NCEPOD

Emergency Admissions: A journey in the right direction?

Executive Summary

A report of the National Confidential Enquiry into Patient Outcome and Death (2007)

Foreword

At a funeral recently I listened as a man talked of the death of his wife, the mother of three children still finding their feet in the adult world. She had died of lung cancer taking 18 months on her way from diagnosis to death. “Well, I’m thankful it was cancer” he said. His words cut through the sadness and impressed upon me something I had never quite thought through before. Thankful? Cancer? Yes. There had been time – time to talk, think, reminisce, plan and time for both of them at each stage to choose what happened next. People sent into hospital for emergency admission usually have little time for choice, nor the control, autonomy and self determination that go with it.

Time is critical in acute illness. In the case of catastrophic cardiovascular events such as heart attack, pulmonary embolism, stroke or internal bleeding, what happens next might mean the difference between life and death - time measured in hours and minutes. “Time is heart muscle” we say, to prompt early diagnosis and treatment in heart attacks. What is done or not done in those first few hours determines not only whether the patient will survive, but how quickly and completely health and independence might be restored.

Medicine, as we know it now, offers opportunities to change the course of events in acute illness in ways undreamt of when I first encountered emergency admissions as a clinical medical student in 1967. Then, if a patient presented with an acute coronary event we more or less sat it out with some supportive care in the form of morphine and oxygen. Now, intravenous nitrates, a confident diagnosis by detection of troponin release, intravenous thrombolysis, and access to 24 hour catheter laboratories for imaging and percutaneous interventions allow us to do something really effective to alter the course of events. Similarly, management of cardiac arrhythmia, pulmonary embolism, and gastrointestinal bleeding have been transformed by sophisticated monitoring and measurement, imaging and therapeutic interventions. These save lives but not only that - they preserve the function of the vital organs that will determine future health.

So that is what is now possible and it has developed over forty years spent caring for patients many of whom, in my own life’s work, arrived in hospital as acute admissions with diseases affecting their lungs and cardiovascular systems. But can this care be delivered? Is it being delivered? The theoretical possibility of saving life and restoring health amounts to little if these measures cannot be implemented widely and promptly. The practitioners have to have the resources to be able to deliver, and then to get it right. Reducing the clotting of blood by thrombolysis saves a life if the life is threatened by intra-coronary thrombus or pulmonary embolism, but it does the patient no favour if the problem is a leaking aneurysm or an internal bleed. It is not just about technology – it is as much about people with skills, training, judgement, and reflection, engaged in closely co-ordinated team work. Can we, and do we, deliver that?

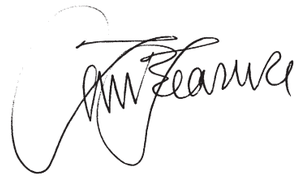
As the technology has changed so have the practitioners. We might look back to the golden days of yore when the hospitals were staffed day and night by highly competent, experienced and battle hardened senior registrars. We saw patients in the casualty department and we took care of them whether in the intensive care unit or the operating theatres, day and night. And there was built into it an inevitable continuity of care, for the same doctors had done the clinics, ward rounds and operating yesterday and would do them again tomorrow. Well, reminisce if you wish, but those days are gone and will not come back, in part because they were not in reality that golden. Modern care demands expertise in acute care, diagnosis, resuscitation and treatment. It demands specialists with technical expertise to obtain and read the sophisticated echo, CT and MRI images, to interpret the diagnostic tests, and to drive the kit – if interventions are to succeed and harm is to be avoided. It is not a single talented omnipotent individual but a process staffed by many people. What are the failings and how could they be addressed? That is the area of enquiry of the Emergency Admissions study.

Can NCEPOD’s methods capture all the facets of care that might favourably or adversely influence the outcome for an individual patient? Well it has not been easy. We targeted patient groups (those that died or remained in intensive care) that were likely to test the system and to reveal shortcomings. Data have been retrieved from clinical records. We can never and do not attempt to say whether the outcome for the patient would certainly have been different if some other course of action had been taken; a decision had been made more promptly; another facility had been available; a missed clinical clue had been acted upon; or different people had done different things in a different way. Whilst a prospective study with a control group works to measure the effect of one intervention compared with another (as in a controlled trial) the reality of the emergency admission is that there is an unending cycle of evaluation, diagnosis and intervention rendering it inaccessible to formal hypothesis testing. That said, we constantly explore within NCEPOD more objective ways of drawing inferences and reaching conclusions to augment the human judgements drawn from the lifetimes’ experience of our expert advisors about what is a very human process.

