiotics. LS, local swelling; DS, diffuse swelling; ET, elevated temperature; DT, delayed treatment; Surg, surgical intervention; Wound, open wound; LA, failed local anaesthesia; UD, unsure of diagnosis; Time, pressure of time (n = 90).

Discussion: The majority of prescriptions were for amoxicillin, with only five prescriptions issued for a combination of amoxicillin and metronidazole. Of these, two were for localised swelling and three for gross diffuse swelling.

Only 28% of prescriptions were deemed to be appropriate with the most common reasons for prescribing antibiotics being 'pain' and 'local swelling'. There is no evidence to support the use of antibiotics in these situations. Similarly Chate *et al.* found in their audit that 29% of prescriptions were issued appropriately, however, this increased to 49% following an educational session for those involved.[4] An improvement in appropriate prescribing was also found following an educational and feedback session by Palmer *et al.*[9]

Almost half of the prescriptions contained errors, with 15 containing more than one error. Not stipulating 'sugar-free' was the most common error, it is important that this is specified to ensure that children do not receive cariogenic medicines where others are available. Delivering Better Oral Health contains information regarding sugar-free medicines for children. These findings correlate with Chate *et al.* who found that in their pre-audit period 43% contained errors, decreasing to 22% in the second cycle.

This audit has highlighted the deficiencies in prescribing in all three departments. Accuracy of prescribing and judicial use of antibiotics is important to minimise bacterial resistance and to ensure patient safety. The results of this audit compare well with previous studies carried out in general dental practice. Education and training reduced inadequacies in previous studies and will hopefully be successful in this group too.

Action plan: The results of this audit have been discussed at local clinical governance meetings and will be presented in the near future at a regional audit meeting. Information regarding prescription writing and the AAPD guidelines will be included in departmental induction materials.

Educational intervention has proved effective in audits carried out in other regions, and therefore hopefully there will be an improvement in both accuracy and appropriateness of prescribing in a second cycle.

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Use of theatre time for oral rehabilitation under general anaesthesia of paediatric in-patients

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Introduction: A small number of children need comprehensive dental care under general anaesthesia.[1] This patient group includes young pre-cooperative children and children who are medically compromised or who have developmental disabilities that affect their ability to accept dental treatment in the dental chair. Care under general anaesthesia is relatively expensive as a result of the facilities and highly skilled individuals involved.

Regular audits of operating lists should be undertaken to assess if there is an efficient use of the time available. Obviously, more efficient use of theatre time may increase the numbers of cases seen on operating lists and thereby reduce the unit cost of surgery and the waiting time for the provision of such dental care.

Aims:

1. To evaluate the time management of the comprehensive dental care operating lists. Specifically, this audit aimed to identify the sources of unnecessary delays in the start of the session and delays between patient treatments.
2. To evaluate if there was any unused theatre time remaining after completion of the last case.

Standard: The standard applied was that all lists must start and conclude within the allocated theatre time.

Method: Once a week, an in-patient comprehensive dental care list runs at the Evelina Children's Hospital. Data collection was prospectively carried out for all cases over a 4-month period. Each operating list was provisionally allocated 210 min of theatre time. At the scheduled time of onset of the operating list all the theatre staff should be in the theatre and the patient in the anaesthetic room. Data were recorded using a specific proforma (available on line http://www.bspd.co.uk/). The accuracy of the data was confirmed by comparison with similar records recorded by the theatre staff to remove any potential bias.

For comprehensive dental care lists where delays occurred due to unforeseen circumstances (equipment faults, fire alarms, etc.) or where an additional operative procedure of significant duration (e.g., endoscopy) was carried out in addition to the dental treatment were not analysed in this study.

Results: Twelve comprehensive dental care lists took place during this time period. Three operating lists comprised of three patients, seven comprised of two patients and two comprised of one patient each. The reasons for the single patient lists were in one case late cancellation by the parents and in the second case cancellation by the anaesthetic team due to inability to collect blood pre-operatively.

In the case of seven operating lists delays in the time of onset of the lists were recorded with a range between 10 and 45 min (average delay of 19 min per session).

The main reason for this was late arrival of the anaesthetic team (due to unexpected delays in previous operating lists under the care of the same anaesthetic team). In one case, in addition to the delay in the pre-admission process, there was a further 10-min delay due the late arrival of the patient in theatre.

Case turnover time was also analysed (i.e., the time taken for the transfer of one patient to recovery and onset of induction of the next patient). This accounted for a total of 108 min (range = 5–30 min).

Examination of the list duration data showed that nine lists finished earlier than the scheduled time, two finished within 5 min of the end of the scheduled time and one finished significantly later than the scheduled time (90 min). The total theatre time that was unused due to early conclusion of the lists was 435 min. If sessions where there was late cancellation of patients were excluded, this unused time was reduced to 210 min.

The theatre was in use for 72.9% of the time available with 27.1% of the time lost in delays (Fig. 1).

Discussion: It has been reported elsewhere that the use of pre-assessment clinics, ascertaining the availability of patients for admission at short notice and requesting confirmation of attendance by the parents can help to ensure low non-attendance rates.[2] These processes have been implemented at the Evelina Children's Hospital and analysis of the collected data demonstrates that poor atten-

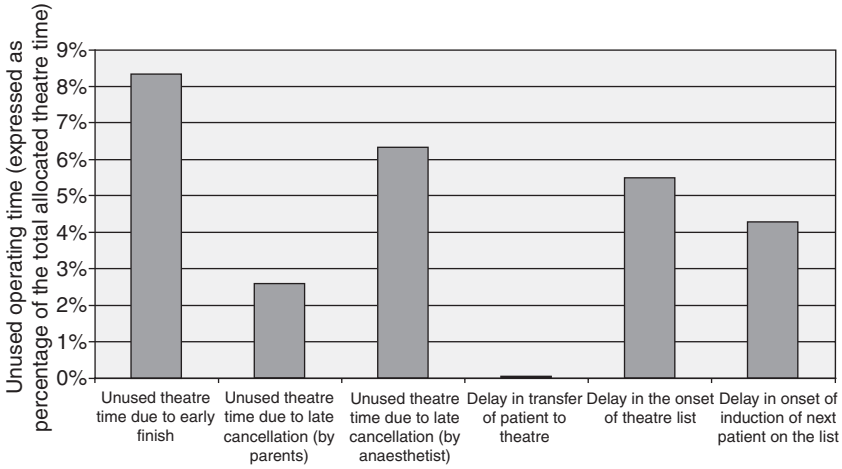

Fig. 1. Reasons for poor usage of operating theatre time (expressed as percentage of the total allocated theatre time, 2520 min).

dance and late cancellations were not frequent occurrences. The reason for theatre lists having a delayed start were due to delays in the pre-admission of the patients. This appears to be due to the late arrival of members of the anaesthetic or dental team. The time taken between the transfer of one patient to recovery and induction of anaesthesia of the next ranged from 5 to 30 min. This time must be accounted for when calculating available operating time as it is unavoidable due to the nature of the children treated.

