Achieving consensus in follow-up practice for routine ENT procedures: a Delphi exercise

Powell, J.,* El Dean, H.,* Carrie, S.,† Wilson, J.A.† & Paleri, V.†

*The Newcastle upon Tyne Hospitals NHS Foundation Trust, Freeman Road, Newcastle upon Tyne, NE7 7DN, UK, and †Department of Otolaryngology-Head and Neck Surgery, The Newcastle upon Tyne Hospitals NHS Foundation Trust, Freeman Road, Newcastle upon Tyne, NE7 7DN, UK

Accepted for publication 17 December 2010

Objectives: To generate consensus amongst faculty members regarding follow-up practice for well-defined clinical scenarios using a Delphi exercise and to identify whether disseminating the consensus guidelines changed follow-up practice.

Study Design: Generation of consensus using a Delphi exercise and an audit of follow-up practice before and after dissemination of the resultant guidelines.

Setting: The department of Otorhinolaryngology-Head and Neck Surgery at the Freeman Hospital, Newcastle upon Tyne, UK.

Participants and methods: Panel members for this exercise included 11 consultants and two associate specialists and one co-ordinator. We identified clinical scenarios where ≥80% agreement existed that routine follow-up appointments should not be made and subsequently disseminated guidelines widely to all medical staff. The follow-up rates for the scenarios where consensus existed regarding follow-up practice were audited from clinic letters before and after the guidelines were disseminated.

Main outcome measures: Agreement on scenarios where routine follow-up appointments should not be made was assessed using a Likert scale (1–5).

Results: Of 13 faculty members, 12 responded to rounds one and two, and 11 responded to round three. The Delphi exercise identified 18 clinical scenarios where there was ≥80% agreement on patients not routinely being followed up. Comparison of the follow-up practice prior to and after the Delphi exercise identified a reduction in follow-up for all 18 scenarios of 48%.

Conclusion: Consensus regarding routine follow-up can be reached by using the Delphi process in ENT practice. This can translate into a real change in clinical practice. Furthermore, this process could be applied for consensus building in other related areas.

The length of waiting times for patients to be seen by a doctor or receive treatment is a subject pertinent to many healthcare providers throughout the world. This issue was brought to a head in England by the Operating Framework for 2009/2010 for the National Health Service (NHS) in England, published in December 2008 which introduced targets for outpatient activity. This set out a maximum wait of 13 weeks for an outpatient appointment and a minimum of 90% (admitted patients) and 95% (non-admitted patients) wait of no more than 18 weeks for treatment to be delivered from the time of general practitioner referral.¹ This has since been superseded by the Operating Framework for 2010/11, published in 2009, which has removed these targets²; however, it is clearly desirable to keep waiting times low.

Most recent hospital episode data for England 2008–2009 showed that ear, nose and throat (ENT) surgery recorded 2 654 146 outpatient consultations; of these, 1 125 550 were new and 1 524 969 follow-up appointments. This shows an increase of 451 610 outpatient appointments over 5 years, and this increased demand for limited services is a problem almost universal to health services across the globe (http://www.hesonline.nhs.uk/ [accessed 13 October 2010]). Use of outpatient services for otolaryngology is broadly similar across various countries; for instance, Scotland had 214 386 attendances in 2009, with 103 091 new appointments (www.isdscotland.org [accessed 05/01/2011]).

At a local level, the projected new patient referrals for the ENT department at the Newcastle-upon-Tyne Hospitals NHS Foundation Trust for the calendar year of 2010 exceeds 26 000, in addition to more than 30 000...
follow-ups. These numbers correspond to an increase of over 13,000 outpatient appointments over the last 5 years. While most consultants have specialist niche practice, the general workload generated by non-specialist outpatient referrals and operations is shared by all faculty and trainees, who also decide on follow-up appointments. Trainees see follow-up patients from all surgical firms, and this leads to a considerable variation in follow-up practices. It is widely recognised that trainees are more likely to bring patients back for follow-up appointments than consultants.3,4

