THE 2003 REPORT OF THE NATIONAL CONFIDENTIAL ENQUIRY INTO PERIOPERATIVE DEATHS

Who Operates When? (WOW I) was published by NCEPOD in 1997. The report defined patterns of surgical activity, placing out of hours activity in perspective.

Compiled by:

M Cullinane PhD (Project Manager)

A J G Gray MB BChir FRCA (Lead Clinical Co-ordinator)

C M K Hargraves BSc RGN DipHSM MBA (Chief Executive)

M Lansdown MCh FRCS (Clinical Co-ordinator)

I C Martin LLM FRCS FDSRCS (Clinical Co-ordinator)

M Schubert MSc (Clinical Researcher)

Published 20 November 2003 by the National Confidential Enquiry into Perioperative Deaths

Epworth House, 25 City Rd, London, EC1Y 1AA

Tel: (020) 7920 0999
Fax: (020) 7920 0997
Email: **info@ncepod.org.uk**
Website: **www.ncepod.org.uk**

Requests for further information should be addressed to the chief executive

ISBN 0-9539240-2-5

A company limited by guarantee - Company number 3019382

Registered charity number 1075588

This report is printed on paper produced from wood pulp originating from managed sustainable plantations and is chlorine-free, 100% recyclable and biodegradable.

Additional information

This report is available for downloading from the NCEPOD website at **www.ncepod.org.uk**

Copies can also be purchased from the NCEPOD office.

The analysis of data from the questionnaires is not included in full in this report. A supplement containing additional data is available free of charge from the NCEPOD office or on the website.

Design and production by Interface, Bristol. Telephone 0117 923 2235

CONTENTS

ACKNOWLEDGEMENTS

This is the fifteenth report published by the National Confidential Enquiry into Perioperative Deaths and, as in previous years, could not have been achieved without the support and co-operation of a wide range of individuals and organisations. Our particular thanks go to the following:

- **The local reporters and contacts for this particular study, whose names are listed in Appendix F.**
- **All those surgeons and anaesthetists who contributed to the Enquiry by completing questionnaires.**
- **The advisors whose names are listed overleaf.**
- **The organisations whose names are listed in Appendix E, who provide the funding to cover the cost of the Enquiry.**

The steering group, clinical co-ordinators and chief executive would like to record their appreciation of the hard work of the NCEPOD staff: Malyun Ali, Philip Brown, Marisa Cullinane, Steven Dowling, Jennifer Drummond, Dolores Jarman and Michelle Schubert.

This work was undertaken by NCEPOD, which received funding from the National Institute for Clinical Excellence. The views expressed in this publication are those of the authors and not necessarily those of the Institute.

ADVISORS

JS Albert *Consultant Trauma Surgeon*	Norfolk & Norwich University Hospital NHS Trust
S Arnold *Site Co-ordinator*	Addenbrooke's NHS Trust
R Banim *SpR 3+ Orthopaedic Surgeon*	Robert Jones/Agnes Hunt Orthopaedic Hospital NHS Trust
C Barton *Clinical Research Fellow in Orthopaedics*	University Hospitals Coventry and Warwickshire NHS Trust
MJ Bell *Consultant Orthopaedic Surgeon*	Sheffield Children's Hospital NHS Trust
IP Campbell *Deputy Chief Executive*	Bedford Hospital NHS Trust
A Choudhary *Associate Specialist in Orthopaedics*	Doncaster and Bassetlaw Hospitals NHS Trust
E Clarke *Group Manager (Surgery)*	University Hospital Birmingham NHS Trust
RP Cole *Consultant Plastic Surgeon*	Salisbury Health Care NHS Trust
E Cuisick *Consultant Paediatric Surgeon*	United Bristol Healthcare NHS Trust
A Curry *SHO Anaesthetist*	Norfolk & Norwich University Hospital NHS Trust
PMPD Fernando *NCCG Anaesthetist*	King's Lynn & Wisbech Hospitals NHS Trust
AS Garden *Director of Medical Studies*	The University of Liverpool

P Gishen *Consultant Radiologist* — Hammersmith Hospitals NHS Trust

J D Green *Consultant Anaesthetist* — City Hospitals Sunderland NHS Trust

D Harrington *SpR 3+ Gynaecologist* — Oxford Radcliffe Hospital NHS Trust

PB Harvey *Consultant Anaesthetist* — Plymouth Hospitals NHS Trust

EF Hoyle *Senior Nurse, Surgery* — The Royal Bournemouth and Christchurch Hospitals NHS Trust