Finally, in some cases the operating lists finished earlier than the scheduled finish time indicating that the number of children treated and possibly the case selection failed to allow for full utilization of the allocated theatre time. Several studies in the past aimed to analyse the utilization of operating theatre times in different hospital units,[3,4] including a paediatric dentistry unit.[5] When the results are compared with those of a similar study, delays in the onset of the operating lists and the early finish of a number of lists seem to be common frequent causes of lost theatre time in both studies.[5]

This audit has highlighted the need for improvement in the use of operating theatre time in order to achieve effective use of the limited resources available and provide timely dental treatment for children.

Action plan: Following the completion of the first audit cycle the following recommendations have been made:

(i) In order to avoid delays in the start of the operating lists it is very important to ensure that the members of the dental and the anaesthetic team arrive promptly at the ward or ensure that necessary arrangements for cover are made on time if due to unforeseen circumstances. Following the first audit cycle, meetings of the dental and anaesthetic teams have taken place and addressed all issues to ensure future timely arrival of all the teams involved.

(ii) The number of patients treated per session was either two or three. The possibility of maximizing the number of patients and routinely treating at least three patients could allow full utilization of the allocated theatre time and prevent lists from finishing early.

(iii) The audit is to be repeated after implementation of changes.

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Effectiveness of an assessment form for record keeping on the casualty clinic

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Introduction: Newcastle Dental Hospital casualty clinic has a high patient throughput, and its staff deals with the initial presentation of dental emergencies such as trauma, pain, and sepsis. The assessment of patients for treatment under sedation and general anaesthetic is also carried out on a regular basis and appropriate informed consent is obtained from parents or guardians. The clinic is generally staffed by general professional trainees, senior house officers, and specialist registrars in paediatric dentistry under the supervision of their consultant colleagues.

In order to formulate an effective treatment plan, it is essential that accurate and contemporaneous notes are maintained for every patient. The Standing Dental Advisory Committee reminds us that such records 'are the hallmark of a conscientious practitioner and provide evidence to support the formal consent process'.[1]

Following some inconsistencies in record keeping highlighted in 2008, quality improvement by means of clinical audit was deemed a priority. A standard assessment form for new patients had been adopted in some other paediatric dentistry units in the United Kingdom with reported success, and it was agreed that such a form would be piloted in Newcastle.

Aims:

1. Enhancement of record keeping on the casualty clinic.
2. Evaluation of the effectiveness of an assessment form in improving standards of record keeping.

Standard: Standards were set in line with GDC guidance that highlighted dentists' professional obligation to make and keep accurate and complete patient records, including medical history, at the time you treat them.[2] The standard for recording of all factors was set at 100%. A range of significant factors was identified to assess whether an accurate history was being recorded. The factors chosen were divided into essential and desirable criteria as shown in Table 1.

The Scottish Intercollegiate Guidelines Network states that an explicit caries risk assessment should be made for each child presenting for dental care.[3] This should be put in place at the time of diagnosis in order to target preventive strategies. In the planning stages of the audit, it was postulated that caries risk assessment was poorly recorded on the casualty clinic.

Method: One hundred hospital records were identified from the clinic logbook in the period between January and March 2008. Data were collected retrospectively using a proforma. The data were collected at intervals and over a relatively long period of time so that a good spread of clinicians' records was examined to obtain a comprehensive and accurate picture of record-keeping standards on the clinic. A data collection form was used to record information on the quality of record keeping based on the factors shown in Table 1.

Following examination of the results of the initial audit cycle (Cycle 1), a standard assessment form was constructed for use on the casualty clinic. This form was introduced on 1 September 2008. A second cycle of data collection from 100 sets of casualty clinic records was carried out between November 2008 and January 2009 (Cycle 2).

Table 1. History taking factors examined in the audit.

Essential factors	Desirable factors
Medical history	Oral hygiene
Clinical findings	Orthodontic assessment
Accompanying adult	Prevention history
GDP registration	Dietary history
Radiograph report	Discussion of options for treatment
Diagnosis	Justification for GA exposure
Caries Risk assessment	Patient anxiety
Treatment plan	Co-operation level

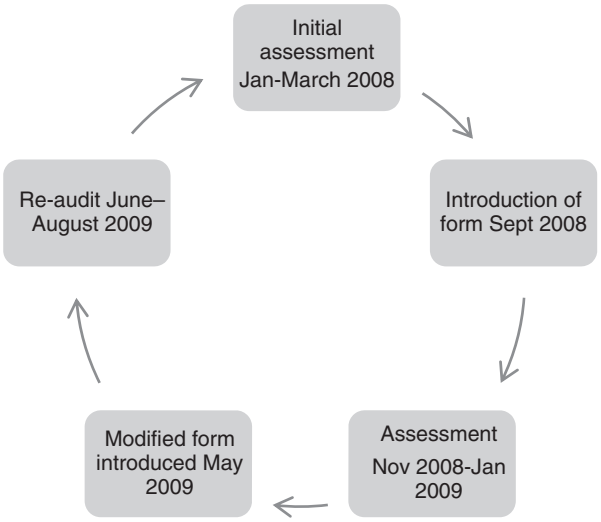

Fig. 1. Diagram to illustrate the audit cycle.

Table 2. Summary of results for Cycles 1–3.

	Cycle 1	Cycle 2	Cycle 3
Essential Factors			
Medical History	100%	98%	100%
Clinical Findings	90%	100%	100%
Accompanying adult	88%	91%	98%
GDP registration	85%	98%	100%
Radiograph report	95%	98%	100%
Diagnosis	48%	98%	100%
Caries risk assessment	7%	89%	98%
Treatment plan	98%	100%	100%
Desirable factors			
Oral hygiene	59%	85%	100%
Orthodontic assessment	23%	62%	53%
Prevention history	1%	85%	100%
Dietary history	1%	65%	89%
Discussion of options for treatment	61%	86%	87%
Justification for GA exposure	18%	96%	100%
Patient anxiety	13%	13%	96%
Co-operation level	24%	25%	85%

Following discussion of the Cycle 2 results, the assessment form was further refined and the modified form introduced on 1 May 2009. The third and final cycle of data collection was carried out in respect of the period June–August 2009 (Cycle 3), once again examining 100 sets of hospital notes, see Fig. 1.

Results: Table 2 gives a summary of the audit findings. The uptake of the assessment form in Cycle 2 was 67%, and following form modification this rose to 82% in Cycle 3. On the casualty clinic, standard trauma assessment forms were already in use, and the majority of cases without a new-patient assessment form had a trauma form completed (75%).

Discussion: The forms were well received by clinicians as a time-saving tool. Form uptake improved markedly after clinicians were given an opportunity to provide input to content and layout.

