EXECUTIVE SUMMARY

The data presented in this report relate to a randomised 10% sample of perioperative deaths occurring in 1998/99. This was intended to enable comparison to be made with the randomised 20% sample examined in 1990, almost ten years ago. It was proposed to look at the ways in which delivery of care to patients have altered and, most particularly, to highlight the issues where changes have been less than adequate and certainly the rate of change has been unacceptably slow. This is the second NCEPOD report to be published since the introduction of clinical governance, as described in 'The new NHS Modern Dependable' and 'A First Class Service', in which participation in the National Confidential Enquiries was seen as a mandatory requirement. It must be remembered, however, that the data presented in this report spanned the crossover from a system of voluntary to mandatory participation.

What then has been achieved over the intervening period? The medical profession has made considerable changes in order to improve the delivery of care to patients and many of the recommendations previously made have been addressed. For instance, consultant input is now very high (and has risen since 1990 for many specialties), both anaesthetists and surgeons have demonstrated a willingness to subspecialise within their own specialty, there are fewer instances of trainee grades operating inappropriately and critical care services have improved. All these changes in practice have taken place despite an increasing workload, due to a burgeoning number of unplanned emergencies and an increasingly older and sicker patient population.

If there is a single issue that has bedevilled the activities of NCEPOD throughout this period of almost 10 years, it has been that of clinicians' access to data from within the medical records departments of their hospitals. The treatment of notes of deceased patients remains a cause of concern since access to these records is essential if data submitted to NCEPOD is to be timely and meaningful.

There has been an increase in critical care facilities but this report demonstrates that 40% of hospitals from which deaths were reported still have no high dependency unit (HDU) facilities. NCEPOD has previously stressed the importance of HDU critical care facilities in the management of surgical patients. Why is it, therefore, that some hospitals have these facilities and others do not, yet both are undertaking similar complex cases? An HDU should now be at the top of the list of priorities in any hospital that does not already have one.

There is concern about the number of procedures being carried out by non-consultant career grade (NCCG) staff who may by definition not be in an educational environment. With the enormous rise in the number of NCCG appointments in comparison to those at consultant level, the potential for a person in these grades to be working independently has to be recognised and compensated for by an adequate increase in consultant staffing. There is concern that inadequately qualified, unsupervised NCCGs may simply have replaced the unsupervised junior doctors of previous reports.

1990

THEN

and

2000

NOW

The 2000 Report of the National Confidential Enquiry into Perioperative Deaths

SUMMARY OF THE REPORT PUBLISHED ON 21ST NOVEMBER 2000

NATIONAL CEPOD

Audit activities at local level appear to have moved in two directions. There has either been an increase in activity or, alternatively, audit activities have become unfocussed and have lost support. It is difficult to see why the audit of perioperative deaths has declined to the level that it has. The fact that as few as 13% of deaths may be audited in some specialties may be linked to the decrease in postmortem activity. The lack of systematic audit of so many of the deaths that occur in surgical and anaesthetic practice must be addressed. Clinical governance requires that audit of all activities on a daily basis should become a normal event. It is essential for all clinicians to take notice of this fundamental requirement.

There is recognition within the profession of the value of NCEPOD; their overall response has been one which demonstrates a very positive change in attitude and a recognition of responsibility and greater accountability for an individual's own activity. There is no doubt that expectations and further improvements in the delivery of patient care will all demand an increase in resource to support the clinicians. That resource takes the form of increases in workforce, facilities and finance. It is to be hoped that an NCEPOD report in a further ten years could show that there were no shortages of staff and resource, with improvement of quality of care the consequential outcome.

Data Collection

The data analysed in the 2000 Report relates to deaths between 1 April 1998 and 31 March 1999. A total of 19 832 deaths within 30 days of a surgical procedure were included in the general analysis (1997/98: 19 643 deaths). A 10% sample was randomly selected for detailed review.

