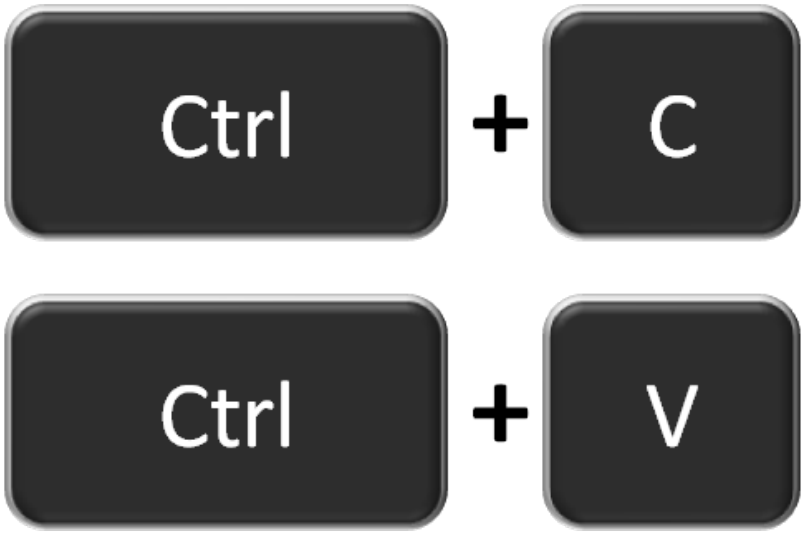
# Writing an executive summary

Marisa Mason

NCEPOD

# My brief...

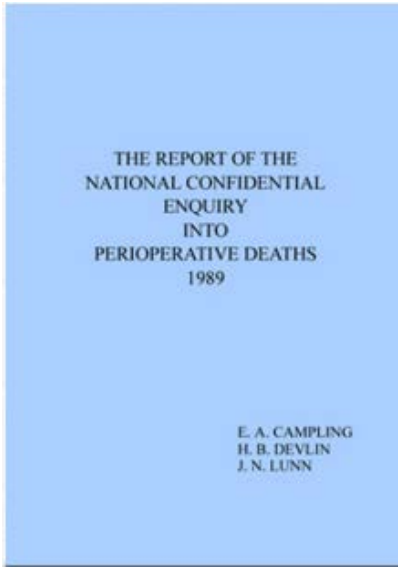
- ‘10 top tips for writing an executive summary...’



# Consultation

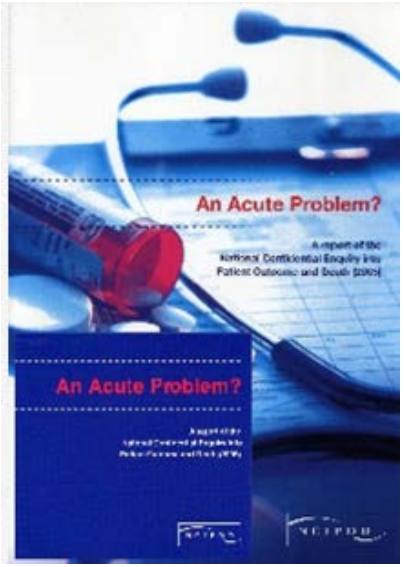
1. Approximately 10% of the length of the main report
2. Written in language appropriate for the target audience
3. Consist of short, concise paragraphs
4. Include a summary
5. Written in the same order as the main report
6. Only include material present in the main report
7. Make recommendations
8. Provide a justification
9. Have a conclusion
10. Be readable separately from the main report

# Not always the case




4 pages


6 pages




16 pages


23 pages

Why have an executive summary?

# For the benefit of the reader

- What are the main messages?
- What key findings support those messages?
- How was data collected?
- What was the reason the project was undertaken

# For the benefit of the provider

- Use it as a basis for discussion prior to publication
  - Professional contacts
  - Media contacts
- Summary can only be as good as the main report
  - Consider it at the project start when designing the study and impact planning

# The most important facts first

## Just Say Sepsis!

**A review of the process of care received by patients with sepsis**

A report by the National Confidential Enquiry into Patient Outcome and Death
(2015)

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The study was commissioned by the Healthcare Quality Improvement Partnership (HQIP) on behalf of NHS England, NHS Wales, the Northern Ireland Department of Health, Social Services and Public Safety (DHSSPS), the States of Guernsey, the States of Jersey and the Isle of Man government.