Orthodontic assessment' was a factor that did not register high levels of recording in Cycles 2 and 3 despite a clearly marked section on the assessment form. This could be attributed to the fact that orthodontic assessment can be difficult to carry out in the case of younger patients presenting on the casualty clinic, due to limitations of compliance. Additionally, the orthodontic section was designed mainly for patients in the permanent dentition. Some other factors registered below the desired 100% level of recording in the Cycle 3 results (range 85–96%). This could be addressed by further staff training in completion of the assessment form.

In conclusion, use of an assessment form has led to a higher standard of record keeping on the casualty clinic across all areas examined, with medical history consistently well recorded.

Action plan:

1. Minor modifications to the assessment form including a primary dentition category in the orthodontic section.
2. Further training of junior staff on record keeping during their induction period.
3. Re-audit at a suitable interval following form modification and additional training.

Acknowledgements: The staff at Newcastle Dental School and Hospital for their contribution to development and application of the assessment form during the audit.

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2 Standards for Dental Professionals. London: General Dental Council, 2005.
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Are we safeguarding our paediatric dental patients appropriately? Audit of patient non-attendance

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Introduction: Child abuse is a relevant and significant problem worldwide. In the United Kingdom, approximately 55 children are killed per year by their parents or someone known to them.[1] The recently published 'Protection of Children in England: A Progress Report'[2] was undertaken by Lord Laming to provide an urgent review of the progress being made in implementing safeguarding children procedures. This report states 'whilst children and young people's safety is a matter of concern for us all, a heavy responsibility has rightly been placed on the key statutory services to ensure it happens'.[2] Thus health professionals have a responsibility to safeguard the welfare of children in their care. Multiple missed appointments and/or unusual appointment attendance may be an indicator of neglect, which includes dental neglect. Dental neglect is 'the persistent failure to meet a child's basic oral health needs likely to result in the serious impairment of a child's oral or general health or development'.[3] Consequently, missed appointments must be successfully monitored and managed.

Aims: To assess our current practice and to subsequently establish and maintain effective practices for monitoring and managing missed appointments by paediatric patients at the Children's Department of Birmingham Dental Hospital.

Objectives:

- To establish the total number of paediatric patient cancellations and failed attendances over a 3-month period.
- To investigate current administrative practices for these missed appointments.
- To determine patient outcome following cancelled and failed appointments.

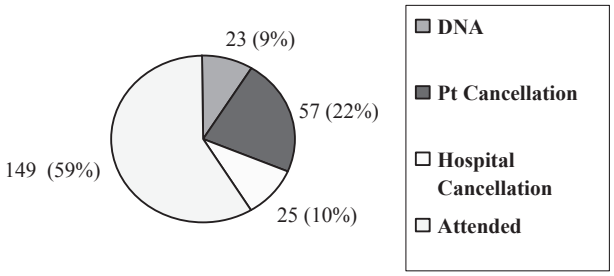

Fig. 1. Attendance/non attendance at appointment directly following cancelled appointment (n = 260).

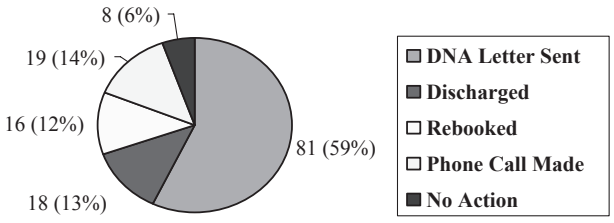

Fig. 2. Action taken following a failed appointment on the Paediatrics Department [five patients had two actions (letter sent and phone call made) following the failed appointment].

Standards: Unusual patterns of appointment attendance may indicate child welfare concerns thus baseline standards regarding follow up were set at 100%.

Method: Retrospective examination of computer-stored appointment records, and if necessary clinical notes, for patients who failed to attend or cancelled their appointments from January to March 2008 was undertaken. The following information was collected:

- For Cancellations and Failed Appointments: How many missed appointments occurred (for all operators on the department, i.e., dentists, therapists, undergraduate students etc.) in the specified time?
- For Cancelled Appointments: Was the cancelled appointment rebooked? If an appointment was not rebooked was an entry made in the clinical notes and was there attendance at the appointment immediately following the cancelled appointment?
- For Failed Appointments: What was the procedure followed after a patient did not attend (DNA)?

Results: There were 260 patient cancellations in the 3-month period examined. About 98% (254 patients) were rebooked; however, 2% (6 cases) were not. An entry was made in the clinical notes explaining why a further appointment had not been arranged in five of these six cases. One patient was not followed up subsequent to cancellation. The attendance/non attendance of patients on the visit directly following the cancelled appointment is demonstrated in the pie chart below (Fig. 1).

Thus, 80 patients (31%) cancelled or failed to attend the next appointment made directly after the original cancellation.

The computer search yielded 202 patient DNAs in the 3-month period examined; of these 154 (75%) were investigated. Seventeen had been incorrectly recorded and thus were omitted from further analysis. Of the remaining 137 patients, the action taken is shown in Fig. 2.

Discussion: The audit demonstrated that the department has a high number of cancellations and a high DNA rate.

Each individual patient cancellation is being well managed with only 1/260 patients not followed up. However, more exploration is required into how multiple cancellations are dealt with. It is currently possible for multiple cancellations to go unnoticed raising child welfare concerns. However, DNAs are not dealt with in a consistent manner and 6% are not adequately followed up.

Action plan: Drawing on the findings of this audit it was a concern that any child's non attendance may go un-investigated and that multiple non-attendances or unusual patterns of non-attendance may not be highlighted.

For new patients, an entry is made in the clinical notes at the time of the missed appointment; the same is true when a patient does not attend a follow up appointment. When a follow up appointment is cancelled in advance, however, an entry is often not made in the clinical notes as they are not available on clinic. Unlike the other missed appointments, it is thus not possible to ascertain how many appointments have been cancelled by looking at the clinical notes. It would currently take a patient centred search on the computer system. This is the critical area currently where missed appointments may go unnoticed and needs to be addressed.

Examination of the results of this audit project has led the department to develop a 'missed appointment' protocol to ensure that:

- All missed appointments are dealt with;
- They are dealt with in a consistent manner;
- Unusual patterns of non attendance are noticed.

The action taken following a non attendance depends on several variables:

1. Patient cancellation,
2. Failure to attend a treatment appointment,
3. Failure to attend a new patient appointment,
4. Failure to attend a review appointment, and
5. There is existing concern about the child's welfare.

When there is a clinical/social concern, irrespective of the other variables the clinician will liaise with the referrer or an appropriate colleague and plan the next step (including, if necessary, involving other safeguarding children services). Then a second appointment can be offered and appropriate support put in place to facilitate attendance.

When no welfare concerns are suspected the patient is given the option to rebook or if appropriate is discharged depending on the variables listed above. Any patient that is discharged due to a failed attendance has a letter sent to their parents to keep them informed. A letter is also sent to their general dental practitioner and general medical practitioner containing a safeguarding children's paragraph that requests further contact if the practitioner has child welfare concerns.