PAE Hurst *Consultant Surgeon* — Brighton and Sussex University Hospitals NHS Trust

R Jasinghe *NCCG General Surgeon* — University Hospital Birmingham NHS Trust

S Jones *Quality Manager* — HCA International

K Kelly *NCCG Anaesthetist* — Altnagelvin Hospitals Health & Social Services Trust

J Kendall *SpR 3+ Anaesthetist* — Royal Liverpool Children's NHS Trust

J Lockie *Consultant Anaesthetist* — University College London Hospitals NHS Trust

S Mackins *SHO Anaesthetist* — Swansea NHS Trust

GF Nash *SpR 3+ General Surgeon* — North West London Hospitals NHS Trust

FP Nath *Consultant Neurosurgeon* — South Tees Hospitals NHS Trust

DJ Niblett *Consultant Anaesthetist* — Bedford Hospital NHS Trust

S Nicholson *Consultant Breast Surgeon* — York Health Services NHS Trust

CN Penfold *Consultant Oral/Facial Head and Neck Surgeon* — Conwy & Denbighshire NHS Trust

R Persad *Consultant Urologist* — United Bristol Healthcare NHS Trust

J Radcliffe *Consultant Anaesthetist* — University College London Hospitals NHS Trust

S Sangera *SpR 3+ Anaesthetist* — Sheffield Teaching Hospitals NHS Trust

A Seymour *Chairman* — Patient Liaison Group, Royal College of Anaesthetists

M Sinclair *Consultant Anaesthetist* — Oxford Radcliffe Hospitals NHS Trust

G Trotter *Consultant General Surgeon* — Maidstone and Tunbridge Wells NHS Trust

K Weightman *SHO General Surgeon* — The Medway NHS Trust

M Wilson *Theatre Manager* — Birmingham Heartlands & Solihull NHS Trust

FOREWORD

NCEPOD operates under the umbrella of the National Institute of Clinical Excellence (NICE) as an independent confidential enquiry, whose main aim is to improve the quality and safety of patient care. Evidence is drawn from all sections of hospital activity in England and Wales, both NHS and private and we are very grateful to all those who take part, both as assessors, local reporters and as recipients of individual case reporting forms. I would also like to express my sincere thanks to all the permanent staff of NCEPOD for the enormous amount of work and enthusiasm which they put into the production of our reports and without which we could not hope to create such detailed analysis of, and comment upon, clinically related hospital activity.

The first 'Who Operates When?' (WOW I) report was published in 1997 and considerable changes have occurred in the staffing and surgical activity of hospitals since that time. The introduction of the specialist registrar grade under the Calman reforms and the increase in sub-speciality training has meant that many trainees feel less well prepared to take on the general on-call responsibility of a consultant appointment than they did previously. The 'New Deal' on junior doctors hours, which was finally fully implemented in August 2003, has reduced the time available for training still further. In order to achieve 'New Deal' compliance, almost all surgical and anaesthetic trainees are working shifts, either partial or full, which disrupts training and reduces continuity of care for patients.

Consultants are spending more time undertaking emergency and out of hours work for a number of reasons, so that the frequency with which they work in the evenings and at night has doubled since WOW I. An overall increase in consultant and non-consultant career grade (NCCG / SAS) numbers has meant that it is now possible for many hospitals to run a service where the on-call team has no responsibility for elective cases or out-patient clinics. Designated emergency (NCEPOD) theatres are available on a 24 hour, 7 day per week basis in many hospitals, allowing critically ill patients to undergo surgery without undue delay.

Nevertheless, the direct involvement of consultants in out of hours care still seems to be related more to the size of hospital and the number of available

trainees, than to a clear strategy to optimise patient care throughout the 24 hour day. While large hospitals utilise trainees to deliver the majority of out of hours work, and medium sized ones employ NCCG staff, in the smaller hospitals, direct patient care is provided by consultants. Perhaps, in the interests of quality of care, the latter model should be used more widely, but if this is the case, then appropriate rest and time off must be provided for consultants in the same way as for trainees. At present, unlike trainees, consultants do not work shifts and, as an ironical result, are often far more fatigued than their junior colleagues whom they are relieving.