The authors and Trustees of NCEPOD thank the NCEPOD staff for their work in collecting and analysing the data for this study: Robert Alleway, Donna Ellis, Heather Freeth, Dolores Jarman, Kathryn Kelly, Kirsty MacLean Steel, Nicholas Mahoney, Eva Nwosu, Neil Smith and Anisa Warsame.

## Principal recommendations

All hospitals should have a formal protocol for the early identification and immediate management of patients with sepsis. The protocol should be easily available to all clinical staff, who should receive training in its use. Compliance with the protocol should be regularly audited. This protocol should be updated in line with changes to national and international guidelines and local antimicrobial policies. *(Medical Directors)*

An early warning score, such as the National Early Warning Score (NEWS) should be used in both primary care and secondary care for patients where sepsis is suspected. This will aid the recognition of the severity of sepsis and can be used to prioritise urgency of care. *(General Practitioners, Ambulance Trusts, Health Boards, NHSE, Clinical Directors, Royal Colleges)*

On arrival in the emergency department a full set of vital signs, as stated in the Royal College of Emergency Medicine standards for sepsis and septic shock should be undertaken. *(Emergency Medicine Physicians, Clinical Directors, Nursing Directors)*

In line with previous NCEPOD and other national reports' recommendations on recognising and caring for the acutely deteriorating patients, hospitals should ensure that their staffing and resources enable:

a. All acutely ill patients to be reviewed by a consultant within the recommended national timeframes (max of 14 hours after admission)
b. Formal arrangements for handover
c. Access to critical care facilities if escalation is required; and
d. Hospitals with critical care facilities to provide a Critical Care Outreach service (or equivalent) 24/7. *(Medical Directors, Nursing Directors, Commissioners)*

All patients diagnosed with sepsis should benefit from management on a care bundle as part of their care pathway. The implementation of this bundle should be audited and reported on regularly. Trusts/Health Boards should aim to reach 100% compliance and this should be encouraged by local and national commissioning arrangements. *(Medical Directors, Clinical Directors, Commissioners)*

See the full list of recommendations on page 15

# Introduction & method

## Introduction

Sepsis is defined as an overwhelming response to infection in which the immune system initiates a potentially damaging systemic inflammatory response syndrome (SIRS) which can manifest in a number of physiological changes, recognised by worsening vital signs or 'SIRS criteria' (temperature, respiratory rate, heart rate). Severe sepsis is defined as sepsis leading to dysfunction of one or more organ systems according to current criteria.[1] This year, international consensus definitions will be amended to focus on physiological changes of organ dysfunction, including hypotension, tachypnoea and altered mental state.[2] Sepsis is already recognised as difficult to diagnose and it can only be hoped that a new definition will aid this process. However, whichever definition is used it is the wider consideration given to sepsis by healthcare professionals that is important.

Over 70% of cases of sepsis are believed to arise in the community.[3] General practitioners and other pre-hospital services present key opportunities for prompt recognition and treatment of sepsis. Patients requiring hospital care may be admitted through emergency departments or admissions units, where the same issue of prompt recognition is equally important. In 2011, the Royal College of Emergency Medicine conducted an audit of compliance with sepsis management standards in emergency departments. Compliance was found to be suboptimal at 27-47%.[4] A repeat audit in 2013-14 showed mixed results with marginal improvement.[5]