This protocol is being used to help develop Birmingham Dental Hospital's 'Defaulted and Cancelled Appointment for Children Safeguarding Guidance'. Once these have been finalised and adopted we plan to revisit this audit to determine if the standards are being met.

Successful implementation of these protocols will help us to fulfil our responsibility in safeguarding our patients.

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1 Homicides, Firearm Offences and Intimate Violence 2007/08 (Supplementary Volume 2 to Crime in England and Wales2007/08), Povey D (ed.), Kathryn Coleman, Peter Kaiza, and Stephen Roe (Home Office; Available online at: http://www.homeoffice.gov/rds/pdfs09/hosb0209.pdf).

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3 Harris JC, Balmer RC, Sidebotham PD. British Society of Paediatric Dentistry: a policy document on dental neglect in children. Int J Paediatr Dent 2009; DOI: 10.1111/j.1365-263X.2009.00996.x.

Treatment provided for children attending two emergency dental services in Leeds

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Introduction: The introduction of a new NHS dental contract in April 2006 resulted in a number of fundamental changes for dental care in England. One of these was that General Dental Practitioners (GDPs) were no longer responsible for providing out of hours emergency care. This responsibility was passed to the Primary Care Trust (PCT) who commissioned in-hours urgent dental care for patients who could not access dental care and an out of hours emergency dental care service. For Leeds PCT a single emergency dental access centre was commissioned to provide this service, namely, Lexicon House (LH). In addition, Leeds Dental Institute (LDI), although not directly commissioned to provide such a service, provides emergency dental services for children in order to discharge its role in educating undergraduate and postgraduate students.

Aim:

- To investigate the characteristics of children presenting for emergency dental care at the two main centres in Leeds.
- To investigate acute and definitive dental management modalities offered to children attending the two main emergency dental centres in Leeds.

Standards: An earlier audit from Manchester Dental Hospital[1] reported 90% of children met the criteria for emergency dental care. Furthermore, 56% of children had follow up care provided.

Method: Data were collected over a period of 2 weeks (Easter holidays, 30 March 2007 to 13 April 2007) prospectively for children attending LH. The same period was then used to retrospectively collect the data from LDI.

To be seen at LDI, children had to present with one of the following acceptance criteria; extra oral swelling, uncontrolled bleeding, current uncontrolled pain, dental trauma, and patients with complex medical histories requiring special care. These criteria were then used to assess those attending LH.

The details of all paediatric patients seen and treated at the two emergency dental services during the data collection period, including date, session and day of attendance, age, sex, emergency acceptance criteria, medical and dental diagnosis, treatment received on the day of attendance and follow-up care were recorded. For LH, this was entered directly onto a data collection sheet, for LDI this data were identified from the patient records.

Results: Data were collected for 46 children: 22 at LH (16 male, 6 female) and 24 at LDI (15 male, 9 female). The mean age of children accessing emergency services was 7.7 years at LDI (SD 4.9, range 1–15 years) and 8.6 at LH (SD 4.5, range 2–17 years). All patients at LH were fit and healthy. At LDI, one child had a cleft lip and palate and another was awaiting a liver transplant.

The highest number of attendances at both LDI and LH was on Thursday before the Easter weekend (Fig. 1). The number of children accessing emergency dental care at LDI was similar for both morning and afternoon sessions over the 2-week period (11 and 13, respectively). For LH, the majority of patients attended the evening clinic (15 of 22 children).

Fig. 2 shows the acceptance criteria number under which each child was seen at the two emergency dental services. The majority of patients attending LH had current uncontrolled pain where as extra oral swelling or dental trauma were the most common criteria for children attending LDI. Dental caries was the cause of all uncontrolled pain, intra-oral, and extra-oral swellings. Four times the number of children attended LDI with dental trauma as compared to LH.

The treatment provided on the day of attendance is shown in Table 1. Half of the children (11 of 22) attending LH received an antibiotic prescription where as at LDI seven out of 24 children were prescribed antibiotics.

At LH, parents were told to find a GDP or return to see their own GDP in order that their child received follow up care. For children seen at LDI, 17 returned for further treatment. The details of how this further care was provided are shown in Fig. 3.

Discussion: There is limited literature about the profile and treatment of children accessing emergency dental care.[1–4] The age profile closely matches that of an earlier audit from Manchester.[1] The criteria for children to access emergency care at LDI and Manchester Dental Hospital were very similar. These criteria were applied to the children seen at LH. For both providers, LH (95%) and LDI (100%), all but one child met these secondary care criteria.

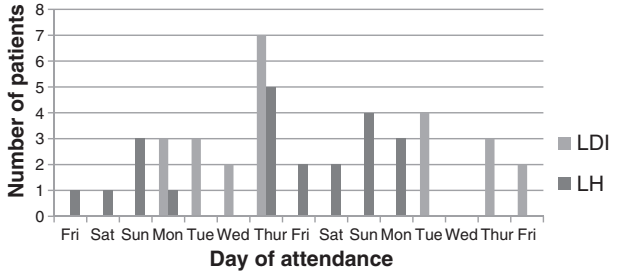


Fig. 1. The number of children attending the emergency dental services on different days over the Easter period 2007 (the Easter Public Holiday was the middle Friday to Monday inclusive) (n = 46).

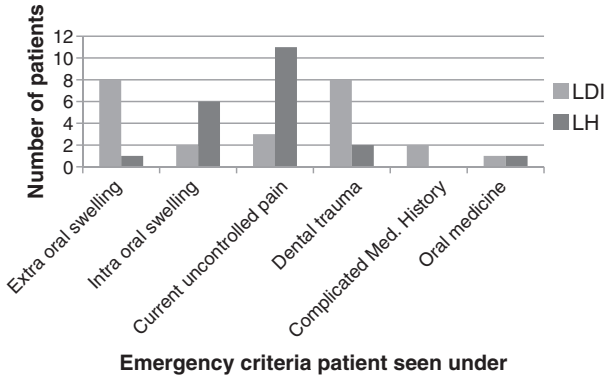
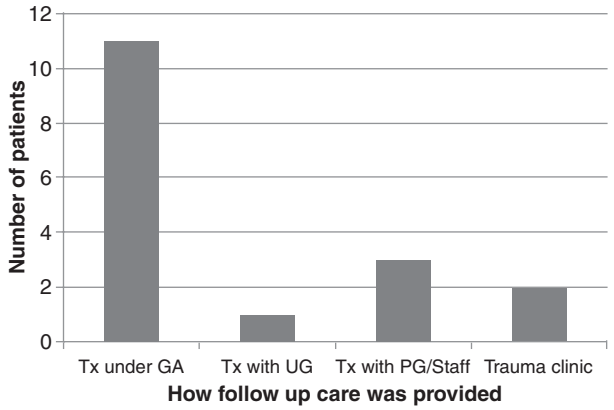


Fig. 2. Criteria children assessed under when attending the emergency dental services in Leeds (n = 45) (one child seen at LH did not fulfil any of these criteria and is not shown in this graph).

Table 1. Treatment (Tx) provided at the child's emergency attendance (n = 46). Numbers in each box refer to number of patients treated.

