Out-of-hours emergency dental services — development of one possible local solution

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This paper describes the development of a local solution to the problem of the provision of out-of-hours dental care in Newcastle and North Tyneside in the north east of England. Focus groups were used to review the current provision of, and problems with, dental out-of-hours emergency provision. A consensus conference involving both general dental and medical practitioners, was subsequently used to develop possible alternative methods for the provision of out-of-hours emergency dental services. A centralised service delivered from a secure location in conjunction with general medical practitioners was developed which was dependent on a nurse-led triage. The linkage with NHS Direct may be an opportunity, in some locations, to integrate dental services more fully with other out-of-hours primary care services. The method described allowed a solution to be generated by practitioners themselves, thus giving ownership and acceptance to the chosen option.

The problem of out-of-hours provision of emergency dental services has always been a contentious issue within the dental profession. Prior to changes in general dental services regulations in 1990, provision of emergency out-of-hours dental services largely depended on voluntary schemes. Since that time general dental practitioners have been required to provide an out-of-hours service and/or treatment 'within a reasonable time' for those patients currently registered with them for treatment.

In brief
- Describes the development of an out-of-hours emergency service
- Illustrates the use of NHS Direct as a triage system for out-of-hours calls
- Links with other out-of-hours service providers

The General Dental Council (GDC) requires dentists to make arrangements to ensure patients have access to emergency treatment outside normal working hours and that patients know these. However, regulations for those dentists working within the general dental service are deliberately vague to allow for interpretation tailored to local circumstances, but it has generally come to be accepted that necessary treatment will be provided for registered patients within 24 hours and that a verbal response will be made within 6 hours.[1] Intra- and inter-practice rotas, and paging and mobile phone systems, have been introduced, and there are many variations in the types of rotas operating, and the hours of availability of out-of-hours dental services, throughout the UK.[2,3]

There is considerable confusion in the minds of the public and healthcare professionals about where, and how, patients with acute out-of-hours emergency dental problems should be treated. A large number of patients may be currently seeking emergency dental treatment, often inappropriately, from general medical practitioners (GPs).[4] Unfortunately, at the present time there is no clarity or agreement of the criteria for an individual to be considered as a dental emergency, nor what might be regarded as appropriate arrangements. There has been a growing feeling of dissatisfaction amongst dentists nationwide with the current provision of emergency dental services for registered patients.[5] Subsequently, access to out-of-hours dental treatment throughout the country has not been uniform.[3,6]

Problems with access to NHS dentistry has also increased in some parts of the country and personal dental services pilots have been set up to address problems of access by establishing drop-in centres.[7] In addition only 45% of adults and 62% of children in England are currently registered with a dentist[8] and are thus covered under general dental service regulations for emergency out-of-hours care. There are, thus, still a large number of people who fall outside the regulations. In many areas there is no formal provision of a service for those who are not currently registered with a dental practitioner or who are receiving treatment from a dental hospital or community dental service.[6]

At the same time out-of-hours care provided by medical practitioners within the UK has undergone radical changes in the past few years, with a rapid increase in the number of GP co-operatives operating from primary care centres.[9] Patients wishing to see a general practitioner, outside of normal surgery hours, can be given telephone advice, asked to attend a centre, or may still receive a home visit if required. However, little has been done to investigate the possibility of integrating dentistry into these out-

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of-hours services. Dissatisfaction with the medical on call service for GPs has also led to the development of new demand management systems eg NHS Direct.[10]

Triage by nurses is now well established in accident and emergency departments, where patients are sorted by clinical priority.[11–13] Recent studies have reported results of randomised controlled trials of nurse telephone triage in out-of-hours primary medical care.[14,15] In one trial, nurse triage reduced GP workload by 50% and concluded that nurse telephone consultation, supported by decision support software, was as safe and effective as the standard care provided by a GP co-operative.[15]

The local situation

Newcastle and North Tyneside, in the North East of England, has a population of around 475,000. It lies within the County of Tyne and Wear, which covers little more than one twentieth of the land area in the North East but houses nearly one-half of its population. Long-term unemployment is more prevalent and average earnings are significantly lower in Tyne and Wear than the Great Britain respective averages. Communities in Tyne and Wear experience pronounced deprivation and ill health and average life expectancy is among the shortest in the country.[16]