KEY ISSUES

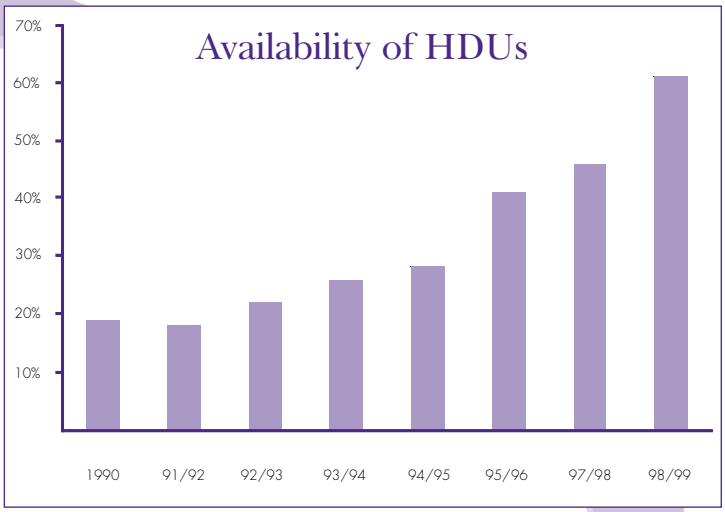
Clinical governance and the availability of medical records

To assist Trusts in fulfilling their clinical governance obligations, NCEPOD introduced new systems of quarterly feedback to Trusts in April 2000 indicating both reporting and returning rates. It is hoped that this will prompt Trusts to look carefully at their local systems to ensure that full reporting can occur. Local Reporters must be given support, in terms of time and resources, to enable them to report all relevant deaths in a complete and timely fashion.

Virtually every report published by NCEPOD has made reference to inadequacies in medical records departments; it is disappointing that this issue must be raised yet again in this year's report. The provision of adequate information systems to support clinical activity is a fundamental cornerstone of clinical governance that the NHS can no longer ignore. In this report, in 12% of cases where a questionnaire was not returned, the surgeon stated that the notes were lost or otherwise unavailable. Although this shows some improvement over the previous year, the situation for anaesthetists has remained unchanged with 25% of those not returning questionnaires indicating that the notes were missing. Many of these problems seem to occur when medical records are mislaid between review by one clinician and another. Trust should establish systems to ensure that 'NCEPOD case notes' are readily available for both surgeons and anaesthetists.

High dependency units

A high dependency unit (HDU) is an area for patients who require more intensive observation, treatment and nursing care than can be provided on a general ward. It would not normally accept patients requiring mechanical ventilation but could manage those receiving invasive monitoring.



The increasing availability of high dependency beds seen in successive NCEPOD reports might at first seem reassuring; however, our concern must surely be for the two patients out of every five, who die in hospital within 30 days of a surgical operation, and who do not have this facility available to them.

An HDU offers a level of care appropriate for many less fit patients undergoing major surgery. If this facility is not available, surgeons and anaesthetists must either request an intensive care bed for their patient, which is expensive and may turn out not to have been necessary, or must send the patient straight from the recovery unit to the ward. If the latter course is taken and problems arise on the ward, particularly if this results in the patient's death, criticism will be directed at those responsible for a decision which, with hindsight, seems cavalier. Such criticism should in reality relate to those who have failed to provide the appropriate critical care facilities rather than the clinicians responsible for the patient.

It is perhaps even less satisfactory when critical care facilities exist but are not available to the individual patient. Sixty-one patients (5% of those who died) could not be given appropriate high dependency or intensive care postoperatively as, although the facility existed in the hospital, there was no bed available. In this situation should the surgeon cancel the operation with the resultant distress to a sick patient awaiting a major operation or proceed in the hope that all will go well even without access to a critical care bed? The experience of taking a chance based on an over-optimistic assessment is all too likely to lead to a very defensive approach on subsequent occasions.

Non-consultant career grade doctors

Non-consultant career grade (NCCG) doctors make a considerable contribution to anaesthesia and surgery yet their career progression, professional development and educational opportunities are limited or non-existent. In this report NCCGs were shown to be the most senior anaesthetist for 10% of those patients who died; the figure for surgery was almost identical.

This randomised sample shows an increase in the number of cases reported to NCEPOD who were anaesthetised by NCCG anaesthetists when compared to 1990. This is particularly the case with staff grade doctors; in this sample 6% of anaesthetics were provided by a staff grade, 32% of whom held the Fellowship in Anaesthesia (FRCA). In 1990, 14 cases (<1%) were anaesthetised by a staff grade, three of whom had the FRCA. This marked difference between the two samples appears to indicate that NCCGs are now doing the work previously undertaken by senior house officers.

The increasing dependence on the contribution of these doctors is particularly evident for acute cases requiring anaesthesia. The majority of the operations managed by NCCG anaesthetists were classified as emergency (11%) or urgent (59%).