	No Tx/ Reassured	Trauma Tx	Immediate admission	Temporary dressing	Antibiotics	Extraction under LA	Tx not entered in records
LDI	8	4	2	0	7	3	0
LH	1	1	0	5	11	1	3



For this period, the standard of over 90% was met, whether this would be achieved for other audit periods is unknown for either service.

The Easter period is an ideal time to examine emergency dental services. This 2-week period coincides with school holidays and two bank holidays during which many GDPs are closed or have limited opening times. This results in a prolonged period when symptoms can develop. This may explain the highest attendance on the Thursday before Easter at both centres, with parents trying to ensure a symptomless holiday period for their child. The two services (LH and LDI) complement each other. The LDI provides care for children meeting their emergency criteria for referrals during the working week, Monday to Friday 9 AM–5 PM. LH is open in the evenings on week days and mornings, afternoons and evening at weekends and bank holidays.

The profile between the two centres was slightly different with more uncontrolled pain and intra oral pain being seen at LH and more trauma and extra oral swelling at LDI. The aetiology for attendance was predominantly dental caries which is consistent with other reports of similar services.[1–4] Further work could be undertaken to investigate the residential addresses of these children and then relate such findings to both deprivation and the availability of NHS dentistry in the local area.

The treatment provided at emergency consultation was mainly a temporary dressing or a prescription for antibiotics at LH compared with wider range of treatment modalities at LDI. The severity of the presenting complaints appeared to be less severe at LH, Fig. 2, although the frequency of antibiotics prescribed was more common. A number of factors will influence what treatment is provided at the initial consultation and the study design used makes further comments unreliable.

In comparison with the earlier audit,[1] 71% of children attended for further treatment at the LDI. Of this group, almost two-thirds required treatment under general anaesthetic (11 out of 17 children). In the Manchester study[1], this figure was just over three quarters. It is unknown why children attend one service in Leeds in comparison to another. This probably warrants further research but is undoubtedly a complex and multi-factorial decision.

Whether children having been seen at LH are able to receive follow-up and definitive care at their own GDP is unknown. Some parents, especially if they feel the only method of treatment for their child is under general anaesthetic, may circumvent normal referral pathways by attending the LDI directly.

Action plan: A further audit is required over a longer period with prospective data collection at both centres. The development of a dental clinical network for children in Leeds is needed to ensure that children seen at either centre can access the most appropriate services they require.

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1 McDonnell ST, Lampitt S, Hood CA, MacKie IC. Assessment of walk-in emergencies in paediatric dentistry. Clin Eff Bull 2009; **2**: 13–15.
2 Blinkhorn AS, Attwood D, Kippen AM. A report on the feasibility of establishing a paediatric emergency dental service at Glasgow Dental Hospital. Community Dent Health 1991; **8**: 257–262.
3 Fleming P, Gregg TA, Saunders ID. Analysis of an emergency dental service provided at a children's hospital. Int J Paediat Dent 1991; **1**: 25–30.
4 Lygidakis NA, Marinou D, Katsaris N. Analysis of dental emergencies presenting to a community paediatric dentistry centre. Int J Paediat Dent 1998; **8**: 181–190.

A retrospective audit of children referred to the primary care trust dental service in leeds

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Introduction: In April 2006, the Leeds Community Dental Services became a Primary Care Trust Dental Service, a Personal Dental Service provider under the new NHS Dental Contract.[1] It became a referral only service, with its remit limited to provision of Special Care Dentistry and Specialist Orthodontic Care. With these changes and the increased difficulty in accessing NHS dentists in England and Wales, a retrospective referral audit was carried out to assess the current referral practice for children. As this group of patients may normally experience difficulty in accessing or being successfully managed within a General Dental Practice setting, this study was able to measure the service's input towards improving the oral health of this population.

Aim: This audit was aimed at evaluating existing parameters targeted at increasing access to and uptake of dental care by vulnerable paediatric patients.

Standards: The standard set was that 100% of the referrals must have a reason which would fit the Service's criteria for acceptance and that 50% of referrals should be assigned to a clinic within 3 miles from the patient's place of residence.

Method: Data were collected retrospectively from the computerized referral records held by the Central Dental Office for children referred into the Leeds Salaried Primary Care Dental Services

between January and May 2007. On receipt of a referral, a triage was carried out by Senior Dental Officers in the Central Office. For a referral to be a Senior Dental Officer accepted it should fall into at least one of the following categories: sedation, pre-cooperative, uncooperative, physical access, require hoisting, medical, phobic, domiciliary, learning disabilities, and acute pain. On fulfilling the above criteria, the child was invited to be assessed and treated in a designated clinic. The parameters assessed included; reason for referral, geographical origin of referrals, health professionals who referred to the service and the location of designated clinics where patients were allocated to.

Results: Out of 150 referrals received during the study period, 95.3% (143 referrals) met the criteria set for referral while 4.6% did not have a listed reason for referral. Health care professionals made up of mostly health visitors and school nurses were the highest referrers.(46.8%) of child patients into the service, followed by General Dental Practitioners (36.2%). No paediatric referrals were recorded from Specialists/Consultants at the Leeds General Infirmary. One referral was received from a neighbouring Community Dental Service provider. Nine referrals did not indicate the referrer's role.

It was interesting to note that 75 of the referrals were from the top 20% of the most deprived wards in the city. Of these, 44 were from wards with a high index of income deprivation affecting children. The highest number of referrals was received from the LS12 district where two of the most deprived wards [(i) Armley and (ii) Farnley and Wortley] in the city are located.

Geographical origin was not indicated in nine referrals. In assessing the distance patients had to travel to access care, 14 referrals were disqualified as data required to measure these indicators could not be retrieved. Of the 136 referrals used 72.8% of patients were seen within 3 miles from their home and the furthest distance was 30.5 miles. The proportions of children in the different acceptance criteria are shown in Fig. 1.

Discussion: It was encouraging to see that out of 150 referrals, 143 (96.3%) of the referrals met the criteria. The target of 100% may be achieved by sending out the set referral criteria to all the health professionals who referred to the service. Health and Social Care Professionals played a significant role as referrers. Health visitors and school nurses were the highest referrers (46.8%) of child patients into the service, followed by General Dental Practitioners (36.2%), as shown in Fig. 2. Health visitors referred children with high dental needs who were not registered with a dentist as well as those living in low socio-economic areas of the city. Interestingly, there were no referrals from Specialists/ Consultants in Cardiology at the Leeds General Infirmary. This may be due to the fact that they may have referred patients requiring dental care to the Hospital Dental Services.

