Appendix A - Glossary

Definition of the 1997/98 sample groups

Children: those aged less than 16 years, i.e. until the day preceding the 16th birthday, at the time of death.

The Elderly: those aged 90 years and over, i.e. from the day of the 90th birthday, at the time of death.

Admission category (NCEPOD definitions)

Elective: at a time agreed between the patient and the surgical service.

Urgent: within 48 hours of referral/consultation.

Emergency: immediately following referral/ consultation, when admission is unpredictable and at short notice because of clinical need.

American Society of Anesthesiologists (ASA) classification of physical status

ASA 1: a normal healthy patient.

ASA 2: a patient with mild systemic disease.

ASA 3: a patient with severe systemic disease that limits activity but is not incapacitating.

ASA 4: a patient with incapacitating systemic disease that is a constant threat to life.

ASA 5: a moribund patient who is not expected to survive for 24 hours with or without an operation.

Classification of operation (NCEPOD definitions)

Emergency: Immediate life-saving operation, resuscitation simultaneous with surgical treatment (e.g. trauma, ruptured aortic aneurysm). Operation usually within one hour.

Urgent: Operation as soon as possible after resuscitation (e.g. irreducible hernia, intussusception, oesophageal atresia, intestinal obstruction, major fractures). Operation within 24 hours.

Scheduled: An early operation but not immediately life-saving (e.g. malignancy). Operation usually within three weeks.

Elective: Operation at a time to suit both patient and surgeon (e.g. cholecystectomy, joint replacement).

Recovery and special care areas (Association of Anaesthetists of Great Britain and Ireland definitions)

High dependency unit: 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.

Intensive care unit: An intensive care unit (ICU) is an area to which patients are admitted for treatment of actual or impending organ failure, especially when mechanical ventilation is necessary.

Recovery area: A recovery area is an area to which patients are admitted from an operating theatre, and where they remain until consciousness has been regained, respiration and circulation are stable and postoperative analgesia is established.

Appendix B - Abbreviations

A&E ... Accident & Emergency
AAA ... Abdominal aortic aneurysm
ACE ... Angiotensin-converting enzyme
AF ... Atrial fibrillation
AP ... Anteroposterior
APLS ... Advanced Paediatric Life Support
AQ ... Anaesthetic questionnaire
ARDS ... Adult respiratory distress syndrome
ASA ... American Society of Anesthesiologists
ATLS ... Advanced Trauma Life Support
BAPS ... British Association of Paediatric Surgeons
BK ... Below knee
BP ... Blood pressure
CCF ... Congestive cardiac failure
CCST ... Certificate of Completion of Specialist Training
CESDI ... Confidential Enquiry into Stillbirths and Deaths in Infancy
CHI ... Commission for Health Improvement
CPAP ... Continuous positive airway pressure
CT ... Computerised tomography
CVA ... Cerebrovascular accident
CVP ... Central venous pressure
DGH ... District general hospital
DIC ... Disseminated intravascular coagulopathy
DU ... Duodenal ulcer
DVT ... Deep vein thrombosis
ECG ... Electrocardiogram
ELBW ... Extremely low birthweight
ENT ... Ear nose and throat
ERCP ... Endoscopic retrograde cholangiopancreatography
EUA ... Examination under anaesthesia
GA ... General anaesthesia
GCS ... Glasgow coma score
GI ... Gastrointestinal
GIT ... Gastrointestinal tract
GP ... General practitioner
HDU ... High dependency unit
ICP ... Intracranial pressure
ICU ... Intensive care unit
IHD ... Ischaemic heart disease
IM ... Intramuscular
IMV ... Intermittent mandatory ventilation
IPPV ... Intermittent positive pressure ventilation
IV ... Intravenous
LA ... Local anaesthesia
LAS ... Locum appointment, service
LAT ... Locum appointment, training
LIF ... Left iliac fossa
LMA ... Laryngeal mask airway
LVF ... Left ventricular failure
MI ... Myocardial infarction
MRI ... Magnetic resonance imaging
NCCG ... Non-consultant career grade
NEC ... Necrotising enterocolitis
NG ... Nasogastric
NHS ... National Health Service
NICE ... National Institute for Clinical Excellence
NICU ... Neonatal intensive care unit
NSAID ... Non-steroidal anti-inflammatory drug
ODP ... Operating department practitioner
OGD ... Oesophagogastroduodenoscopy
OPCS ... Office of Population Censuses and Surveys
PCA ... Patient controlled analgesia
PD ... Peritoneal dialysis
PEG ... Percutaneous endoscopic gastrostomy
PEP ... Pulmonary embolism prevention
PICU ... Paediatric intensive care unit
PM ... Postmortem
POSSUM ... Physiological and operative severity score for enumeration of mortality and morbidity
P-POSSUM ... Portsmouth predictor equation
RCA ... Royal College of Anaesthetists
RTA ... Road traffic accident
SASM ... Scottish Audit of Surgical Mortality
SC ... Subcutaneous
SCBU ... Special care baby unit
SHO 1,2 ... Senior house officer, year 1 or 2
SpR 1,2,3,4 ... Specialist registrar, year 1, 2, 3 or 4
SQ ... Surgical questionnaire
TPN ... Total parenteral nutrition
TPR ... Temperature pulse and respiration
TURBT ... Transurethral resection of bladder tumour
TURP ... Transurethral resection of prostate
VLBW ... Very low birthweight
WCC ... White cell count