The most human of all factors is the humanity of the patient. The very nature of the emergency takes from them what they might want most in their illness – to understand what is going on, to be given explanations and to be able to retain some choice, some control, and

some vestige of self determination. The experience of a patient admitted in an emergency can be as bewildering as that experienced by Kafka's characters – others appear to take control and make major decisions which affect their very survival and yet the patient is ill equipped and in no position to know how or why these people act. And so I return to the image of the man telling the story of the loss of his wife with cancer. He had seen friends and family die before: a young brother in law killed outright, hit by a speeding car; the children's grandmother taken by a stroke and dead in hours. No time. Foreshortening of time is the nature of the emergency. The pressure to make decisions and to act on them leaves little time to explain – and the reality is that the hospital team do not themselves always know what is going on, and what might happen next, and what should be done then. In emergency care, diagnoses and plans are provisional and as events unfold, must change. How do we explain that to the patient and to the family?

In the care of Emergency Admissions, explanations have to be given after the event. Sometimes it is to explain how a happy outcome was achieved, an inevitable death was peaceful and dignified, but sometimes it is to express sorrow and regret after a death. Questions might include: "Might things have gone better if you had acted sooner?" "Would she be still alive if there had been an intensive care bed?" "Why did his last hours have to be spent on a trolley moving from ward to ward?" In a sense the questions that the family might ask are questions the study posed. While reading this report, it should be noted that we deliberately sampled patients on the basis of specifically weighted outcomes selected to reveal where the system might have been stressed to breaking point; we do not claim to have evaluated the overall standard of the service. Although inadequacies in organisational or clinical care appear small when individual components are considered, only 61.6% of patients in the groups sampled in this study received an overall standard of care considered by our advisors to be consistent with good practice. There were remediable factors, either clinical or organisational, in the standard of care received by the remaining 34.8% of these patients. Not all of these will have affected the outcome but all of them represent shortcomings of the service provided to very ill people.



Professor T. Treasure
Chairman

Introduction

Emergency admissions to hospital are, by definition, unpredictable and unexpected in the individual case, even where the system has been properly set up to cater for them. Such admissions account for approximately one third of all admissions and in 2004-2005 increased by 6.5% on the previous year to 4.43 million[1].

The volume and unpredictability of these admissions is a significant part of the health service. Consequently, there has been considerable interest within both governmental and non-governmental organisations as to how to manage these demands [2-6]. Previous reports have concentrated on the initial care of patients: primarily on access to emergency care and the organisational and clinical management of emergency admissions. Moreover, a national audit of emergency medical admissions reported that the most significant problems at admission were sub-optimal involvement of consultants in acute care and the fact that the admitting specialty is frequently inappropriate to the patient's condition[7]. While the first response on admission is certainly an important point of focus, it is equally important to look at the organisation of subsequent care. To date, very little work has been reported in this area.

In this study, NCEPOD has assessed organisational and clinical aspects of both the immediate and ongoing care of patients admitted as emergencies. The report highlights remediable factors in existing care pathways, particularly the appropriateness, timeliness and frequency of investigations and reviews, the experience of staff and the availability of results, protocols and procedures.

NCEPOD deliberately sampled an acutely ill group of patients because remediable factors in their care are likely to be more obvious, giving insights into the inherent problems and inefficiencies within the acute sector.

