Confidential enquiries are, nowadays, almost an established part of the hospital practice of medicine in the United Kingdom. The Confidential Enquiry into Maternal Deaths has provided information about the delivery of care in midwifery and obstetrics that has resulted in changes in all aspects of childbirth, not only in the United Kingdom, but also in the whole of the developed world over a period of about 40 years. A similar evolution is happening with the confidential enquiries about the delivery of anesthesia and surgery.

The Confidential Enquiry into Perioperative Deaths (CEPOD) started in the early 1980s as a development of a study of anaesthetic-related deaths by the Association of Anaesthetists of Great Britain and Ireland. Surgeons joined this enquiry, which was charity-funded. Its first report was immediately greeted by government's agreement to support financially a similar independent enquiry in England (including the Defence Medical Services). Wales, Northern Ireland, and The Channel Islands agreed soon afterwards. The National Confidential Enquiry into Perioperative Deaths (NCEPOD) was thus started. The independent (private) sector became involved as well, and the different groups contribute money proportionately. NCEPOD is independent of government and any individual specialty. It is a cooperative exercise, particularly between surgeons and anesthesiologists. The ultimate oversight of the enquiry is vested in a steering committee whose membership comprises representatives of all the relevant medical Royal Colleges and their faculties, and of the two founding associations (of anaesthetists and surgeons).

Each year, a different sample of all the patients who die in hospital within 30 days of a surgical operation is selected for detailed study. All material is pooled; individual hospitals cannot be identified. Reports of each year's work are published: children (1989) and a random selection (1990). A total of 15 specific operations were chosen for study in 1991-1992; in 1992-1993, deaths in patients aged 6 to 70 years were studied. The enquiries are about the quality of the delivery of anesthesia and surgery; they are not about causation or culpability. The occurrence of death is used merely to identify cases for study.

**METHOD**

Material is collected for study as follows. A local reporter for the Enquiry sends an outline of the identifying features about every patient who dies in hospital within 30 days of a surgical operation to the NCEPOD office. Questionnaires are then sent to the consultant clinicians involved in the care of these patients. The completed questionnaires are returned to the enquiry office. They are then stripped of any features that might reveal their source and are scrutinized by groups of specialists. The data are entered onto a computer, tabulated, and then these, together with the comments of the advisory groups on individual cases, form the basis of the reports. These advisory groups are composed of consultants in all specialties who are nominated by appropriate specialist organizations; the membership is changed each year.

**RESULTS**

NCEPOD and CEPOD have reviewed samples from a total of 42,000 deaths in hospital after surgery. The messages in the reports for clinicians, nurses, and managers are somewhat repetitive. They have indicated subjects that are appropriate for local consideration and have potential for change. The figures in this article refer to the most recent report (1993) about 15 specific operations, and are reported here as percentages of the appropriate totals.

**Consultant Responsibility**

All patients are admitted under the care of consultants. Trainee surgical staff do sometimes (about 10% of the sample) fail to inform their consultants about new admissions of patients or changes in the clinical state of existing patients. The same is true of trainee anaesthetists: 23% of the sample were anesthetized by quite junior trainees; 60% of these did not seek advice from senior colleagues. Both specialties must ensure that no inpatient is taken to the operating room for surgery
without the knowledge of the appropriate consultant. The impact of this recommendation on departmental staffing might be considerable, and there would probably have to be changes in the programs of work of individual clinicians.

**Out-of-Hours Operations**

There are still too many operations that take place out-of-hours. NCEPOD has, in all its reports, advocated the provision of an emergency operating room at all times during the day in order that this might be lessened. We estimate that one third of acute hospitals provide this facility. One immediate effect of an increase in consultant involvement in operations out-of-hours would be that the enthusiasm, for the organizational change required, would no longer be so half-hearted.

**Essential Services**

It is an outmoded policy to advise that operations may be undertaken in institutions that do not have proper arrangements for the care of patients after operation. Recovery rooms were available in 90% and high-dependency units were available in 18% of the institutions sampled. Intensive therapy units were available in 73% of those institutions sampled. These essential services should be staffed 24 hours a day: Not every hospital may need to have an intensive therapy unit and the other two essential services could be used as temporary holding areas.

**Autopsy**

Pathologists have, for some time, complained that the number of postmortem examinations has declined to a level that suggests that this useful educational mechanism has been lost. Hospital postmortems were done in 10% of the cases in the sample; coroners’ autopsies were performed in 34%. Quality of clinical service will be enhanced when this form of self-assessment by, and of, clinicians is again part of the everyday life of a hospital.

**Locum Tenens**

Eight percent of the sample cases were anesthetized by locums. The need for temporary appointments is recognized; but, the dependence of employers on individuals who are prepared to undertake short periods of work seems to be greater than is justified. It has become clear that too many of these doctors are appointed despite the absence of appropriate current experience, and they have to take responsibility for problems with which they are not familiar. Anesthesiologists often work by themselves, without medical assistance (57% of the sample); 9% of these solo anesthesiologists were also locums.

**Records**

The task for purchasers is to select providers who will deliver appropriate standards of care for their populations. The choices cannot be robust unless the data on which they are based are sound: It is obvious that the clinical records need to be reliable. It is recognized that the system for contracts is weakest at this point and that considerable investment is required to improve matters in order for the new arrangements for management in the United Kingdom to work. Purchasers can seek reassurance that the providers of their choice can give them the data to validate statements of their ability to meet demands. It is apparent that staffs of medical records departments are overstretched everywhere and need more support.

**Instrumental Monitoring**

The use of monitoring devices has increased considerably since these reports began: 95% of the patients in the sample had, for instance, a pulse oximeter attached during the operation. However, 11% of the patients in the sample had no instrumental monitors attached at, or just before, induction of anesthesia.

**Critical Events**

A total of 25% of the sample population had some critical clinical event during the operation. When critical clinical events happened, death was more likely to occur during the first 24 hr postoperatively.

**Future Trends**

It must be recalled that most of these patients were elderly (65% over 70 years of age) and most had other diseases from which they were already dying. There are many outstanding clinical events revealed in these enquiries. How can the toll from ischemic heart disease or pulmonary thromboembolism, after deep vein thrombosis, be reduced? How should effective pain relief, and even palliation, in lethal conditions be provided? The question also needs to be asked about the current place of diagnostic laparotomy in an era of modern imaging techniques, fine bore needle biopsy, and rapid cytology. Surgeons need to consider the needs of the whole patient, particularly when cardiac failure, renal failure, or diabetes are also present. Too many elderly patients die in pulmonary edema 24 hr after gross fluid overload (e.g., 12 L intravenously during and immediately after surgery, with no output). These patients