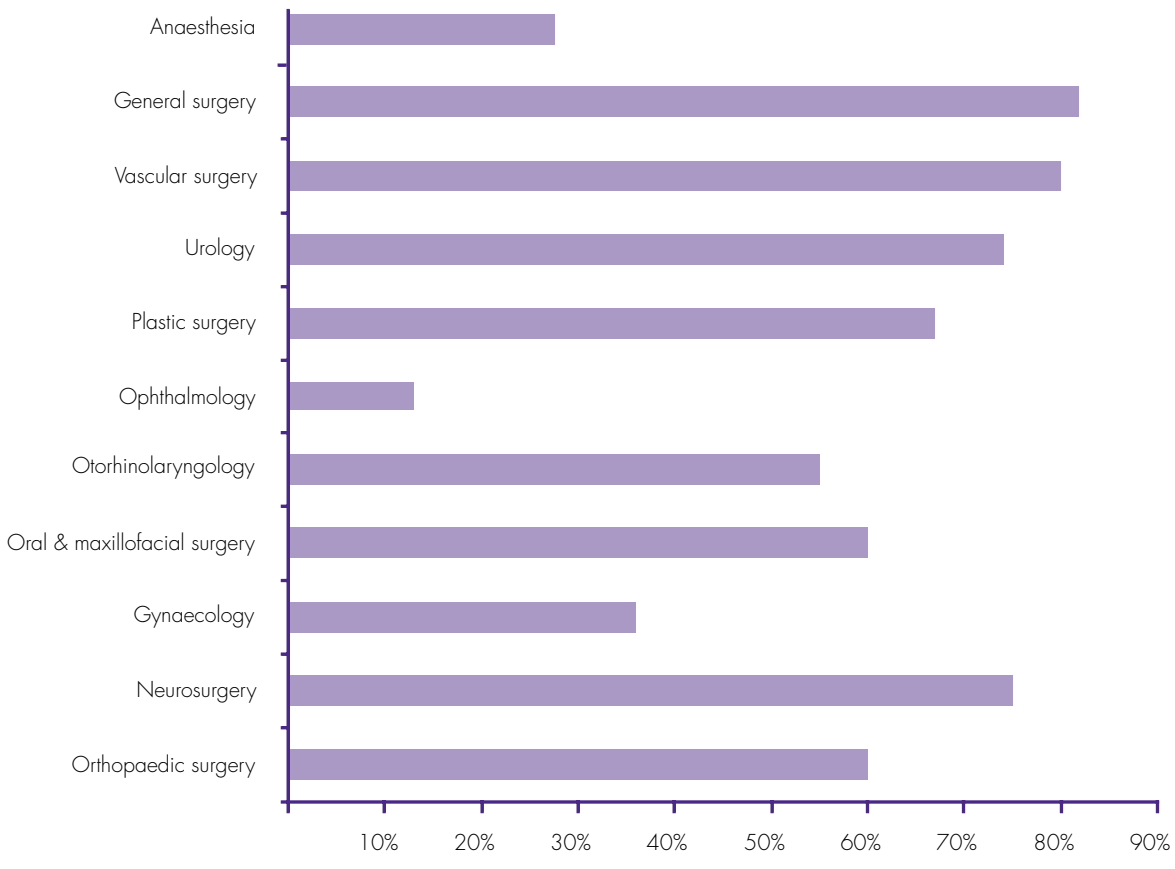
Are staff grade anaesthetists who do not hold the FRCA receiving adequate support and supervision? Of fifty patients anaesthetised by staff grade anaesthetists without the FRCA, 39 were graded ASA 3 or poorer; in 79% (31/39) of these cases a more senior anaesthetist was not consulted.

The lack of a higher diploma was particularly pronounced for doctors working in anaesthesia but was also seen in some surgical specialties (e.g. 39% of NCCGs in orthopaedic surgery had no relevant postgraduate qualification). If the service provision for anaesthesia and surgery, particularly for acute cases, is to be increasingly dependent on these doctors, then they must receive support from senior staff and the opportunities for career development that they require. A named consultant (and the duty consultant) should have responsibility for monitoring and supervising NCCG doctors. This role would be to ensure a good standard of clinical practice and also to support this important group of clinicians in their continuing education and professional development.