Generating consensus on follow-up practices for routine cases will reduce variation in follow-up practices and provide guidelines for all practitioners, especially those who rotate through surgical firms. However, generating a consensus within any group can be fraught with problems arising from the dynamics of group interaction, where manipulation or coercion can cause participants to conform or adopt a certain viewpoint.5–7 This can make generation of an impartial decision, without any element of bias very difficult. To combat these problems, the Delphi technique was developed; this employs multiple iterations (rounds) designed to generate a consensus of opinion regarding a particular topic.8 During these iterations, the participants are able to anonymously re-evaluate their views in the light of others opinions, and this facilitates insightful decision-making.9 The process allows anonymous, non-biased consensus building within a group of experts and has been well validated for systematically assessing and organising expert opinion.9,10,11 At the end of the Delphi exercise, there may still be a significant spread in opinion; however, there is no pressure, real or perceived, to conform to another participant’s response, thus allowing for objective and impartial analysis and summarisation of the collected data.

The aims of this study were to (i) identify whether any consensus existed between the faculty members within the ENT department with respect to not following up patients in the context of some well-defined scenarios and (ii) assess whether highlighting this consensus will lead to changes in follow-up practice.

**Methods**

**Facilitating consensus**

The expert panel members for this exercise comprised of 11 consultants and two associate specialists based within the ENT department of Newcastle-upon-Tyne Hospitals NHS Foundation Trust. The Delphi exercise was carried out in three iterations. In round 1, an open-ended questionnaire was sent by email. Experts were asked to identify clinical scenarios where routine follow-up may not be required. This was supplemented by informal interviews. All the scenarios generated were categorised into lists of outpatient and postoperative scenarios in otology, rhinology and laryngology/head and neck surgery.

In round 2, the list of clinical scenarios was e-mailed to the all panel members, and each member asked to respond solely to the Delphi process co-ordinator (VP, who did not participate in the expert panel) to ensure that individual views were not circulated within the panel. They were asked to identify the appropriateness of not routinely following up clinical scenarios on a Likert scale ranging from 1 to 5, (1 = strong disagreement, 5 = strong agreement).

The mean Likert score from round 2 for all scenarios was calculated and circulated to all participants in round 3. The panelists were asked to again rate using the same Likert scale for each of the scenarios in the context of the mean opinion scores gathered in round 2.

These results were collated and used to identify clinical scenarios where consensus existed in not routinely following up patients. Consensus was defined as scenarios where the mean Likert score was greater or equal to 4. This roughly corresponds to clinical scenarios where ≥80% of the opinion is in favour of not following up these patients.

**Assessing practice change**

The results of the Delphi exercise were disseminated to all medical staff through a departmental meeting and posters placed in ENT clinics and theatres. Effects of this intervention were measured by comparing follow-up rates before and after the event. The list scenarios where consensus existed was categorised into either ‘outpatient’ or ‘postoperative’ follow-up. Outpatient scenarios were defined as those where diagnoses or interventions were performed as an outpatient with subsequent arrangements for follow-up being made in clinic. Postoperative scenarios were defined as those where outpatient follow-up was planned directly following the operation. Operative follow-up data were found using clinical coding correlating to the clinical scenarios. As outpatient clinics were not coded by complaint, a list of all consultant and registrar ENT clinics during the time period were collected. The electronic clinic letters were analysed to find cases that met the exact scenario definitions and follow-up data recorded, in addition to the grade of clinician making the decision. However, this was not performed for operative scenarios as most were performed under the care of a senior faculty member.

To allow for variability in incidence of presentation, we studied the follow-up practice over a period of 2 months for outpatient scenarios (pre-Delphi 01.11.2009 to 31.12.2009; post-Delphi 21.05.2010 to 20.07.2010) and over
5 months for operative scenarios (pre-Delphi 01.08.2009 to 31.12.2009; post-Delphi 25.03.2010 to 24.08.2010). We also limited the number of cases for each scenario to 40; once 40 cases had been found, we stopped collecting this data to avoid biasing the overall results towards more common scenarios. Presentations involving multiple complaints were also excluded to avoid skewing the results. We excluded from our study patients seen in casualty clinics as it was unclear who the decision-maker was.

**Ethical considerations**

The study is registered as an audit with the Newcastle upon Tyne Hospitals NHS Foundation Trust.