Principal recommendations

- The initial assessment of patients admitted as an emergency should include a doctor of sufficient experience and authority to implement a management plan. This should include triage of patients as well as formal clerking. The involvement of a more senior doctor should be clearly and recognisably documented within the notes. *(Clinical leads and heads of service)*
- Patients admitted as an emergency should be seen by a consultant at the earliest opportunity. Ideally this should be within 12 hours and should not be longer than 24 hours. Compliance with this standard will inevitably vary with case complexity. *(Clinical directors)*
- Documentation of the first consultant review should be clearly indicated in the casenotes and should be subject to local audit. *(Clinical directors)*
- Trainees need to have adequate training and experience to recognise critically ill patients and make clinical decisions. This is an issue not only of medical education but also of ensuring an appropriate balance between a training and service role; exposing trainees to real acute clinical problems with appropriate mid-level and senior support for their decision making. *(Clinical directors)*
- Consultants' job plans need to be arranged so that, when on-take, they are available to deal with emergency admissions without undue delay. Limiting the number of duties that consultants undertake when on-take should be a priority for acute trusts. *(Medical directors)*
- Hospitals which admit patients as an emergency must have access to both conventional radiology and CT scanning 24 hours a day, with immediate reporting. *(Medical directors and clinical directors)*
- Following the initial assessment and treatment of patients admitted as an emergency, subsequent inpatient transfer should be to a ward which is appropriate for their clinical condition; both in terms of required specialty and presenting complaint. *(Clinical directors)*
- Excessive transfers should be avoided as these may be detrimental to patient care. *(Clinical directors)*
- Robust systems need to be put in place for handover of patients between clinical teams with readily identifiable agreed protocol-based handover procedures. Clinicians should be made aware of these protocols and handover mechanisms. *(Heads of service)*
- A clear physiological monitoring plan should be made for each patient commensurate with their clinical condition. This should detail what is to be monitored, the desirable parameters and the frequency of observations. This should be regardless of the type of ward to which the patients are transferred. *(Clinical directors)*

Overview of findings

Patients admitted as an emergency can be amongst the sickest that are cared for in hospital. This report highlights the need for early decision making by doctors with the most appropriate skills and knowledge based on the clinical needs of the patient. Clinicians and managers should review current arrangements for the delivery of care to this group of patients.

- 34.8% of patients had remediable factors identified in their clinical and/or organisational standard of care received. Not all of these would have affected their outcome but all represent shortcomings of the service provided to very ill people.

- 7.1% of cases had an initial assessment that was assessed, by the advisors, as poor or unacceptable. Patients admitted as an emergency should be seen initially by a doctor with the necessary skills and knowledge to make a competent clinical assessment, devise a differential diagnosis and appropriate management plan. At the very least, this doctor should have the first of these competencies and have immediate access to a more senior doctor who can formulate the latter two requirements. Furthermore, there were examples within this study of poor medical documentation particularly with respect to basic information on dates, times and designation of the person making an entry in the casenotes.

- 15.1% of emergency assessment units included in the study did not provide access to 24 hour CT scanning. In 4.8% of the patients reviewed there was a delay in obtaining results of investigations which, in the view of the advisors, adversely affected the overall quality of care of some of them. For all patients, admitted as an emergency, there should be ready access to a full range of haematological and radiological investigations. The results of these should be rapidly available, and where necessary expert opinion should also be available, to assist the treating clinician in the interpretation of investigations.

- 68.8% of patients were under the care of consultants who had more than one duty when on call. These may have been consistent with their on call activity but even so 21.2% of consultants were undertaking more than three duties. On-take consultants, who have ultimate responsibility for emergency admissions, should make an initial patient review and subsequent reviews at time intervals which are appropriate for the severity of the patient's condition. These consultant reviews should be clearly documented in the casenotes.

- 12.4% of cases lacked documentary evidence of patients being reviewed by consultants following admission to hospital. Of further concern was that it was not possible, in nearly 50% of cases, to determine the time to the first consultant review due to lack of documentation. NCEPOD is of the view that in most cases the first consultant review should be within 12 hours from admission. Of the 496 patients where it was possible to determine the time to the first consultant review, 40% were not seen by a consultant within this time frame. Regular review by consultants is important because, due to working time constraints of trainee doctors, consultants may be the primary source of continuity of care. As a result the consultant must act as the team leader and ensure that formal systems are in place so that crucial information regarding their patients is communicated between changes in shifts of trainee doctors.

  Furthermore due to the current working time constraints of trainee doctors, resulting in reduced patient contact, there is concern that they are less able to recognise the critically ill patients and act decisively. Many examples of this were seen throughout this study.

- 6.8% of patients did not receive adequate clinical observations, both in type and frequency. A clear physiological monitoring plan should be made for each patient commensurate with their clinical condition. This should detail what is to be monitored, the desirable parameters and the frequency of observations. It was difficult to find clear evidence in this study that emergency admissions received this.