This report again reinforces the need for sufficiently robust information and data collection systems in every Trust. Although this is often believed to be primarily necessary for producing accurate activity data, it is becoming increasingly important in clinical governance, risk management and other indices of morbidity and mortality. The frequent criticism from clinicians is that data only flows in one direction and that they can never extract data for critical evaluation of their own practice. Since the key to accurate data entry is to enable the contributors to use it to the benefit of their clinical practice, system design should allow this to be as easy as the production of activity data.

We hope that the advent of Strategic Health Authorities will facilitate a number of the recommendations in this year's report, particularly those relating to operational issues around theatre usage. The constraints which exist in almost every Trust, around the availability of theatre space and critical care facilities has to be addressed across regional if not national boundaries. This is of particular importance in super-speciality areas such as cardiac, neuro-, vascular and paediatric surgery and, of course involves sufficient numbers of suitably trained medical and nursing staff as much as buildings and equipment. Organisational issues around efficient theatre usage are also highlighted as meriting special consideration.

Many of the issues highlighted in this report produce an interesting dilemma. While direct consultant involvement in patient care has increased to the benefit of patients, trainee involvement has decreased and the cross-cover, which inevitably occurs with shift working, reduces continuity of patient care and opportunities for training. Although this report seeks to examine the standard of surgical and anaesthetic care both inside and outside normal daytime hours, the knock-on effects of this on the training of tomorrow's consultant surgeons and anaesthetists should not be underestimated.

Dr Peter Simpson

Chairman NCEPOD

INTRODUCTION

At the end of the foreword to the 1997 NCEPOD report entitled 'Who Operates When?' Professor Blandy (then Chairman of NCEPOD) and Professor Tindall (then vice-Chairman of NCEPOD) laid down a challenge that the study should be repeated in five years' time. This report details the results of the repeated study. The reasons that were suggested for a possible repeat of the study were to see what changes there might be as a result of the Calman reforms, the introduction of shorter working hours for junior doctors and the promised increase in consultant numbers.

The task of collecting data on all operations performed in a seven day period was daunting for NCEPOD, but it was hoped that the majority of hospitals would be able to provide the information in electronic format to limit the amount of manual processing that would be required. However, only 34% of hospitals were able to provide the information in a spreadsheet format, which seems symptomatic of a problem that NCEPOD raises year on year – the need for better hospital information systems. Information management in hospitals has a long way to progress and this is highlighted throughout the report by the extent of clearly inaccurate or missing data.

Whilst accepting that surgical practice has changed in the intervening years and therefore definitions of resources and cases have been amended, it was felt important to try and maintain the definitions used in 1997 in order to determine how much the pattern of operating has altered. Early on in this report, a comparison of the key findings is shown. However, throughout the main body of the report, revised definitions have been used to give more detailed information. Detailed explanations of the definitions are provided in the glossary (Appendix B) but the key ones are shown below:

'Out of hours' – 18:00 - 07:59 weekdays and all day at weekends

'Night-time operating' – 00:00 - 07:59 every day.

To help the staff of NCEPOD distil the key findings from the wealth of data collected, advisors were selected from nominations by Royal Medical Colleges, associations and other connected

organisations. Two meetings were held which were audio-recorded. The quotations contained within this report are from these meetings unless otherwise stated. The advisors approached the task with energy and enthusiasm considering the amount of data that they needed to digest and they were soon able to distil the definitive points which directed the NCEPOD staff to provide further analysis or to stop pursuing a particular route of enquiry.

It was also useful during the course of this study to forge links with the NHS Modernisation Agency team who were working on improving operating theatre performance [1] and the Audit Commission who were also undertaking a review into the utilisation of operating theatres [2]. Although we are the last of these agencies to report, it is interesting to note that similar issues have arisen in all three reports especially in the area of information systems, data collection and audit; areas vital if hospitals are to understand the pattern of working in their operating theatres.

NCEPOD has been noted for collecting details of deaths within 30 days of a surgical procedure where that procedure has been performed by a surgeon or gynaecologist and this happened again in 2001/02 (Appendix A).

We continue to be concerned about the apparent differences in data, as reported to NCEPOD and to the Department of Health (DoH) in the form of Hospital Episode Statistics (HES), and it is hoped that in the near future a detailed comparative study will be undertaken to review a number of Trusts' returns to both organisations and to attempt to understand why discrepancies occur.