**Results**

**Consensus**

Of the 13 faculty members, 12 responded to rounds 1 and 2, and 11 responded to round 3, with a 3- to 4-week interval in between responses. The end of round 1 identified a total of 42 clinical scenarios. At the end of round 3, consensus on the follow-up practices was achieved in 18 clinical scenarios (see Table 1).

**Follow-up practice**

We reviewed outpatient and postoperative discharge letters to assess the practice before and after dissemination of the 18 consensus scenarios (see Table 1). Comparing the follow-up practices before and after the Delphi exercise (see Table 2), we identified a reduction in postoperative follow-up of 21% and a reduction in outpatient follow-up of 62%. Overall follow-up for all scenarios fell from 31% to 16% following dissemination of the results, giving a reduction of 48%.

When comparing consultant versus non-consultant follow-up rates for outpatient scenarios, we identified that prior to the Delphi exercise consultants followed up more of these scenarios (46%), compared to non-consultants (34%). However, after the Delphi exercise, this was reversed with the consultants following up 14% (70% reduction), whereas the non-consultant clinicians followed up 18% (47% reduction).

**Discussion**

**Synopsis of key findings**

This study shows that it is possible to achieve consensus on follow-up practices and successfully implement it in a unit with high annual turnover of cases. In our study, 18 scenarios were agreed as not needing routine follow-up. This was achieved independently and anonymously without the bias introduced by conventional decision-making tools.

We also found that this theoretical consensus, once circulated to relevant personnel, resulted in an actual change in practice with a 48% reduction in follow-up for the 18 scenarios examined. Within our group, consultants had a higher reduction in follow-up rates than non-consultant medical staff in the nine outpatient scenarios.

There are numerous factors involved in the decision-making process regarding follow-up practice. While we accept that the clinician’s judgement will always prevail and that each clinical scenario can be an exception, we propose that this consensus can help to allow clinicians to re-evaluate their own practice compared to the practice of their peers and provides guidance on follow-up practice to more junior staff.

**Strengths and weaknesses of the study**

We chose the Delphi technique as it is an anonymous process that eliminates external pressures, allowing non-biased consensus building amongst a group of experts. We believe that this group of experts will be a good representation of the ENT faculty at large for a number of reasons: as one of the largest ENT departments in the country, each has at least 10 years of experience in the speciality, and the practice of the faculty includes the full spectrum of ENT practice.

Care was taken to be very precise during data collection about the description of our scenarios to try to minimise variables that would affect the results. We also ensured that there was a reasonable spread of the various outpatient and postoperative scenarios, and specifically limited collection of common scenarios. Despite this, there was still a greater representation of certain scenarios compared to others, and this reflects the incidence of these conditions in the patient population.

One of the primary reasons for the success of the project in terms of change in practice is attributable to the consensus on practice changes coming from within the department. Hence, decisions to alter clinical practice were not forced upon the panel members, they decided on ‘gold-standards’ themselves with the subsequent implementation thereof. This may explain the higher percentage reduction in follow-up amongst consultants (who all sat on the panel) compared to non-consultants. While we acknowledge that there will always be a wide spec-
Table 1. The scenarios identified pre- and post-Delphi exercise and the follow-up practice change