Method

Study aim

The aim of this study was to identify remediable factors in the organisation of care of adult patients who were admitted as emergencies.

The specific objectives of this study were to evaluate care in the following areas:

1. Emergency admissions systems
2. Access to investigations
3. Bed management
4. Time and timing of
5. Communication and information
6. Quality and quantity of staff

Hospital participation

All relevant National Health Service hospitals in England, Wales and Northern Ireland were expected to participate, as well as relevant hospitals in the independent sector, public hospitals in the Isle of Man, Guernsey and the Defence Secondary Care Agency.

Sample selection

A sample of patients was selected that were thought most likely to test the processes of care during their hospital stay. All adult medical and surgical patients (≥16 years) who were admitted to hospital as an emergency admission on seven pre-determined days in February 2005 were considered and included if they met one of the following inclusion criteria:

- **Died on or before midnight on day 7 (the first day of admission being recorded as Day 1); or**
- **Were transferred to adult critical care on or before midnight on day 7; or**
- **Were discharged on or before midnight on day 7 and subsequently died in the community within 7 days of discharge.**

Data collection

Data for the study was obtained from questionnaires sent to clinicians involved in the care of the patient. Additionally, extracts of the casenotes were photocopied and returned to NCEPOD. One questionnaire per hospital was also completed to indicate the facilities available at each site.

Advisor group

A multidisciplinary group of advisors was recruited to review the questionnaires and associated casenotes. The group of advisors comprised physicians, surgeons, emergency department physicians, intensive care physicians and nurses.

Overview of data collected

Overall assessment of care

The advisors were asked to grade the overall care each patient received using the following categories:

Good practice: A standard that you would accept from yourself, your trainees and your institution.

Room for improvement: Aspects of ***clinical care*** that could have been better.

Room for improvement: Aspects of ***organisational care*** that could have been better.

Room for improvement: Aspects of both ***clinical*** and ***organisational care*** that could have been better.

Less than satisfactory: Several aspects of ***clinical*** and/or ***organisational care*** that were well below that you would accept from yourself, your trainees and your institution.

Insufficient information submitted to assess the quality of care.

Hospital participation

There were 173 acute trusts which were expected to participate. Of these, 158 submitted patient data. Additionally 18 trusts or equivalent independent units contributed data to the study totalling 363 hospitals. Of the 363 hospitals that submitted patient data, 233 had patients that were eligible for the study. Additionally 201 organisational questionnaires were returned from sites that may or may not have had patients eligible for the study.

Data returned

A total of 1609 admission and 1617 ongoing care questionnaires were returned to NCEPOD. Of these, 71 admission and 148 ongoing care questionnaires were excluded from the data analysis as they were either returned blank or were very poorly completed.

Initial assessment

Key findings

- **Of those hospitals that had an EAU 97.7% (169/173) had a medical EAU and 60.1% (104/173) a surgical EAU.**
- **The majority of initial assessments were made in the emergency department.**
- **The overall standard of initial assessment of emergency admissions was good or adequate but 7.1% (90/1275) were poor or unacceptable in the advisors' opinions.**
- **In 5.7% (17/298) of EAUs there was no designated lead clinician or clinical manager in charge of the EAU.**
- **In a significant number of EAUs there was a lack of policies related to clinical management, admission and discharge.**
- **The initial assessment of patients was frequently undertaken by SHOs.**
- **There were examples of poor medical documentation particularly in respect of basic information on the dates, times or designation of the person making an entry in the casenotes.**
- **The use of proformae in the casenotes aided the initial assessment but there was a lack of standardisation of the information recorded.**

Recommendations

- **Patients admitted to hospital as an emergency should be assessed in an area which has appropriate staff and facilities to allow early decision making and initiation of treatment.** *(Clinical directors)*
- **Emergency Admission Units should have a designated clinical and administrative lead and have policies for clinical management, admission and discharge of patients.** *(Clinical directors)*
- **The initial assessment of patients admitted as an emergency should include a doctor of sufficient experience and authority to implement a management plan. This should include triage of patients as well as formal clerking. The involvement of a more senior doctor should be clearly and recognisably documented within the notes.** *(Clinical leads and heads of service)*
- **The quality of medical note-keeping needs to improve. All entries in notes should be legible, contemporaneous and prompt. In addition, they should be legibly signed, dated and timed with a clear designation attached.** *(Medical directors)*