The 'Indices of Deprivation' produced by Central Government provides details of deprivation within specific communities which

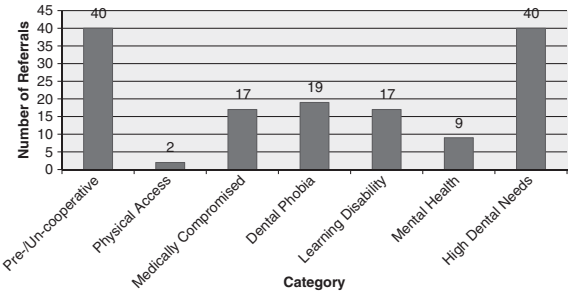

Fig. 1. Shows the categories under which children were accepted for dental care in the Leeds Community Dental Services (n = 143).

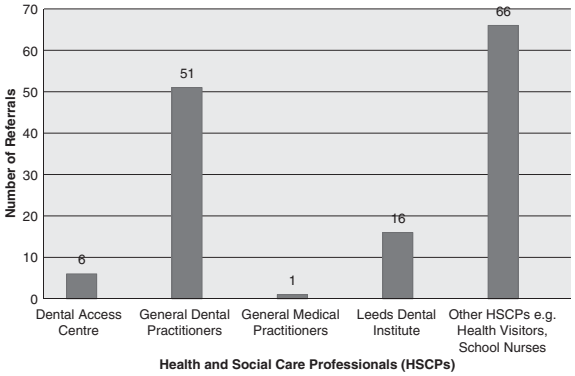

Fig. 2. Shows the categories of Health and Social Care Professionals (HSCPs) that referred children for dental care in the Leeds Community Dental Services (n = 141).

are known as Super Output Areas (SOA) across the country.[2] It was observed that the service's clinics are strategically located all over Leeds with a distinct presence in nine of the eleven most deprived SOA. The remaining two zones have easily accessible clinics within a 3-mile radius.

There was no literature available at the time of this audit to determine the shortest distance between patients' domiciles and healthcare facilities that increased their ability to access care. The location of the clinics in this study enabled majority of patients access care within close proximity to their homes.

The indicators measured highlighted the service's contribution towards reducing inequalities in oral health affecting children with special needs. All referrals were for routine care, as urgent referrals would have been referred to the Dental Access Service.

Action Plan:

- All referrals most have a reason that fits the service's criteria prior to acceptance for treatment. In appropriate referrals to be forwarded to appropriate providers.
- Audit to ensure timely provision of care.

References:

1 Referral Information Policy – Section: Information for Dental Staff. Produced by the Leeds Salaried Primary Care Dental Services (LSPCDS). 2006.
2 An understanding of the Indices of Deprivation 2007 Regeneration Area- Produced by the Strategy Team, Neighbourhoods and Housing Department, Leeds City Council. 2007.

The outcome of dental therapists treating children on a GA waiting list

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Introduction: Dental therapists are an essential member of the dental team when providing care for children.[1,2] Comprehensive dental care for paediatric patients, where dental caries is treated with restorations and extractions, has been demonstrated to eliminate pain and symptoms as well as enhancing growth and wellbeing of children.[3,4] Providing treatment to children can often be challenging and for some this care can only be provided under general anaesthesia (GA). All children waiting for comprehensive care (fillings and extractions) under GA at Leeds Dental Institute were seen by Dental Therapists (DT) as part of the 18 week NHS pathway.

Aim: The aim of this retrospective audit was to analyse the effectiveness of DT in converting children away from GA by providing treatment under local anaesthetic.

Standards: Recently published audit reported that treatment of children by DT led to a reduction in the number needing a GA for their dental care by 27%.[5] This was chosen as our gold standard.

Method: Dental records of all children who were placed on the waiting list for comprehensive care under GA between March and December 2008 had appointments booked with DT. Success was defined for this audit as patients who had either all treatment or at least restorative care completed out under LA with referral for extractions only under general anaesthetic (XGA). The parameters assessed were the outcome, number of appointments and the type of treatment carried out.

Results: A total of 229 children with mean age of 6.3 years (range 2.3–16.9) were seen. The outcome of all the children seen by DT is shown in Fig. 1. Forty nine patients (21.3%) were successful in receiving all or part of their treatment under local anaesthesia (LA). Twenty six children (11.3%) received all treatment including extractions under LA and 23 children (10%) received part of their treatment under LA with subsequent referral for XGA.

Successful group of children (n = 49) had mean age of 8.18 (range 2.6–15.7). The median for the number of appointments in this group was four (range 1–10) and the breakdown of the number of appointments is shown in Fig. 2.

The analyses of successful subgroup who had all treatment completed under LA showed that the median number of appointments was five and the breakdown of the type of treatment provided is shown in Fig. 3. All extractions carried out under LA were of primary teeth only. Two of three children who had prevention only were to be reviewed in undergraduate clinic in 4 months to monitor the caries progression and asses if the teeth would exfoliate prior to causing further symptoms. One parent had chosen to have their child's care provided by their general dental practitioner.

For the children who proceeded to XGA for extractions after prevention and restorative care, the median of the number of appointments was three and the breakdown of the type of treatment provided is shown in Fig. 4. Two children had undergone some extractions of primary teeth under LA and subsequently required the remainder extracted under GA.

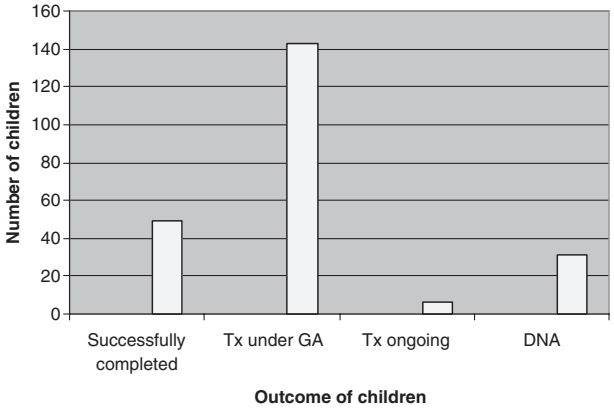

Fig. 1. The outcome of children seen by Dental Therapist as part of comprehensive care GA pathway. Successful group of children had either all or part of their treatment carried out under LA (n = 229). Tx, treatment; DNA, did not attend further appointments.

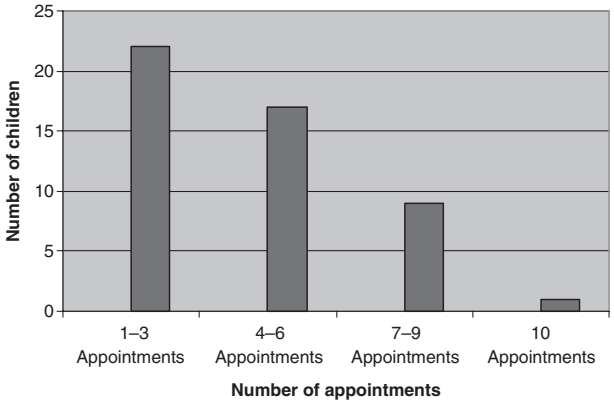

Fig. 2. The number of appointments in the successful group who received at least part of their dental care under local anaesthetic provided by a DT (n = 49).