<table>
<thead>
<tr>
<th>Location where follow-up decision made</th>
<th>Sub-specialty</th>
<th>Clinical scenario</th>
<th>Mean Likert score for not routinely following up scenario (1–5, 1 = disagree 5 = agree)</th>
<th>Respondents with Likert score 4 and 5 (%)</th>
<th>Patients followed up pre-Delphi exercise (%)</th>
<th>Patients followed up post-Delphi exercise (%)</th>
<th>Change in follow-up before and after Delphi exercise (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outpatient scenarios</td>
<td>Otology</td>
<td>Unilateral sensorineural hearing loss: MRI requested</td>
<td>4.5</td>
<td>100</td>
<td>22</td>
<td>10</td>
<td>−55</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Patients with hyperacusis: counselling provided</td>
<td>4.9</td>
<td>90.9</td>
<td>50</td>
<td>0</td>
<td>−100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Self-cleaning mastoid cavities: &gt;2 years after surgery, seen on &gt;3 occasions</td>
<td>4.9</td>
<td>90.9</td>
<td>66</td>
<td>33</td>
<td>−50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Patients with dizziness: no ENT cause, MRI normal</td>
<td>4.8</td>
<td>90.9</td>
<td>30</td>
<td>0</td>
<td>−100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BPPV: Epley manoeuvre refused</td>
<td>4.7</td>
<td>90.9</td>
<td>0</td>
<td>100</td>
<td>−</td>
</tr>
<tr>
<td></td>
<td>Rhinology</td>
<td>Epistaxis: AgNO₃ cauterity refused</td>
<td>4.1</td>
<td>100</td>
<td>71</td>
<td>33</td>
<td>−54</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Allergic rhinitis: sent for skin tests</td>
<td>4.1</td>
<td>72.7</td>
<td>84</td>
<td>20</td>
<td>−76</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Epistaxis: AgNO₃ cauterity done</td>
<td>4</td>
<td>72.7</td>
<td>100</td>
<td>0</td>
<td>−100</td>
</tr>
<tr>
<td></td>
<td>Head and neck</td>
<td>Globus sensation: patient is non-smoker with normal findings on flexible endoscopy</td>
<td>4.2</td>
<td>72.7</td>
<td>21</td>
<td>5</td>
<td>−76</td>
</tr>
<tr>
<td>Postoperative scenarios</td>
<td>Rhinology</td>
<td>Nasal bones fracture: successful manipulation</td>
<td>4.6</td>
<td>90.9</td>
<td>4</td>
<td>0</td>
<td>−100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Submucous diathermy of inferior turbinates</td>
<td>4.3</td>
<td>81.8</td>
<td>73</td>
<td>38</td>
<td>−47</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Revision nasal polypectomy for clinically benign polyps</td>
<td>4.2</td>
<td>72.7</td>
<td>40</td>
<td>33</td>
<td>−18</td>
</tr>
<tr>
<td></td>
<td>Head and neck</td>
<td>Nasal polypectomy for clinically benign polyps</td>
<td>4.1</td>
<td>63.6</td>
<td>37</td>
<td>30</td>
<td>−19</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tonsillectomy</td>
<td>5</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>−</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Normal pharyngoscopy</td>
<td>4.9</td>
<td>100</td>
<td>6</td>
<td>6</td>
<td>−</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Excision of a clinically benign mucosal lesion in the head and neck</td>
<td>4.5</td>
<td>90.9</td>
<td>28</td>
<td>16</td>
<td>−42</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Excision of clinically benign skin lump in the head and neck</td>
<td>4.5</td>
<td>90.9</td>
<td>10</td>
<td>20</td>
<td>+100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pharyngoscopy: low clinical suspicion of malignancy (non-smoker, &lt;40 years), biopsy done</td>
<td>4.4</td>
<td>90.9</td>
<td>—</td>
<td>0</td>
<td>—</td>
</tr>
</tbody>
</table>
trum of views regarding follow-up practices, this study demonstrates that overall the above process successfully encourages change in follow-up practice.

The information was gathered retrospectively from clinic and discharge letters that are all recorded on a central patient management system. Given the retrospective nature of the data collection, there is the risk that data may be missing or inaccurate. To try and minimise this risk, we aimed to collect large numbers of data.

In clinical practice, it will always be difficult to assess the driving forces behind a decision. In addition, while comparing the non-consultant grade against consultant practice, we based the decision to follow-up on who dictated the clinic letter. We appreciate that this may not always be an identification of the decision maker and that registrar practice may be influenced by their supervising consultant. While it is possible that a change in the registrar cohort (three trainees, all of whom have worked in the department before, but in different surgical firms) during the study may have had an influence on the outpatient follow-up practices, we judge this impact to be minimal.

Clinical applications of the study

The consensus generated by the faculty translated into practice change. One key reason for this may have been the involvement of all senior clinical staff (consultants/associate specialists) in round one and the majority of senior clinical staff until the conclusion of the Delphi exercise. However, some clinical staff did not respond to the later Delphi rounds, possibly due to resistance to the process. The junior staff were not involved in the process, leading to a reduced impact of the process on their follow-up practice. We appreciate that other factors could be responsible for this difference, including lack of confidence, less involvement in service management and knowledge of budget constraints.