Currently in Newcastle and North Tyneside 52% of adults and 62% of children are registered for dental treatment in general dental practice[8] and in addition a small number receive care through the community dental service or the dental hospital. There are 187 general dental practitioners (GDPs) in 92 practices in Newcastle and North Tyneside. Almost all the practitioners have in the past subscribed to one of two separate rota systems, which used a telephone answering service as the first line of contact for patients out-of-hours. Both rotas allowed for some simple triaging of calls prior to transfer to the practitioner on call who, if necessary, treated patients in their own surgery. This meant that at any one time there were at least two dentists on call plus additional dentists who were covering their own patients out-of-hours. In 1997/98, a total of 2,557 calls were referred to a dentist (an average of 232 per month) from a total of 3,029 calls received by the deputising service for out-of-hours dental emergencies on the two rotas.

The Newcastle and North Tyneside Local Dental Committee (LDC) confirmed that considerable confusion existed amongst GDPs about what was classified as an emergency and subsequently how each practitioner responded to calls out-of-hours. There was also no consistency in the triaging of calls. The service was restricted to registered patients only but some practitioners were also willing to see non-registered patients if they are on call, although they had no legal or contractual obligation to do so. In addition the health authority provided a payment to the practitioner on call at bank holidays to provide care for unregistered patients over that period. Despite dissatisfaction with the existing system by both dentists and general medical practitioners there was no agreement on any possible replacement.

Developing a new system

Against this background a collaborative study commissioned by the health authority in consultation with the LDC was carried out with the Centre for Health Services Research, University of Newcastle (CHSR). The aim was to review the current arrangements and problems of the emergency dental service with practitioners and to develop, if appropriate, suggestions for change, which would be acceptable to local practitioners and to the health authority.

A qualitative approach to data collection was considered most appropriate as a further aim was to understand attitudes and opinions[17,18] of medical and dental professionals and to 'convey to policy makers the experiences of individuals, groups and organisations who may be affected by policies'.[19] Focus groups are a time-effective means of uncovering a diverse range of opinion through the interaction of participants,[20] and were used to uncover practitioners' experiences of the current service and their perceptions of the barriers and facilitators to change. Thirty GDPs (25 males and 5 females) and two GPs participated in the focus groups. Difficulties in identifying emergency service users meant that they were not included in the development of any solutions at this stage.

Recurrent themes emerged from the focus groups that revealed the complexity of the influences on practitioners' participation in out-of-hours emergency services.

Themes included:

- Variance in local rotas
- Perceptions of the role of other emergency services in dental care
- Registration and screening of patients
- Perceptions of patients' expectations and use of the service
- Definitions of an emergency
- The social impact of being on call and balancing professionalism and quality of life
- Remuneration

A report of their views on the local arrangements, attitudes towards, and individual management of on call duties, together with their views on possible alternative arrangements was prepared.[21] This report formed the basis for a consensus conference.

Consensus conference

A sample of GDPs and GPs from Newcastle and North Tyneside who had taken part in the original focus group work, together with representatives of the LDC were invited to a consensus conference in December 1998. The objective of the conference was to build on the ideas brought forward in the focus groups and agree parameters for developing a solution. Twenty practitioners who took part in the conference were given a small fee for attending. The conference was facilitated by two of the authors (JB & MS). Presentations were given on the background to the problem and the results of the qualitative research to identify the problems, both of which had previously been circulated, before breaking up into groups to discuss and develop suggestions for change.

This first task was an agreement on what constituted an emergency as this was recognised as an essential precursor to discussions about delivery of the service. The 'true emergency' which is acute was viewed sympathetically, and there was agreement that

these are quite rare. Participants were able to agree a definition of an emergency and urgency. It was agreed that a dental emergency should be seen within about 4 hours and consisted of:

- Haemorrhage following tooth extraction
- Trauma to the teeth or jaws
- Swelling around the eye or swelling resulting in difficulty swallowing (and which may indicate an acute infection, which could spread to make breathing difficult)

The following definitions of what constitutes a dental urgency (which should be seen within 24 hours) were agreed:

- Severe dental and facial pain not controlled by over the counter preparations
- Dental and soft tissue acute infection

Participants recognised that the current system for screening calls which dentists operated themselves was inefficient and variable. All suggestions for improving the service incorporated screening on the basis of clinical need, not registration status. It was agreed that many dentists were very poor at 'saying no' to patients even if they perceived the request for emergency care inappropriate. It was thus agreed that the new scheme should adopt a triage system in which nurses would screen calls and provide advice before passing the call on to the out-of-hours dentist, if appropriate.