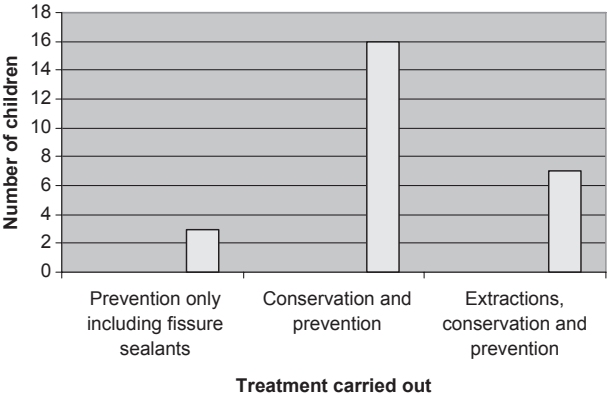

Fig. 3. The type of treatment provided by a DT in the successful subgroup receiving all treatment under LA (n = 26).

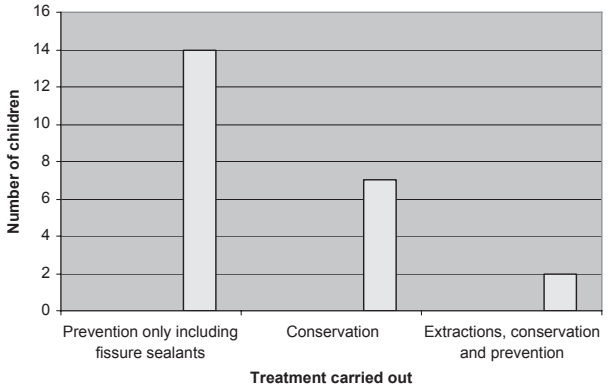

Fig. 4. The type of treatment provided by a DT in the successful subgroup receiving part of the treatment under LA (n = 23).

Discussion: All 229 children were seen initially on a paediatric dentistry consultant clinic and treatment requirements and options were discussed with the child and parent. Requiring each child to attend at least two visits to deliver preventive advice allowed DT to further assess the child's level of co-operation. For 62.4% of children comprehensive care was provided under GA. Prevention appointments are essential to ensure robust home care for restorative work provided and reduce future incidence of caries. This audit found that all children needing the extraction of secondary teeth proceeded to treatment under GA. This component of dental care is outside the remit of a DT and therefore would have been carried out by one of the paediatric dentists if needed. The need for children and parents to attend two prevention appointments resulted in the loss of 31 patients from the comprehensive care waiting list. It is unknown why these families failed to attend these appointments and this could be an area for further research.

The conversion rate of 21.3% was less than our standard of 27%.[5] If all children who have outstanding treatment visits complete their care under local anaesthetic, then the conversion rate will be 23%. This service has obvious benefits in allowing clinicians, children and parents to assess whether a GA is the only option to deliver comprehensive dental care. The risks associated with GA have been avoided in children who received all treatment under LA. Ten percent of the children still had remaining extractions under GA and were therefore still exposed to the risks associated with GA.[6] One study[7] suggested each ten minute increase in length of general anaesthetic led to an increase in post operative nausea and sleepiness. Comprehensive care under GA is a precious resource which can also cause difficulties in complying with the 18 week pathway. Thus converting children to XGA only is still advantageous as this service has more capacity and reduces the length of anaesthesia. Finally Eidelman *et al*.[8] found that for young children the quality of restorations placed under sedation compared to general anaesthesia was poorer. This study did not investigate the quality of restoration placed for either group but this may be an area for future research.

Implementation of findings: LDI has employed a DT to continue this important role.

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Improving appropriateness of sealant prescription to children of high caries risk

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Introduction: Patients at high caries risk such as those requiring extractions under general anaesthetic (GA) should receive enhanced prevention. The provision of fissure sealants (sealants) is a highly effective means of preventing of caries of the pits and fissures of permanent molar teeth and the benefits for high caries risk patients are well documented in the literature.[1] Unfortunately, the provision of fissure sealants to children and adolescents of high caries risk is less than ideal.[2]

The Department of Paediatric Dentistry, Charles Clifford Dental Hospital, Sheffield runs two different general anaesthetic lists dependent on the needs of the patients:

1. A day case list providing comprehensive dental care for all children.
2. An exodontia only list for fit and well patients, who require only extractions.

Almost by definition, all patients who find themselves on the exodontia list are high caries risk and therefore should have their erupted permanent molars sealed. Therefore, attempts should be made to ensure prescription and application of sealants for these children's first molar teeth ideally prior to their GA appointment. Those on the comprehensive care list will have sealants placed during their procedure if required and previous unpublished work has shown that there is not a problem of prescription of sealants to this group of patients, unlike the exodontia only patients.

Aim: To determine the number of children being prescribed sealants (either for placement within the Department of Paediatric Dentistry or by their primary dental care provider) for permanent molar teeth of high-caries risk children who having been referred are planned for extraction of teeth under GA (exodontia list).

A subsidiary aim was to identify which grade of staff or student was providing the sealants.

The results of an initial audit and two subsequent audit cycles are presented.

Standard: Based on a BSPD policy document[2] and Sign 47 Guideline,[3] which state that all children of high caries risk should have sealants placed, the standard of 100% of prescription of sealants was agreed.

Method: The records of patients over 6-year old who had been treatment planned and had their extractions carried out between May 2007 and February 2008, September 2008 and March 2009, March 2009 and July 2009/09 and 7/09 were identified. From the notes identified 50 cases were randomly selected for each cycle. The following data were collected: age, caries risk status, whether the permanent molars were suitable for fissure sealing or not and whether sealants had been prescribed and by which grade of staff they were to be provided by. The data collection form was piloted prior to commencing data collection.

Implementation plan: Following the initial audit there was a seminar presenting the results of the audit and following discussion the following action was agreed: improvement in the letter to the primary dental care provider, making this more structured and hopefully making the need to apply sealants more explicit.

Following the second audit there was again a seminar to present the results and this resulted in agreement that the internal GA waiting list form should be revised to include a tick box to record the prescribing of sealants at the time of the patient being put on the waiting list.

Table 1. Results of three audit cycles in terms of age, DMFT, number of extractions etc. (n = 50 per cycle).

Audit cycle	Age (mean)	dmft (mean)	DMFT (mean)	Primary extractions (mean)	Permanent extractions (mean)	Total extractions (mean)	Per cent of patients prescribed sealants
1	7.51	7.20	0.28	7.26	0.12	7.68	80.0
2	7.94	6.34	1.62	5.62	1.5	7.12	84.6
3	7.44	6.5	1.22	6.62	1.26	7.88	89.2

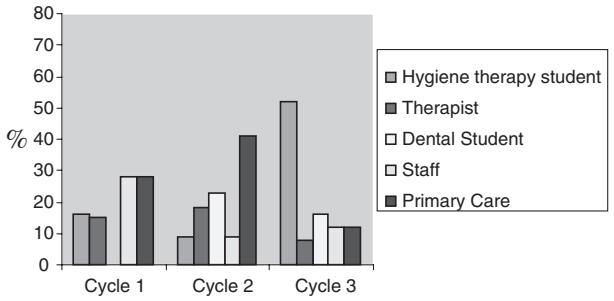

Fig. 1. Application of fissure sealants in audit cycles by clinician groups (n = 50 per cycle).