Audit

The professions have moved a long way (with administrative support) and now embrace audit within the activities of the working week; this is demonstrated in a considerable improvement in audit levels for most specialties since 1990. However, the application of audit to clinical practice varies widely amongst specialties; anaesthetists reviewed less than a third of deaths in departmental audit meetings and audit of deaths in the surgical specialties varied from 13% in ophthalmic surgery to 82% in general surgery. There are issues around these variations for individual specialties and departments to address and justify, especially in the light of clinical governance. No death following anaesthesia and a surgical procedure should be allowed to pass unremarked; all should be subject to audit.

Percentage of deaths considered at audit meetings



SELECTED SPECIFIC ISSUES

Consent

- Consent was frequently obtained by pre-registration house officers and senior house officers for complex surgical procedures, where death was anticipated.
- Clinicians must be aware of their legal obligations concerning consent.

General surgery

- There has been an increase in emergency admissions compared to 1990. This increase in unplanned activity requires careful analysis, planning and resourcing.
- There were a few cases where the surgeon was pressurised into operating or operated where there was nothing to be gained by surgery. If a surgeon firmly believes that surgery is contraindicated, he/she should decline to operate. A second opinion can always be sought.
- There is a widespread lack of proper facilities for emergency endoscopy. Endoscopy for gastrointestinal (GI) bleeding may be difficult. There needs to be experienced endoscopy cover 24 hours per day in hospitals that receive and treat patients with GI haemorrhage. This is not entirely a surgical problem and there is a need for collaboration with other disciplines, such as medical gastroenterology.
- Some examples of apparent breakdown in teamwork were identified. Surgeons and anaesthetists should ensure that good professional working relationships are maintained in the current climate of clinical practice.

Orthopaedic surgery

- In common with other surgical disciplines, a greater percentage of patients in this study were admitted as emergencies compared with the 1990 group; the reasons for this are not clear. Delays in treating trauma patients, for non-medical reasons, still occur despite an increase in the number of dedicated trauma lists.
- Shared care remains uncommon, despite the predominance of an elderly group of patients with significant coexisting medical problems. The specialty should have clear standards of care for the non-surgical management and rehabilitation of elderly trauma patients.
- Thromboembolic prophylaxis is always of concern in orthopaedic surgery and pulmonary emboli are not uncommon. It is therefore gratifying to note an increase in the number of patients receiving thromboembolic prophylaxis from 15% in 1990 to 74% in this sample.
- There has been a reduction in the number of operations performed by registrars since 1990. This has been matched by an increase in the number of operations performed by NCCGs, 39% of whom had no relevant postgraduate qualification.

Vascular surgery

- There is more specialisation compared to 1990 but operations by inappropriately specialised surgeons are still occurring, particularly in relation to abdominal aortic aneurysms. The percentage of emergency aneurysm surgery done by surgeons without a vascular interest is higher in this sample than was seen in 1990. This may be due to the need to maintain general on-call rotas in hospitals without adequate numbers of surgeons to cover specialist rotas.
- No patient should have an amputation without the benefit of a vascular surgical opinion.
- There is concern over delay in referral of vascular emergencies from physicians and lack of medical involvement in surgical audit. The consequences of delayed referral can be dire but medical specialists may not be aware of the outcome for patients if joint audit does not occur.

Pathology

- The postmortem rate has dropped from 41% in 1990 to 30% in 1998/99 with a disproportionate decrease in the percentage of hospital (consent) postmortems from 22% to 14%.
- Since 1990 there has been a great improvement in the content of postmortem reports.
- The Office of National Statistics' guidelines should be extended and modified to include more information about acceptable causes and modes of death.
- The proportion of limited postmortems may increase following recent recommendations on retention of organs and tissues after postmortem and the introduction of new postmortem consent forms.
- A similar proportion of clinicians are recording that they receive a copy of the postmortem report as in 1990, although fewer postmortems are attended by clinicians. Clinicians should always receive timely copies of postmortem reports.
- The patient's medical records should always be available to the pathologist at the time of postmortem.
- Weight and height should always be recorded as part of the external appearances and taken into consideration in assessing relative size of internal organs.

Recommendations

- Trusts and hospitals must establish systems to ensure that all patients' **medical records** are always available to clinicians. The inability to trace the notes, or parts thereof, of patients who have died, thus preventing surgeons and anaesthetists from completing returns to NCEPOD, is unacceptable.

- In two of every five hospitals in which patients die following surgery there is no **high dependency unit** (HDU). Although the provision of essential critical care facilities has increased greatly since 1990, the absence of an HDU in an acute surgical hospital is detrimental to patient care. It places unreasonable pressure on surgeons and anaesthetists in their decision making and impedes a flexible and graduated use of expensive critical care resources.