Case study 1

A very elderly patient was admitted in the early hours of the morning to the emergency department with a fractured neck of femur following a fall at home. The patient had a past medical history of ischaemic heart disease and chronic obstructive pulmonary disease and was taking anti-failure medication. An orthopaedic SHO performed an initial assessment of the patient; with a cardiovascular and respiratory assessment being described as normal. Eight hours later the patient underwent a hemiarthroplasty performed by an orthopaedic SpR. None of the patient's cardiac medications had been given preoperatively because of a 'nil by mouth' order. There was no further entry in the patient notes from the initial assessment until a review in theatre recovery with postoperative shortness of breath and an arterial oxygen saturation of 75%. Postoperative treatment was given for cardiac failure and despite admission to intensive care and aggressive therapy the patient died two days later. A post-mortem was performed which showed that the patient had had an acute myocardial infarction which predated the admission.

The advisors judged the initial assessment to have been poor due to the brevity and lack of clarity of the clerking and minimal assessment of the patient's cardiac status. They commented that if more time and attention had been paid to the patient's clinical status in the preoperative period the acute myocardial event may have been identified and the patient's condition could have been optimised prior to surgery.

First consultant review

Key findings

- **60.1% (298/496) of patients were seen by a consultant within 12 hours of admission; 92.3% (458/496) were seen within the first 24 hours.**
- **In 12.4% (158/1275) of cases there was a lack of documentary evidence of patients being reviewed by consultants following admission to hospital.**
- **It was not possible to determine the time to the first consultant review in 47.8% (609/1275) of cases due to lack of documentation of time or date in the casenotes.**
- **Where times could be determined, the time to the first consultant review was unacceptable in 16.1% (100/621) of cases and, in the advisors' view, this had a detrimental effect on diagnosis and outcome in many of these patients.**
- **Early review by a consultant following admission to hospital is more important than being reviewed by a consultant of a specific specialty.**

Recommendations

- **Patients admitted as an emergency should be seen by a consultant at the earliest opportunity. Ideally this should be within 12 hours and should not be longer than 24 hours. Compliance with this standard will inevitably vary with case complexity.** *(Clinical directors)*
- **Documentation of the first consultant review should be clearly indicated in the casenotes and should be subject to local audit.** *(Clinical directors)*
- **Trainees need to have adequate training and experience to recognise critically ill patients and make clinical decisions. This is an issue not only of medical education but also of ensuring an appropriate balance between a training and service role; exposing trainees to real acute clinical problems with appropriate mid-level and senior support for their decision making.** *(Clinical directors)*

Case study 4

A very elderly patient was admitted to the emergency department from a nursing home at 02:00 with pneumonia. The patient had a known history of ischaemic heart disease and Parkinson's disease. A medical SHO made a comprehensive initial assessment but no management plan was documented. The patient was not re-assessed again until the first consultant review 17 hours after arrival in the emergency department.

By this time the patient had deteriorated and had a heart rate of 120 and a respiratory rate of 30 with overt signs of sepsis. Despite aggressive therapy with IV antibiotics the patient died 24 hours later.

The advisors were of the opinion that the lack of a clear management plan on admission, and the long duration to the first consultant review, delayed the initiation of medical treatment and contributed to the patient's eventual demise.

Consultant commitments while on-take

Key findings

- **68.8% (943/1370) of patients were under the care of consultants who had more than one duty when on call. These may be consistent with their on call activity but even so, 21.2% (298/1370) of consultants were undertaking more than three duties.**
- **Some consultants undertake non-emergency clinical care while on-take and this may have delayed their response to the management of emergency admissions.**

Recommendation

- **Consultants' job plans need to be arranged so that, when on-take, they are available to deal with emergency admissions without undue delay. Limiting the number of duties that consultants undertake when on-take should be a priority for acute trusts.** *(Medical directors)*

Necessity for admission

Key findings

- **5.9% (75/1275) of emergency admissions were considered unnecessary.**
- **Most of the unnecessary admissions were for patients who could have been cared for in the community.**

Recommendation

- **Appropriate mechanisms, both in terms of community medicine and palliative care, should be in place so that unnecessary admissions can be avoided.** *(Primary care trusts and strategic health authorities)*

Case study 6

A very elderly patient was admitted to the emergency department on a Friday evening from a nursing home after a fall. A history of complex medical problems including ischaemic heart disease, type II diabetes and bilateral varicose leg ulcers was noted. This initial assessment was made by a medical SHO who diagnosed chronic infected leg ulcers and prescribed oral antibiotics. There were frequent entries in the notes by the nursing staff over the next 48 hours stating that the patient was “comfortable”. The next entry by the medical staff was at 08:00 on the following Monday at the first consultant review which stated that the patient was ready for discharge back to the nursing home.