So in summary the implementation plans included staff education and the development of reminder systems to help staff remember to prescribe sealants.

Results: Fissure sealants were prescribed where applicable for 80.0, 84.6, and 89.2% of patients at the first, second, and third cycles, respectively (Table 1). These differences were not statistically significant (Chi-squared Test). Table 1 also presents the results in terms of mean age, DMFT, and number of extractions per cycle. Fig. 1 present if sealants were prescribed who was to place them, this is broken down by category of staff and student for those provided 'in-house'. In the first audit period 30% of patients' general dental practitioners were requested to provide the sealants. At the second cycle this increased to 41% reflecting the alteration in the letter to the primary care provider. At the third and final audit this had fallen to 12% with the majority of sealants being placed either by dental (16%) or hygiene and therapy students (52%).

Discussion: Given the high percentage rate of the prescription of the sealants in the first audit cycle (80%), implementation of the action plans such as education to staff, introduction of a new proforma letter (replying letter to GDP) and introduction of a new GA referral form resulted in slight and steady increase in the prescription rate of sealants (89%). After the second audit cycle the decision was made to place the sealants 'in-house' as much as possible to assure their placement. As shown in Figure 2, this has increased d the number of patients suitable for treatment by trainee students (both Dental and Hygiene & Therapy) and reduces the need for treatment by GDPs. As a side effect of this change in policy sealants are placed before the GA, whenever possible as part of a caries preventive programme instigated in parallel to this audit. This may have increased the number of sealants placed in reality in these patients by ensuring attendance for sealant placement, which may not have occurred for a number of reasons such as failure to attend in response to a simple request to primary care to have them placed following the GA. At present 68% of these patients are having sealants placed by students which in a training institution would seem appropriate, however, primary care practitioners have a duty to provide prevention.[5] Therefore this balance of care needs to be reviewed from time to time to insure appropriateness of the site of care provided.

The standard of 100% prescription of sealants was not achieved. This reflects continued issues with training of new staff and day-to-day pressures such as patients presenting as emergencies. It also reflects that despite agreement by all involved at the outset that a standard of 100% was appropriate and achievable; this is in fact ambitious target.

The prescription of sealants to high caries risk children was improved following implementation plans which included staff education and patient specific prompts.

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From the Editor

As ever I hope you have enjoyed reading the Bulletin. It is great to see how much hard work everyone is doing to improve our delivery of care. Hopefully, in the future seeing other people's audits will stimulate ideas and collaborations. This is my last year as Editor and I would like to thank Peter and Fiona for all their help, this year and in the previous 3 years.

We would like to thank our reviewers for their time and expertise:

Sola Adeboye, Sondos AlBadri, Janet Davies, Annie Morgan, Jenny Harris, Emma Hingston, Alison Hutton, Rebecca John, Thaylan Kandiah, Sheridan McDonald, Sinead McDonnell, Antoniella Naudi, Racheal Nichol, Frankie Soldani, Sanjeev Sood, Mina Vaidyanathan, Nigel Willmott, and Fiona Gilchrist.

Chris Deery

Editor

Guidance to Authors – Audits

The BSPD Clinical Effectiveness Bulletin is a peer reviewed publication. Its production is overseen by an editorial team and peer review referees drawn from SpRs in paediatric dentistry. Printing and distribution is at the discretion of the BSPD. All articles are subject first to editorial review of suitability for inclusion, and then sent for peer review. The referees' reports are fed back to the authors and utilised by the editors to recommend amendments as well as decide upon inclusion.

(1) Document submission

Manuscripts should be submitted in Microsoft by disc or by email attachment.

A covering letter or e-mail should accompany each submission stating the names and working addresses of all authors. The principal author should confirm the work to be their own and acknowledgments given as appropriate. Confirmation of receipt will be returned by the newsletter editor. In the event of no reply from the editor, the principal author should inquire.

(2) Submission Information

Submissions will only be accepted in Microsoft WORD format. Any graph included is best formulated in Excel and pasted into the Word document. The associated Excel files should be sent with the submission.

Authors are recommended to discuss with the editorial panel the general style of their report. It should be noted that the bulletin has limited space and submissions are generally tailored to fit comfortably on one page or less of the Newsletter.

Submissions should be formatted with double line spacing to fit A4 paper size. (If possible, the recommended font is Times New Roman, 12, top margin = 2.54 cm, bottom = 2.1 cm, left and right margins = 3.17 cm).

(3) Submission format

Audit project submissions will be expected to broadly follow a format as described:

- **Title:** This should be succinct and accurately reflect the project (up to a maximum of 12 words).
- **Authors and Affillations:** including e-mail address.
- **Introduction:** To include rationale or need to undertake the project. Previous projects/publications as available can be refereed to and if appropriate the cycle number of the audit and the effects of previous action plans.
- **Aims:** A clear list of the project aims.
- **Standard(S):** Should be quoted if available.
- **Process/materials & methods:** A clear explanation of the audit process should be given.
- **Results:** Text to describe the results obtained. Results can also be given in table or graph form if more clearly represented this way (see below). Text should avoid simply repeating findings shown by graphs/charts. Clarification or explanation can be given if necessary.
- **Discussion:** As appropriate.
- **Action plan or implementation of findings**: The author's plans for implementation of findings to change practice as necessary, or to audit further should be described.
- **Acknowledgements**
- **References:** These should be listed as per the International Journal of Paediatric Dentistry and cited in the text the same way.
- **Tables:** where possible, these are *preferred to graphs and charts.* They should be included into the Microsoft WORD document. These should be succinct with a limit of 10–15 rows to fit comfortably on the page.

  The accompanying legend should be concise and in bold. It should be included in the main text rather than the figure itself, e.g. **Table 1** ……
- **Graphs and Charts:** if included should be in Excel and pasted into the word document. The Excel files should also be included in the submission. Please do not use excessive formatting such as 3-D, unless this adds information.

  For the purpose of publication graphs will be limited in number and should not be overly complex to ensure they are easily understood. As with tables the accompanying legend should be concise and in bold. It should be included in the main text rather than the figure itself, e.g. **Fig. 1.** ……

(4) Refereeing and editing

Each submission will be subject to anonymous independent peer review. The editor's decision to publish will be based on referees' reports. Submitting authors will normally be sent a copy of the reports for their consideration. The editor reserves the right to edit the manuscript.

Please send or e-mail (p.f.day@leeds.ac.uk) submissions to: *Peter Day, Paediatric Dentistry, Leeds Dental Institute, Leeds LS2 9JT, UK.*

(Thank you to the British Society of Orthodontics whose Guidance for Prospective Authors formed the basis for this document).