Despite the requirement for hospitals (both NHS and independent) to participate in the work of the confidential enquiries as part of clinical governance, and for clinicians to respond to requests for information as part of the requirements of Good Medical Practice, there remains a number of smaller independent hospitals that have chosen not to participate in our work. Despite the limited number of deaths these hospitals may have, there are still lessons to be learnt and NCEPOD urges them to reconsider their commitment to our work.

This report has been sent to all chief executives and medical directors of NHS Trusts or Independent Hospital Groups with copies for each of their clinical directorates. It has also been sent to local reporters who undertook the major task of co-ordinating all the data collection. Multiple copies of executive summaries have also been sent to all Trusts and Independent Hospitals and the full text of the report can be downloaded from the NCEPOD website **www.ncepod.org.uk** In addition, medical libraries and post-graduate deans are sent copies of the full report.

Christobel Hargraves

Chief Executive NCEPOD

PRINCIPAL RECOMMENDATIONS 2003

- Revise NCEPOD classification to include more specific definitions and guidelines, which are relevant across surgical specialities (NCEPOD responsibility).

- Provide adequate information systems to record and review anaesthetic and surgical activity.

- Ensure that Strategic Health Authorities, together with NHS Trusts, collaborate to guarantee that all emergency patients have prompt access to theatres, critical care facilities and appropriately trained staff, 24 hours per day every day of the year.

- Ensure that all essential services (including emergency operating rooms, recovery rooms, high dependency units and intensive care units) are provided on a single site wherever emergency/acute surgical care is delivered.

- Debate whether, in the light of changes to the pattern of junior doctors' working, non-essential surgery can take place during extended hours.

COMPARISON OF MAIN FINDINGS

* 'trained' was used in WOW I and included staff grades, associate specialists, senior registrars and consultants. Since the era of Calman training we now recognise a surgeon or anaesthetist as being a 'trained specialist' following the acquisition of a certificate of specialist training. It is therefore inappropriate in WOW II to use the term 'trained' for any grade other than consultant.

WOW I	WOW II
54% (24,756/45,806) of all operations during the daytime on a weekday were performed in the presence of a consultant surgeon and 56% (22,286/39,767) in the presence of a consultant anaesthetist.	66% (40,706/61,390) of all operations during the daytime on a weekday were performed in the presence of a consultant surgeon and 62% (35,031/56,831) in the presence of a consultant anaesthetist.
71% (32,489/45,806) of the operations during the daytime on a weekday were performed in the presence of a trained surgeon*, where 'trained surgeon' includes staff grade, associate specialist, senior registrar and consultant. The figure for 'trained anaesthetists', similarly defined, was 72% (28,584/39,767).	79% (48,794/61,390) of the operations during the daytime on a weekday were performed in the presence of a trained surgeon*, where 'trained surgeon' includes staff grade, associate specialist, senior registrar and consultant. The figure for 'trained anaesthetists', similarly defined, was 76% (43,253/56,831).
7% (3,221/45,806) of the operations during the daytime on a weekday and 20% (509/2550) during weekday evenings were performed by apparently unsupervised senior house officers. The related figures for SHO anaesthetists were 9% (3,548/39,767) and 47% (1,150/2,436).	2% (1,133/61,390) of the operations during the daytime on a weekday and 6% (178/3,139) during weekday evenings were performed by apparently unsupervised senior house officers. The related figures for SHO anaesthetists were 4% (2,264/56831) and 25% (735/2,990).
37% (1309/3531) of the emergency procedures during weekday daytimes (08.00 to 18.00 hrs), and 6.3% (148/2346) during weekday evenings (18.01 to 00.00) were performed during sessions scheduled primarily for emergency theatre cases. The overall percentage (08.00 to 00.00) was 25% (1457/5877).	66% (3,273/4,936) of the emergency procedures during weekday daytimes (08.00 to 18.00 hrs), and 82% (1,484/1,812) during weekday evenings (18.01 to 00.00) were performed during sessions scheduled primarily for emergency theatre cases. The overall percentage (08.00 to 00.00) was 70% (4,757/6,748).
51% (182/355) of the participating hospitals had scheduled operating sessions for emergency procedures during the day from Monday to Friday.	63% (184/294) of the hospitals that returned a facility questionnaire had scheduled operating sessions for emergency procedures during the day.
46% (19299/42320) of the routine cases started during the daytime from Monday to Friday were day cases.	46% (28,331/61,390) of the routine cases started during the daytime from Monday to Friday were day cases.