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Main Article

# The ENT emergency clinic: a prospective audit to improve effectiveness of an established service

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**Abstract**

Background: Ear, nose and throat emergency clinic services vary greatly between trusts. Their common aim is to enable acute conditions to be seen quickly and effectively within an optimum environment. There is however no 'gold standard' for service.

Objectives: To identify an efficient model of service, and to determine whether introduction of a referral and appointment based system improves patient waiting times and appropriateness of referrals.

Methods: A prospective audit, comprising: an initial survey to appraise the existing service; telephone surveys of eight trusts in the West Midlands to determine variability of ENT emergency clinic services and to identify components of an effective service; and re-audit following implementation of a verbal referral and appointment based service.

Results: The new service significantly reduced patient waiting times, from 70 minutes to 35 minutes ($t = 6.776$; $p < 0.01$), with an associated reduction in the variability of waiting times. Inappropriate referrals were reduced from 7 to 2 per cent. These results were achieved when a 72 per cent referrer compliance with the service was observed.

Conclusions: A verbal referral and appointment based system improves patient waiting times and appropriateness of referrals. Maintenance of high referrer compliance with such a system should be considered, and a tool for monitoring referring practitioners is suggested. This clinic construct model is offered as an example in order to aid delivery of an effective ENT emergency service in departments with similar patient demand and staff resources.

**Key words: Otolaryngology; Emergencies; Ambulatory Care**

## Introduction

The concept of an ENT emergency or open access clinic has been present for more than a decade. Such a clinic enables acute conditions to be seen quickly, within an optimum environment containing the appropriate clinical and staff resources. This benefits patients as well as medical and nursing staff.[1–3]

However, there is currently no 'gold standard' for the design of an ENT emergency clinic service, and wide variability exists between trusts.

The ENT emergency service at Heartlands, a busy teaching hospital, was previously set up so that patients could attend each weekday morning. Patients were sent by the accident and emergency department (A&E), general practice or were 'walk ins'. All patients were seen and none needed to be referred. The service was run by an ENT senior house officer (SHO). In addition, a specialist registrar or a staff grade specialist was unofficially assigned for support, but they had their own clinic running concurrently. There were five ENT SHOs within the department.

The aims of this audit was to identify an improved model of service, and to assess whether the introduction of a formal referral and appointment based system would improve patient waiting times and appropriateness of referrals.

## Methods

An outline of the audit cycle is shown in Figure 1.

### *Initial survey*

An initial survey appraised the existing service. The survey was conducted from 11 to 15 September 2006, at which time all ENT SHOs had been in their post for more than one month. The parameters identified included patient waiting times, consultation times, variety and appropriateness of conditions seen, origin of referrals, and outcomes of consultations (see Appendix 1). The results of this initial survey are shown in Table I; the case mix is shown in Figure 2.