Centralising the out-of-hours service in a clinic was an attractive idea to many participants who recognised that it would provide a safe environment for dentists and nurses in a location which would become recognised by patients and health professionals. There was a general acknowledgement of the 'window of opportunity' which was on offer to contribute to the development of a new improved system.

Agreeing and implementing a new service

Agreement was reached on the establishment of a centralised service for all patients irrespective of registration status. However effective triage would need to be introduced as a 'front end' to the new system to manage demand. This would allow dentists on call to give advice from home or, if necessary, to attend a central secure surgery in premises shared and staffed on a 24-hour basis by general medical practitioners.

In April 1998 a new scheme 'NHS Direct' was launched, as a central element of the government's strategy for the NHS.[22] This involved pilot schemes in three locations throughout England, including one in the North East run by Northumbria Ambulance Trust. The scheme initially aimed to provide easier and faster advice and information for people about health, illness and the NHS. Within the second wave pilots the service has developed as a demand management system for general medical practices using clinical algorithms developed for dedicated decision support software.

Phase two of NHS Direct Northumbria involved a successful bid to extend the original partnership of agencies to include GP co-operatives, dentists, mental health trusts and social services. The opportunity was taken to link the proposed new out-of-hours emergency service with nurse led triage via NHS Direct as part of the second wave of pilot schemes. This made available to the out-of-hours services a 24-hour telephone advice line staffed by trained nurses.

The nurses are backed by a computer driven decision support software which aids accurate diagnosis. After discussing the symptoms with the caller the nurse can then advise them on the most appropriate course of action, which may be selfcare at home, or transfer to the on call dentist, or to visit an accident and emergency department. The software used was one of several decision support systems using an algorithmic model based on binary-branched chain logic trees. There are a series of clinical questions, which include the clinical rationale for asking the questions and lay phrasing of the clinical question with yes/no answers, and a differential diagnosis list is then generated for all the acute symptoms. Each condition on the list is assigned a prevalence in the population considered. Having taken into account the prevalence of the condition in the population and the impact to the patient of missing the condition, the problem can be assigned a level and timing of care that is appropriate if the algorithm cannot rule out the condition. The high severity problems are evaluated first. When the nurse using the system fails to eliminate a condition, an endpoint is reached recommending the most appropriate timing and level of care eg self-care or see a dentist within the next 4 hours. The nurse uses clinical judgement to determine if she/he thinks the recommendation is appropriate.

The oral health algorithms were sent to 16 dentists in Newcastle and North Tyneside for evaluation and were considered by all to be safe, clinically robust and capable of delivering consistent results between nurses. These were selected for their specialist knowledge and to represent general dental practice, community dental practice, hospital and university spheres.

Formal presentations were made to the LDC and to open meetings of all practitioners on the proposed new scheme which allowed practitioners to have their questions answered. The LDC also undertook a consultation exercise amongst GDPs. Consultation also took place with the two community health councils and the local medical committee. The scheme was subsequently introduced in Newcastle and North Tyneside in July 1999 following a pilot scheme in south-east Northumberland.

One-hundred-and-sixty volunteers from general dental practice, community and hospital dental services staff the rota. The Health Authority makes arrangements (under paragraph 14[1] of the NHS (GDS) regulations 1992) with these practitioners to provide NHS emergency out-of-hours dental treatment with payments made to participating practitioners on a sessional basis. Dental nurses are also paid on a fixed sessional basis. The overall cost of the first year was similar to the payments made by the DPB to practitioners for out-of-hours services in Newcastle and North Tyneside for the previous year.

A site was identified which fulfilled the criteria for a centralised secure location which was close to all transport links, had safe and secure parking, and was part of an out-of-hours deputising service with excellent facilities and communication network systems. Following negotiation and several site visits by members of the health author-

ity and the LDC, an agreement was drawn up to provide a service from the dedicated out-of-hours centre. A chaperone in the form of a receptionist was made available during the evenings and a trained dental nurse provided for weekends and bank holidays when it was anticipated that the dentist would be more likely to be called out.[2,23] The dentist on call has access to the premises between 7pm and 7am weekdays and 24 hours at weekends and bank holidays.