Appendix C - NCEPOD Corporate structure

The National Confidential Enquiry into Perioperative Deaths (NCEPOD) is an independent body to which a corporate commitment has been made by the Associations, Colleges and Faculties related to its areas of activity. Each of these bodies nominates members of the Steering Group.

Steering Group

(as at 1 October 1999)

Chairman

Mr John Ll Williams

Members

Mrs M Beck	*(Royal College of Ophthalmologists)*
Dr J F Dyet	*(Royal College of Radiologists)*
Dr H H Gray	*(Royal College of Physicians of London)*
Dr P Kishore	*(Faculty of Public Health Medicine)*
Mr G T Layer	*(Association of Surgeons of Great Britain and Ireland)*
Professor V J Lund	*(Royal College of Surgeons of England)*
Dr J M Millar	*(Royal College of Anaesthetists)*
Dr A J Mortimer	*(Royal College of Anaesthetists)*
Mr J H Shepherd	*(Royal College of Obstetricians and Gynaecologists)*
Dr P J Simpson	*(Royal College of Anaesthetists)*
Mr M F Sullivan	*(Royal College of Surgeons of England)*
Professor P G Toner	*(Royal College of Pathologists)*
Professor T Treasure	*(Royal College of Surgeons of England)*
Dr D J Wilkinson	*(Association of Anaesthetists of Great Britain and Ireland)*
Mr J Ll Williams	*(Faculty of Dental Surgery, Royal College of Surgeons of England)*

Observers

Dr V Chishty	*(Department of Health - England)*
Mr R Jones	*(Institute of Health Services Management)*
Dr P A Knapman	*(Coroners' Society of England and Wales)*

NCEPOD is a company limited by guarantee, and a registered charity, managed by Trustees.

Trustees

Chairman	Mr J Ll Williams
Treasurer	Dr J N Lunn
	Dr J Lumley
	Mr M F Sullivan

Clinical Coordinators

The Steering Group appoint the Principal Clinical Coordinators for a defined tenure. The Principal Clinical Coordinators lead the review of the data relating to the annual sample, advise the Steering Group and write the reports. They may also from time to time appoint Clinical Coordinators, who must be engaged in active academic/clinical practice (in the NHS) during the full term of office.

Principal Clinical Coordinators

Anaesthesia	Dr G S Ingram
Surgery	Mr R W Hoile

Clinical Coordinators

Anaesthesia	Dr A J G Gray
	Dr K M Sherry
Surgery	Mr K G Callum
	Mr I C Martin

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BMI Healthcare
BUPA
Community Hospitals Group
Nuffield Hospitals
PPP/Columbia
Benenden Hospital
King Edward VII Hospital, Midhurst
St Martin's Hospitals
The Heart Hospital
The London Clinic

This funding covers the total cost of the Enquiry, including administrative salaries and reimbursements for Clinical Coordinators, office accommodation charges, computer and other equipment as well as travelling and other expenses for the Coordinators, Steering Group and advisory groups.