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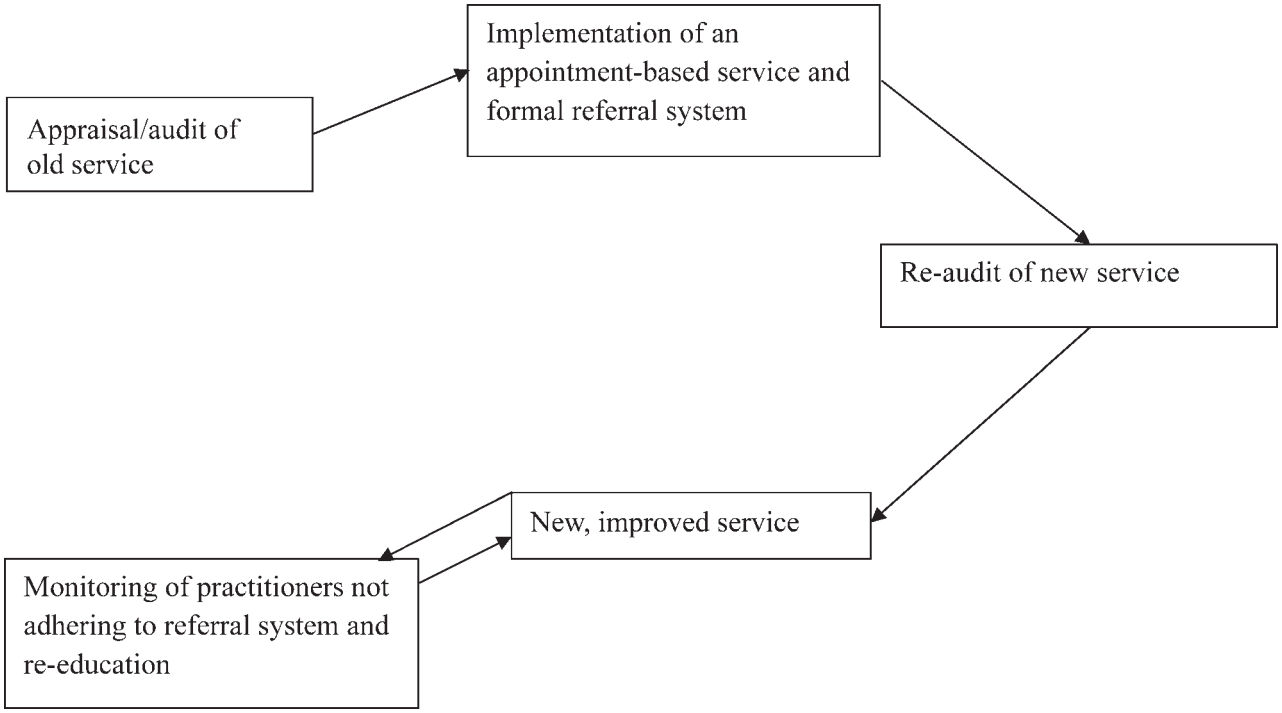


FIG. 1
Outline of the audit cycle.

*Telephone survey*

A subsequent telephone survey of eight trusts in the West Midlands was conducted during November 2006, in order to identify the variety of clinic service models and to establish the core components of an ENT emergency clinic service. Using a standardised pro forma, the duty ENT SHO in each trust was contacted. The pro forma is shown in Appendix 1. Two trusts saw on average less than three patients a day, and had no formal ENT emergency clinic. This did not reflect the clinical demands of our own ENT emergency service. The remaining trusts saw eight patients per day on average (standard deviation (SD) 4.2), using a mean of five SHOs per department (SD 1.2). The demands and staff resources of these trusts were comparable with those of our own service.

TABLE I
SURVEY RESULTS

| Parameter | Survey | |
|---|---|---|
| | Initial* | Completion† |
| Pts/day (*n*; mean (SD)) | 12 (2.2) | 10.8 (2.6) |
| Waiting time (mins; mean (SD)) | 70 (31) | 35 (23) ($p = 0.01$) |
| Consultation time (mins; mean (SD)) | 14 (8.0) | 12 (4.0) ($p = 0.06$) |
| Inappropriate referrals (*n* (%)) | 4 (7) | 1 (2) ($p = 0.823$) |
| Senior review required (*n* (%)) | 8 (13) | 1 (2) ($p = 0.318$) |
| *Pt origin/wk* | | |
| A&E (*n* (%)) | 21 (34) | 18 (33) |
| GP (*n* (%)) | 17 (28) | 18 (33) |
| Clinic review (*n* (%)) | 23 (38) | 14 (26) |
| Other (*n* (%)) | 0 | 4 (7) |
| *Pt outcome/wk* | | |
| Repeat clinic (*n* (%)) | 19 (31) | 22 (41) |
| Discharge (*n* (%)) | 25 (41) | 23 (43) |
| Main OPA (*n* (%)) | 10 (16) | 3 (6) ($p = 0.08$) |
| Admit (*n* (%)) | 1 (2) | 4 (7) |
| Book for theatre (*n* (%)) | 4 (7) | 2 (4) |
| Nurse-led clinic (*n* (%)) | 2 (3) | 0 |
| Pts discussed with duty SHO (*n* (%)) | | 39 (72) |

*$n = 61$; †$n = 54$. Pt = patient; SD = standard deviation; mins = minutes; A&E = accident and emergency department; GP = general practice; OPA = outpatient appointment; SHO = senior house officer