Participation in the Newcastle and North Tyneside out-of-hours scheme allows dentists to refer their own registered patients, thus fulfilling ethical and contractual arrangements. Both registered and unregistered patients are eligible to use the new service and routine NHS patients' charges, with the standard exemptions, apply. Patients access the service by ringing NHS Direct or practice calls out-of-hours can be diverted to NHS Direct.

Evaluation

Continuous monitoring and evaluation of the changes were considered essential as part of the process. A management committee was set up with the majority of its members consisting of dentists, who were participating in the new system, together with representatives from the provider of the central facilities, NHS Direct, local dental committee and the health authority. Early monitoring identified problems with the triage system, which were quickly rectified following provision of additional nurse training. The management committee met initially on a monthly basis to review the progress of change and to suggest alterations and modifications as problems were identified.

After the first 6 months of operating, questionnaires were sent to all dentists, who had worked within the system, and all patients, who had used the new system in the previous 3 months. Eighty-two per cent of dentists considered the new system better than the existing system, 12% considered there was no difference and 6% considered it was worse than the previous system. The major areas of dissatisfaction in this early stage were caused by problems associated with the initial triage system. These arose from misinterpretation and failure, in some cases by the nurses, to employ the criteria. This was quickly and easily rectified by providing a training session for the nurses. Although the nurses reported some occasional difficulty in persuading patients that their problem did not meet the criteria at that time of consultation there have been no patient complaints.

Only 50% of the 86 patients responded to the questionnaire. All those who had attended the central facility were satisfied with their care while two patients, who had received advice only, were unhappy with the advice received from the dentist and considered that they should have received care. Positive feedback was obtained from the community health councils and the chairs of primary care groups. A more detailed evaluation is planned in the near future.

During the first year of the new system NHS Direct received 7,216 calls which necessitated using the dental algorithms. It is not possible, at present, to identify how many of these were related specifically to the out-of-hours system in Newcastle and North Tyneside. However, 2,158 patients were referred from NHS Direct to the dentists on call over the 1-year period and for 1,226 of these patients care was provided within the central facility. This was less than the corresponding figure for activity in 1997/98, despite an extension of coverage to include non-registered, community dental service and dental hospital patients.

Discussion

Qualitative analysis of the difficulties encountered with emergency dental services highlighted the general dissatisfaction of GDPs with the current system for emergency dental services. Documenting problems was the first step in recognising them in the process of change management. The use of the focus groups helped to identify a range of problems to be tackled locally. The recurrent themes emerging from the groups established the common ground for later discussions to try to find a solution to the problems.

The method has allowed the health authority and the local dental committee to consider options for change in the light of the significant difficulties highlighted in the provision of out-of-hours services and the development of a solution owned by all. One of the key problems was that of appropriate triage of calls out-of-hours. The use of nurse led triage has been used to manage demand and to reduce inappropriate calls by giving self care advice to many patients out-of-hours.[24] Other studies have commented on the fact that general medical practitioners considered many patient contacts out-of-hours to be fairly trivial, thereby contributing to a heavy workload and poorer quality of life. [25,26]

It was planned that NHS Direct will cover the whole country by the end of 2000.[27,28] However, NHS Direct is not solely about telephone advice lines. It will also herald a fundamental shift in the NHS where more public participation in healthcare can happen closer to home and where more care can be delivered without face-to-face contact. NHS Direct will enable much more graduated access to the right care at the right time in the right way by the right person,[9,29,30] which could include dental services in the future.[31,28] NHS Direct is intended to be a single point from which the public can obtain information about the best way to handle healthcare concerns. A recent study,[24] has shown that the provision of NHS Direct in the pilot areas has restrained increasing demand on general medical practitioners' out-of-hours services. NHS Direct may offer the opportunity in some locations for collaborative working with other healthcare professionals, especially medical practitioners, in establishing integrated out-of-hours services and could have an impact on dental care provision.[31] However, local solutions will need to be developed to respond to local circumstances. This paper illustrates how such a local process was undertaken in one particular area.

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