Appendix D - Data collection and review methods

The National Confidential Enquiry into Perioperative Deaths (NCEPOD) reviews clinical practice and aims to identify remediable factors in the practice of anaesthesia, all types of surgery and other invasive procedures. The Enquiry considers the quality of the delivery of care and not specifically causation of death. The commentary in the reports is based on peer review of the data, questionnaires and notes submitted; it is not a research study based on differences against a control population, and does not attempt to produce any kind of comparison between clinicians or hospitals.

Scope

All National Health Service and Defence Secondary Care Agency hospitals in England, Wales and Northern Ireland, and public hospitals in Guernsey, Jersey and the Isle of Man are included in the Enquiry, as well as many hospitals in the independent healthcare sector.

Reporting of deaths

NCEPOD collects basic details on all deaths in hospital within 30 days of a surgical procedure, through a system of local reporting. The Local Reporters (Appendix E) in each hospital are often consultant clinicians, but this role is increasingly being taken on by information and clinical audit departments who are able to provide the data from hospital information systems. When incomplete information is received, the NCEPOD administrative staff contact the appropriate medical records or information officer, secretarial or clinical audit staff.

Deaths of patients in hospital within 30 days of a surgical procedure (excluding maternal deaths) are included. If Local Reporters are aware of postoperative deaths at home they also report them. 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*".

Local Reporters provide the following information:

- Name of Trust/hospital
- Sex/hospital number/NHS number of patient
- Name of hospital in which the death occurred (and hospital where surgery took place, if different)
- Dates of birth, final operation and death
- Surgical procedure performed
- Name of consultant surgeon
- Name of anaesthetist

Sample for more detailed review

The data collection year runs from 1 April to 31 March. Each year, a sample of the reported deaths is reviewed in more detail. The sample selection varies for each data collection year, and is determined by the NCEPOD Steering Group (see Appendix C).

NCEPOD may, on occasion, collect data about patients who have survived more than 30 days after a procedure. These data are used for comparison with the data about deaths, or to review a specific aspect of clinical practice. Data from other sources may also be used.

The perioperative deaths which fell within the sample groups for 1997/98 were those where the patient was aged under 16 years, or 90 years and over, at the time of death.

For each sample case, questionnaires were sent to the consultant surgeon or gynaecologist and consultant anaesthetist. These questionnaires were identified only by a number, allocated in the NCEPOD office. Copies of operation notes, anaesthetic records, fluid balance charts and postmortem reports were also requested. Surgical questionnaires were sent directly to the consultant surgeon or gynaecologist under whose care the patient was at the time of the final operation before death. When the Local Reporter had been able to identify the relevant consultant anaesthetist, the anaesthetic questionnaire was sent directly to him or her. However, in many cases this was not possible, and the local tutor of the Royal College of Anaesthetists was asked to name a consultant to whom the questionnaire should be sent. Copies of the questionnaires used in 1997/98 are available from the NCEPOD office on request.

Consultants

NCEPOD holds a database, regularly updated, of all consultant anaesthetists, gynaecologists and surgeons in England, Wales and Northern Ireland.

Analysis and review of data

The NCEPOD administrative staff manage the collection, recording and analysis of data. The data are aggregated to produce the tables and information in the reports; further unpublished aggregated data is available from the NCEPOD office on request. All data are aggregated to regional or national level only, so that individual Trusts and hospitals cannot be identified.

Advisory groups

The NCEPOD Clinical Coordinators (see Appendix C), together with the advisory groups for anaesthesia and surgery, review the completed questionnaires and the aggregated data. The members of the advisory groups are drawn from hospitals in England, Wales and Northern Ireland. The advisory group in pathology reviews postmortem data from the surgical questionnaires as well as copies of postmortem reports.

Production of the report

The advisory groups comment on the overall quality of care within their specialty and on any particular issues or individual cases which merit attention. These comments form the basis for the published report, which is prepared by the Coordinators, with contributions from the advisors. The report is reviewed and agreed by the NCEPOD Steering Group prior to publication.

Confidentiality

NCEPOD is registered with the Data Protection Registrar and abides by the Data Protection Principles. All reporting forms, questionnaires and other paper records relating to the sample are shredded once an individual report is ready for publication. Similarly, all patient-identifiable data are removed from the computer database.

Before review of questionnaires by the Clinical Coordinators or any of the advisors, all identification is removed from the questionnaires and accompanying papers. The source of the information is not revealed to any of the Coordinators or advisors.