## Results

*Initial survey and telephone survey*

The initial survey found that patients were experiencing a long but varied waiting time (mean 70 minutes, SD 30.9 minutes). The majority of patients arrived at the start of the clinic and were allocated a number; this could explain why the maximum waiting time was 155 minutes. The origin of the patients seen was evenly distributed between A&E, general practice and repeat emergency clinic attendees. A senior review was required in 13 per cent of cases. Seven per cent of cases seen were inappropriate, including chronic hearing loss and a neck lump deemed suspicious of malignancy. Six of the eight trusts contacted had a routine ENT emergency clinic. All trusts required discussion of each patient with the on-call SHO before acceptance to the clinic. Eighty-three per cent of trusts operated an appointment-based system, whilst only one used a 'first come, first served' design. Sixty-six per cent of trusts allocated their on-call SHO to the emergency ENT clinic, whilst 33 per cent had a designated

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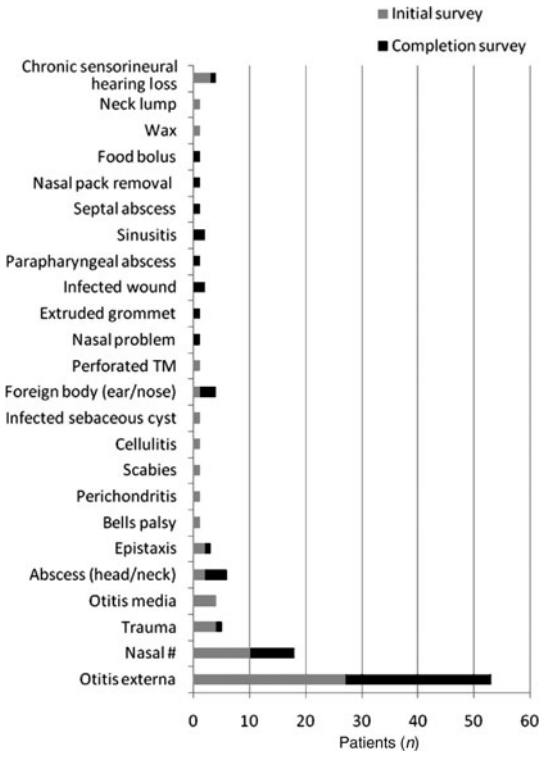


FIG. 2
Case mix at time of survey. TM = tympanic membrane; # = fracture

SHO for the clinic, independent of the on-call SHO. As was the case in our own trust, it was reported that the ENT emergency clinic could be significantly delayed when the on-call SHO was required to attend A&E. This problem was negated where a designated SHO was assigned to the ENT emergency clinic. A similar system of unofficial, middle grade cover was reported in all other trusts. Trusts that employed a referral and appointment based system found that compliance with such a structure by referring practitioners was variable.

### *Development of revised clinic design*

Pilot surveys identified the two problems of high waiting times and inappropriate referrals. Clustering of patient arrival and lack of discussion of patients were seen as major contributors. After discussion at our audit meeting, the following design was agreed upon.

The ENT emergency clinic would be operated as an appointment-based system, with access only following discussion of cases with the on-call ENT SHO. The clinic would operate between 0930 and 1130, with 10-minute appointment times, the diary being held by the duty SHO. Middle grade cover would be allocated informally each day by arrangement with a concurrent middle grade clinic. A letter distributed to A&E and to all general practices (via the publication *GP News*) would explain the changes. During the transition period, walk-in patients would continue to be accepted. Re-audit with a revised pro forma would be undertaken to determine any significant improvements in waiting times. Data would also be collected on general practices and A&E practitioners who repeatedly failed to use the new guidelines when referring (Appendix 2).

### *Clinic re-design*

The new clinic design was initiated six weeks before the completion survey, which was conducted from 12 to 16 March 2007, again, when the ENT SHOs had been in post for more than one month.

### *Completion survey*

Table I shows the results achieved from the revised ENT emergency clinic structure, compared with the old system. The case mix is shown in Fig. 2. With a similar case load and case demographics, statistically significant reductions were observed in patient waiting times ($t = 6.776$; $p = 0.01$). Consultation times were also reduced, showing a tendency towards statistical significance ($t = 1.924$; $p = 0.06$). Inappropriate referrals were also reduced from 7 to 2 per cent. A reduction in subsequent referrals to the main clinic was also seen. These results were achieved with a compliance of 72 per cent by referring practitioners with the guidelines for clinic access. As described previously, the most common condition seen was otitis externa.[2]

## Discussion

Ear, nose and throat emergency clinic services vary greatly between trusts.[4] The common aim of these services is to enable acute conditions to be seen quickly and effectively within an optimum environment.[5,6] By introducing a formal referral and appointment based system, we found that patient waiting times and appropriateness of referrals could be significantly improved.