- The urgent and emergency workload in anaesthesia being undertaken by **non-consultant career grade (NCCG) doctors** is of considerable concern. These NCCGs are mainly staff grade anaesthetists, many of whom do not possess the Fellowship in Anaesthesia, and who are not receiving adequate consultant support. There are indications that the problem of unsupervised SHO anaesthetists, identified in previous NCEPOD reports, is being replaced by one of inadequately qualified, unsupervised NCCGs.

- Despite the resources that have flowed into **audit** activities over recent years, anaesthetists reviewed less than a third of perioperative deaths at local meetings; this percentage has remained unchanged since 1990. Surgeons overall now review three-quarters of deaths at local audit meetings, but there are wide variations between the surgical specialties, from a minimum of 13% to a maximum of 82%. It is sometimes stated that studying expected perioperative deaths, most often in old and very ill patients, contributes little. The experience of NCEPOD in examining these deaths nationally does not support this contention; there is much that can be learnt from their careful examination. It is a professional responsibility to examine one's practice and seek ways to improve surgical and anaesthetic management. Clinicians must strive to achieve an audit record for all deaths if professional education, credibility and public support are to be maintained.

WHAT IS NCEPOD?

The National Confidential Enquiry into Perioperative Deaths (NCEPOD) is a registered charity whose aim is to review clinical practice and identify potentially remediable factors in the practice of anaesthesia, surgery and other invasive medical procedures. The aim is to look at the quality of the delivery of care and not specifically the causation of death. The commentary and recommendations made in the annual Reports are based on peer review of the data, questionnaires and other records submitted to us. NCEPOD is not a research study based on differences against a control population and does not produce any kind of comparison between clinicians or hospitals.

NCEPOD is an independent body, to which a corporate commitment has been made by the Royal Colleges, Faculties and Associations related to its activity. Each of these bodies nominates members of the Steering Group.

Since 1 April 1999, NCEPOD has come under the aegis of the National Institute for Clinical Excellence (NICE), who now provide the majority of the organisation's funding. Financial support is also provided by the Welsh Office, Health and Social Services Executive (Northern Ireland), States of Guernsey Board of Health, States of Jersey, Department of Health and Social Security (Isle of Man) and many of the independent hospitals who also submit data to the Enquiry. NCEPOD does not cover Scotland, who conduct their own enquiry, the Scottish Audit of Surgical Mortality (SASM). The total annual cost of NCEPOD is approximately £500,000 (1999/2000).

NCEPOD collects basic details on all deaths occurring in hospital within 30 days of a surgical procedure. A designated Local Reporter within each hospital submits this data to the Enquiry. A surgical procedure is defined by NCEPOD as "any procedure carried out by a surgeon or gynaecologist, with or without an anaesthetist, involving local, regional or general anaesthesia or sedation". The Enquiry does not review maternal deaths, which come under the remit of the Confidential Enquiry into Maternal Deaths (CEMD).

The data collection year runs from 1 April to 31 March and each year a sample of the total number of reported deaths is selected for detailed review.

Other publications

In addition to this report, NCEPOD also published reports on Interventional Vascular and Neurovascular Radiology and Percutaneous Transluminal Coronary Angioplasty, in November 2000.

Future Reports

The next major NCEPOD report, to be published in 2001, will continue to review a random 10% sample of the total number of deaths reported but will also look specifically at those patients who had cancer at the time of their final operation.

The data currently being collected, which will form the basis of the main report in 2002, relates to deaths occurring on the day of, or first three days following, surgery.

Bodies nominating members of the Steering Group

- Association of Anaesthetists of Great Britain & Ireland
- Association of Surgeons of Great Britain & Ireland
- Faculty of Dental Surgery of the Royal College of Surgeons of England
- Faculty of Public Health Medicine of the Royal Colleges of Physicians of the UK
- Royal College of Anaesthetists
- Royal College of Obstetricians and Gynaecologists
- Royal College of Ophthalmologists
- Royal College of Pathologists
- Royal College of Physicians of London
- Royal College of Radiologists
- Royal College of Surgeons of England

Obtaining the full Report

- This report is available for downloading from the NCEPOD website at www.ncepod.org.uk.
- Alternatively please send a sterling cheque for £15 (inc. P&P) payable to NCEPOD at the address below.

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