We showed a reduction in follow-up rates following the Delphi process. It could potentially act as a basis for further similar exercises within the surgical field, for example introduction of new protocols, other changes in practice, recruitment and forward planning.

The promotion of the consensus lists encouraging practice change by staff should remain displayed within the department until the process is repeated. However, it is likely that because of staff changes and the Hawthorne effect (the process by which subjects change their behaviour in response to monitoring, then revert back to previous habits after monitoring stops), the impact of this process may decrease over time.12 We would argue however that as this consensus was generated by the faculty themselves, ideally practice change will become part of the departmental culture and continue.

Further analysis would also be beneficial in finding out how this change in practice by clinicians affects patient’s satisfaction as well as waiting times. While some patients would prefer to avoid unnecessary appointments, some may find this reassuring and this would need to be taken into account. Areas of concern could be post-procedure complications and ill health, and unmet information needs following the first and only consultation. Ways to counteract this could be to improve patient information delivered at the clinic visit/admission or make information accessible on the web or through a ‘hotline’. Another option may be to investigate other methods of follow-up such as nurse telephone consultations used in some departments and email contact. We have highlighted that the follow-up practice identified by the Delphi technique is meant as a guide only, and clinicians will take this into account when deciding on follow-up.

Comparison with other studies

As far as the authors are aware, this is the first application of the Delphi exercise within a surgical service to rationalise follow-up practices. The Delphi technique has previously been used to successfully facilitate consensus building amongst a group of experts within several medi-

---

Table 2. Mean Likert scale score and percentage agreement for postoperative and outpatient scenarios where consensus was reached. Also the percentage follow-up pre- and post-Delphi exercise with the percentage change

<table>
<thead>
<tr>
<th></th>
<th>Outpatient scenarios</th>
<th>Postoperative scenarios</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pre-Delphi exercise</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinic/discharge letters reviewed</td>
<td>6622</td>
<td>830</td>
<td>7452</td>
</tr>
<tr>
<td>Scenarios identified</td>
<td>164</td>
<td>170</td>
<td>334</td>
</tr>
<tr>
<td>Follow-up (%)</td>
<td>67 (40)</td>
<td>35 (21)</td>
<td>102 (31)</td>
</tr>
<tr>
<td>No follow-up (%)</td>
<td>97 (60)</td>
<td>135 (79)</td>
<td>232 (69)</td>
</tr>
<tr>
<td><strong>Post-Delphi exercise</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinic/discharge letters reviewed</td>
<td>7562</td>
<td>708</td>
<td>8270</td>
</tr>
<tr>
<td>Scenarios identified</td>
<td>105</td>
<td>148</td>
<td>253</td>
</tr>
<tr>
<td>Follow-up (%)</td>
<td>16 (15)</td>
<td>24 (16)</td>
<td>40 (16)</td>
</tr>
<tr>
<td>No follow-up (%)</td>
<td>89 (85)</td>
<td>124 (84)</td>
<td>213 (84)</td>
</tr>
<tr>
<td><strong>Change in practice pre- to post-Delphi exercise</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% reduction in follow-up</td>
<td>62</td>
<td>21</td>
<td>48</td>
</tr>
</tbody>
</table>
cal fields.\textsuperscript{12–16} Some of these experiences have been large Europe-wide projects.\textsuperscript{15,16} This further highlights the scope for applications of the Delphi technique that could be used for within surgery. As with all interventions of this nature, further analysis will be needed to see whether practice changes are sustained long term. It may also be possible to identify whether further changes in practice could be created with lower levels of consensus than used in this study to allow more changes to be made, in addition whether smaller less inclusive panels would be effective, or whether that would meet with more resistance.

**Conclusions**

With increased demands on health resources, in both the United Kingdom and worldwide, efforts must be made to rationalise resources. We demonstrate a Delphi-generated clinical consensus in opinion resulted in a reduction in outpatient follow-up. In practice, this allows improved resource allocation to new patients or patients that specifically require follow-up.

**Conflict of interest**

None to declare.

**References**


