Routine monitoring of all postoperative outcomes at one year: longitudinal study at the Royal National Throat, Nose and Ear Hospital

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The interest of providers, purchasers, politicians, and patients has focused sharply on outcome analysis in recent years,¹ but true "measurement" of outcome can be practised only on small subgroups of patients because of the problems inherent in running randomised controlled trials² and in interpreting the results of any less formal type of study.³ Simple outcome "monitoring"⁴ may provide a means of harnessing outcomes data on large groups of patients unsuitable for true outcome measurement. We undertook an intensive study of outcome monitoring to establish whether a useful gauge of subjective outcome could be obtained on the majority of a large heterogeneous group of surgical patients after an interval of one year.

Patients, methods, and results

From 9 February 1993 to 9 December 1993 all patients being entered on the waiting list for surgery at our hospital were asked by the surgeon in clinic to identify their primary surgical goal, such as "to improve breathing through the nose." For children (under 16 years) the goal was assigned by the parent. Goals were documented in the notes and on a clinical database which also recorded the procedure to be performed and the primary diagnosis, as well as the grades of surgeon recommending and performing the procedure, the consultant responsible for the case, and patients' characteristics. Where more than one procedure was to be performed, the procedure most relevant to achieving the primary goal was recorded first.

Goals were defined for 2021 surgical interventions (154 different single or multiple surgical procedures requiring a single general anaesthetic) on 1985 patients; 1109 (54.9%) procedures were performed on males and 912 (45.1%) on females, age range 0-84 (mean 27.2) years. One year after surgery the patients were sent a postal questionnaire asking, "Has this operation achieved your goal—yes or no?" This was followed by a second mail shot and a telephone call if required.

Responses were obtained relating to 78% of interventions (53% after the first mail shot, 19% after the second, and 6% after a single attempt at telephone contact). Seven patients who died during the study period were included with non-responders. Responses if given were generally clear except where they related to diagnostic procedures, such as endoscopy with biopsy or examination of a cavity: in many such cases patients reported being confused by the question and it was often necessary to refer to the case notes or the relevant surgeons before the response could be classified as positive or negative.

The crude "success rate" (the percentage of cases where the patient's goal was achieved) was 69% (1098/1582) overall for the study population. In the 1169 cases where the response was obtained after the first mailshot the success rate was 70%; where a second mail shot was required (327 cases) the rate was 68%, and where a response was obtained after telephone contact (86 cases) the rate was 61%. Table 1 shows success rates for patients undergoing different procedures; these or a comparison of success rates after the same procedure by different grades of surgeon or for different indications, may be used to identify pointers to more detailed study.

Table 1—Subjective "success" rates at one year (achievement of goal set by patient) for the 12 commonest procedures performed during the study period

Procedure	No performed (% "success")
Grommet insertion	376 (74)
Tonsillectomy	355 (82)
Adenotonsillectomy	248 (90)
Adenoidectomy	105 (76)
Septoplasty	104 (65)
Submucosal septal resection	97 (60)
Intranasal polypectomy	82 (86)
Submucosal turbinate diathermy	71 (44)
Myringoplasty	60 (60)
Middle meatal antrostomies	50 (48)
Antral washouts	45 (82)
Uvulopalatopharyngoplasty	37 (44)

Comment

The high proportion (78%) of responders in this study shows that at least a very simple protocol can be used to provide some useful gauge of subjective surgical outcome after most non-diagnostic surgical procedures. The extreme simplicity of the protocol might allow it to be incorporated into routine computerised clinical documentation processes. A slightly less simple protocol would allow use of an instrument such as a Likert scale (in which responses are framed in an "agree-disagree" continuum) to avoid confusion about partially effective procedures and allow further exploration of the possibility that non-responders to the mail shots may have lower success rates than responders.

The use of goals defined by patients rather than pre-set outcome measures simplifies the outcome monitoring process and widens its applicability, as there is a shortage of properly validated outcome measures³ for most surgical procedures. Validation of outcome measures can be labour intensive,⁵ particularly for the wide range of surgical procedures being examined in this study. Using a patient defined goal circumvents this problem, and where a suitable validated outcome measure exists for a particular group of patients and procedures, this can be used instead of a patient defined goal, provided that the standard letter sent to the patient after surgery is appropriately modified.

The crude success rates obtained from a study such as this clearly cannot be used as endpoints in themselves, as no attempt has been made to control or randomise, but where results are surprising they may be used as pointers to more detailed study designed to disentangle the relative influences of case selection for surgery, case mix, technical expertise and the merits or demerits of the procedures themselves.

Funding: North East Thames Regional Health Authority.

Conflict of interest: None.

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(Accepted 3 April 1996)

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BMJ 1996;313:403