The advisors commented that this admission was unnecessary. It was unclear why this patient presented to the emergency department on a Friday evening with a long standing medical problem that should have been managed in the community. One has to speculate that the admission was for social rather than medical reasons. It was the advisors' opinion that earlier senior medical involvement could have prevented this admission.

Availability of investigations and notes

Key findings

- **Obtaining pre-existing notes did not seem to be a problem in this group of patients. This may be due to improvements in access to notes via medical records departments, or due to the fact that the pre-existing notes were not considered necessary.**
- **15.1% (45/298) of EAUs that admitted patients as an emergency did not have access to CT scans 24 hours a day.**
- **6.7% (20/298) of EAUs that admitted patients as an emergency did not have access to conventional radiology 24 hours a day.**
- **In 4.8% (61/1275) of cases there was a delay in obtaining results of investigations, adversely affecting the overall quality of care of some of these patients.**
- **In 7.5% (91/1218) of cases appropriate investigations were not performed.**
- **In 7.4% (94/1275) of cases inappropriate investigations were performed.**

Recommendations

- **Hospitals which admit patients as an emergency must have access to both conventional radiology and CT scanning 24 hours a day, with immediate reporting.** *(Medical directors and clinical directors)*
- **There should be no systems delay in returning the results of investigations.** *(Clinical directors)*
- **There should be a clear rationale for the ordering of investigations. Omission of appropriate investigations can have a deleterious effect on patient care.** *(Lead clinicians)*
- **All investigation results should be recorded with a date and time in the patient notes.** *(Clinical audit)*

Case study 7

An elderly patient with known chronic obstructive pulmonary disease was admitted with an acute exacerbation secondary to a possible infective cause. The patient was considered to be “coping” by the pre-registration HO at the initial assessment. A chest x-ray was requested and oral antibiotics were commenced. Three hours after admission an arterial blood gas measurement revealed a pH 7.38, $PaCO_2$ 8.5 kPa and $PaCO_2$ 10 kPa on 28% oxygen. The chest x-ray was not performed until 12 hours after admission and the result not recorded in the notes until 24 hours post-admission. This showed left lower lobe collapse/consolidation and intravenous antibiotics were commenced.

By this time the patient’s condition had deteriorated further and a review was conducted by an ICU outreach team which commenced non-invasive ventilation on the ward. Twelve hours later the patient was transferred to the ICU for close observation and still required non invasive ventilation on day 7 following admission.

The advisors considered the delay in obtaining and reporting on the chest x-ray was unacceptable. This delayed the decision to start intravenous antibiotics. Furthermore, if the results had been available more quickly it is possible that non invasive ventilation may have been instituted earlier altering the course of this ICU admission.

Transfers

Key findings

- **The vast majority of emergency admissions in this study were sent to an appropriate inpatient ward.**
- **The vast majority of patients were looked after by a consultant of an appropriate specialty.**
- **However 12.9% (12/93) of patients placed on an inappropriate ward were thought to have received less than satisfactory care.**
- **Excessive transfers were thought to affect diagnosis and outcome in a small cohort of patients.**

Recommendations

- **Following the initial assessment and treatment of patients admitted as an emergency, subsequent inpatient transfer should be to a ward which is appropriate for their clinical condition; both in terms of required specialty and presenting complaint.** *(Clinical directors)*
- **Excessive transfers should be avoided as these may be detrimental to patient care.** *(Clinical directors)*

Case study 9

A young patient sustained a head injury following a fall. On arrival in the emergency department a Glasgow Coma Score (GCS) of 10 was recorded and the patient was reported to be unco-operative. The patient was still in the emergency department 6 hours later when the patient fell off the trolley and hit their head during the fall. A CT scan was performed 11 hours after arrival in the emergency department which showed a left temporal contusion with a small amount of subarachnoid blood and minor midline shift. The patient was intubated, ventilated and sedated and transferred to the neurointensive care unit. First review by a consultant neurosurgeon occurred 20 hours after admission. An intracranial pressure (ICP) monitor was inserted. The patient was ventilated for three days and was seen once by a consultant neurosurgeon during this time. There was no repeat CT scan or cervical radiological investigation until day 4 of admission. The patient had a residual right partial hemiparesis on day 6 of admission.