A survey of other trusts revealed that even where a formal appointment system was employed, despite initial improvement, sustaining this system proved difficult. One cited reason was practitioners' reduction in compliance with referring guidelines over time. However, audit data on the identity of referring practitioners could be used as a tool for tackling poor compliance, via verbal or written reminders of the clinic access guidelines.

We observed a high level of compliance with referring guidelines. During re-audit, patients who were not formally referred comprised those given open access to the ENT emergency clinic by consultants in the directorate, and those who self-referred having previously attended the clinic. One might suspect that, with time, our observed level of compliance would drop. There are no standards for the optimum level of compliance for this service; however, given the inevitable decline, 70 per cent may be an optimum figure. Maintenance of compliance is a serious consideration; it might be achieved by regular audit including data collection on referring practitioners, who could be subsequently reminded of referring guidelines if they repeatedly non-complied. This tool, incorporated into our pro

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forma, does not tackle the observed detrimental effect on compliance originating from departmental practice or from long-standing, self-referring patients. However, one might suspect that falling compliance, from around 70 per cent, could be attributed more to the actions of external referrers.

- **ENT emergency clinics enable acute conditions to be seen promptly within an optimum clinical and staff environment**
- **There is no consensus on the best design for such a clinic**
- **Introducing a formal appointment and referral system can improve waiting times and ensure appropriate cases are seen or redirected if necessary**
- **The proposed ENT emergency clinic model is offered as an example to increase efficiency**

Our results showed a trend towards significant reduction in consultation times on re-audit. The conditions seen were largely similar, apart from the number of inappropriate referrals. This could suggest that these referrals required longer periods of consultation and hence placed a disproportionate demand on the clinic. This would support the argument for ensuring inappropriate referrals were minimalised.

## Conclusion

This audit highlights a model for ENT emergency clinic services which improves patient waiting times and reduces inappropriate referrals. It also identifies a tool with the potential to maintain high compliance with this system. This service model is offered as an example which ENT departments with similar patient demand and staff resources could adopt.

## Acknowledgements

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## Appendix 1. Initial survery

Hospital telephone data collection sheet, November 2006

Name of hospital: . . .

ENT emergency clinic? Yes / No

Clinic times: . . .

Method of referral:
– Discussion with on-call SHO: Yes / No
– 'First come, first serve' / Appointment system
– GP / A&E / Walk in
– Other comments: . . .

Maximum number of patients: . . .
Average number of patients: . . .

Senior support: Yes / No

Nursing support: Yes / No

Audiograms: Yes / No

Main clinic referral: Yes / No

Who runs clinic?
– On-call SHO
– Designated clinic SHO
– Both
– Other . . .

Number of ENT SHOs . . .
Other comments . . .

## Appendix 2. ENT emergency clinic audit

Patient's name:
Arrival time:
Time seen:
Consult time:

Attendance date:
Over 16: Yes ☐ No ☐
New/FUP

Source of referral:
GP called ☐
GP contact unknown ☐
GP not called ☐
Has the patient been referred to this department and is waiting for an appointment? Yes / No

A&E:
Discussed with SHO ☐
Not known ☐
Not discussed with SHO ☐

Self-referral ☐
Comments . . .

Other hospital / specialty ☐
Comments . . .

Planned from department:
Follow up ☐
Suitable for ANP ☐

Was this referral appropriate for emergency clinic?
Yes ☐ No ☐

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Category:
Otitis externa ☐
Wax removal ☐
Otitis media ☐
Foreign body ear ☐
Vertigo ☐
Hearing loss ☐
Other ear problem ☐ . . .
Epistaxis ☐
?# Nose ☐
Foreign body nose ☐
Other nasal problem ☐ . . .
Foreign body throat ☐
Tonsillitis ☐
Quinsey ☐
Abscess ☐
Other throat problem ☐ . . .
Audio available if needed? Yes ☐ No ☐

Senior review required? Yes ☐ No ☐

Number of previous visits to the EC:
Outcome:
Discharged ☐
Further appointment ☐
Await tests ☐
TCI on day ☐
TCI soon ☐

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