The advisors were of the view that the trainee medical staff provided good care in stabilising the patient but were concerned that there was inadequate senior review and decision making.

Handovers

Key findings

- **Half (102/201) of hospitals did not have a written handover protocol.**
- **A proportion of clinicians were unaware of existing handover protocols.**
- **92.8% (1322/1425) of emergency admissions had a clear and recognisable handover procedure between clinical shifts both during initial assessment and subsequent to this.**
- **Handover-related problems appeared to be infrequent.**

Recommendation

- **Robust systems need to be put in place for handover of patients between clinical teams with readily identifiable agreed protocol-based handover procedures. Clinicians should be made aware of these protocols and handover mechanisms.** *(Heads of service)*

Reviews and observations

Key findings

- **The level of clinical review of emergency admissions was generally adequate.**
- **Where the level of clinical review was inadequate this was judged to have affected the diagnosis in 27/76 cases and the outcome in 50/69 cases.**
- **It was difficult to find clear evidence that emergency admissions received adequate clinical observations, both in type and frequency; moreover there was clear evidence that approximately 6.8% (82/1204) of patients did not.**
- **Appropriateness of ward did not seem to have an impact on either appropriateness of type of observations or frequency of observations. However, this comment should be interpreted in the context of the denominator representing a large volume of insufficient/blank data.**
- **Thus it is possible to suggest that not only are appropriate observations performed less often than is desirable, when they are performed, their frequency is inappropriately low in a significant proportion of patients even if they are on a suitable sub-specialty ward.**

Recommendations

- **All emergency admissions should receive adequate review in line with current national guidance.** *(Clinical directors)*
- **A clear physiological monitoring plan should be made for each patient commensurate with their clinical condition. This should detail what is to be monitored, the desirable parameters and the frequency of observations. This should be regardless of the type of ward to which the patients are transferred.** *(Clinical directors)*
- **Part of the treatment plan should be an explicit statement of parameters that should prompt a request for review by medical staff or expert multidisciplinary team (An Acute Problem?).** *(Clinical directors)*

Case study 10

An elderly patient was admitted during the daytime on a weekday, via the emergency department, to an emergency assessment unit with a one day history of abdominal pain. The initial assessment, by an SHO, reported a palpable pulsatile abdominal mass. No differential diagnosis was documented. A CT scan was arranged for the next day. The patient was found “cold and stiff” the next morning less than 24 hours after admission.

The advisors were concerned with the quality of documentation received by NCEPOD. It was unclear whether the patient was reviewed by a consultant. Nor did NCEPOD receive any nursing observation charts. The advisors were of the opinion that the fact that the patient was found in rigor mortis suggested the frequency of observations may have been inappropriate. Unfortunately, there was no evidence in the notes that an autopsy was either requested or performed. Did this patient have a leaking abdominal aortic aneurysm that was missed by the admitting doctor?

Adverse events

Key finding

- **The data provided to NCEPOD, particularly relating to drug administration was incomplete, and therefore it has proved difficult to identify adverse events. Further difficulties arose from the lack of consistency in interpretation of definitions surrounding adverse events.**

Recommendation

- **Further work is required by the NPSA to educate and inform clinical staff about the definitions surrounding adverse events. There must be standardisation of reporting and audit of that reporting to ensure that accurate data is obtained.** *(National patient safety agency)*

Case study 11

An alcohol-dependent patient on diazepam, dihydrocodeine, chlormethiazole and other analgesics, was noted to be agitated and recorded as having an oxygen saturation of 91%. Nursing handover was poor, and medical staff appeared to be unaware of the situation. No blood gases were obtained. The patient subsequently died of a cardio-respiratory arrest.

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