Sepsis can also occur in patients already in hospital who acquire infections and whose condition deteriorates. In 2005 NCEPOD reported that acutely ill patients were languishing in wards not being recognised nor escalated quickly enough.[6] Since then there have been National Institute for Health Excellence and Care (NICE) guidelines produced (CG50)[7] and work undertaken by the National Patient Safety Agency (NPSA as it was) around recognition of the critically ill patient.[8] Sepsis is part of that severely ill/deteriorating patient scenario and it is relevant to all specialties. When a patient has worsening vital signs they need to be recognised and acted upon and whilst early warning scores such as NEWS are increasingly used[9], the possibility of sepsis should form part of that process. In 2010, the Scottish Trauma Audit Group (STAG) conducted an audit of sepsis within acute hospital settings. 1.7% of new admissions developed criteria for sepsis within 2 days of attendance; 34% of these patients met the criteria for severe sepsis, with a mortality of 24% in this group.[10]

Treatment of the infection in patients with sepsis is paramount. In 2010, the International Surviving Sepsis Campaign (SSC) published results in over 15,000 episodes showing that delivery of early antibiotics (at that stage within 3 hours) was independently associated with survival, but was achieved in only 67% of cases.[11] The recommendation has since been changed to delivery of antibiotics within 1 hour of severe sepsis being identified.[1] However, the importance of administering antimicrobials in an era when doctors are being advised not to over-prescribe them is somewhat confusing and this is an area that needs attention to ensure that patients are treated effectively but that there is robust antimicrobial stewardship.[12,13]

One systematic issue that hinders the knowledge about sepsis is its limited coding. Within the United Kingdom there is believed to be an underestimate of the incidence of sepsis as coding guidelines prioritise the source of infection over sepsis as a primary coded term. The incidence of severe sepsis depends on how acute organ dysfunction is defined and on whether that dysfunction is attributed to an underlying infection. Organ dysfunction is often defined by the need and provision of supportive therapy (e.g. mechanical ventilation), and epidemiologic studies thus only count the cases in which treatment is undertaken. This under reporting of sepsis will mean that as a condition it will be under resourced, and there will be limitations in the opportunity to audit it and learn from the cases at mortality reviews. In the UK an estimated 37,000 patients die with



## Method and Data Returns

### Method

***Study Advisory Group***

The Study Advisory Group comprised a multidisciplinary group of senior clinicians from the following specialties: acute medicine, emergency medicine, general surgery, obstetrics and gynaecology, microbiology, critical care medicine, pathology, public health strategy, general practice, critical care outreach nursing and patient representation.

***Study aim***

The aim of the study was to identify and explore remediable factors in the process of care for patients with sepsis.

***Objectives***

- To examine organisational structures, processes, protocols and care pathways for sepsis recognition and management in hospitals from admission through to discharge or death.
- To identify avoidable and remediable factors in the management of the care for a representative sample of adult patients with sepsis, throughout the patient pathway from presentation to primary care (if applicable), throughout secondary care to discharge or death, focusing on the following areas of care:
  - Evaluation of the use of systems and processes that are in place within hospitals to facilitate timely identification, escalation and appropriate treatment of infection, including transfer to high dependency and intensive care units where appropriate
  - Examining the recognition of sepsis and early signs of septic shock across the entire patient pathway
  - Investigating the appropriate management of sepsis
  - Reviewing whether there was a multidisciplinary team approach
  - Assessing the adequacy of communication with families and carers, as could be ascertained from the case notes
  - Examining the management of the end of life pathway and ceilings of treatment

***Hospital participation***

National Health Service hospitals in England, Wales and Northern Ireland were expected to participate as well as hospitals in the independent sector and public hospitals in the Isle of Man, Guernsey and Jersey. Within each hospital, a named contact, referred to as the NCEPOD Local Reporter, acted as a link between NCEPOD and the hospital staff, facilitating case identification, dissemination of questionnaires and data collation.

***Population***

Adult patients, ≥16 years old, identified as being seen by the Critical Care Outreach Team or equivalent, or who were admitted directly to critical care during the study period with a diagnosis of sepsis, based on presence of infection, documented or suspected, and two or more of the following:

- Fever (> 38.3°C)/hypothermia (core temperature < 36°C)
- Heart rate > 90/min – 1 or more than two standard deviations above the normal value for age
- Tachypnoea (respiratory rate >20 breaths/minute)
- Acutely altered mental status
- Arterial hypotension (systolic blood pressure < 90 mmHg, mean arterial pressure < 70 mmHg, or a systolic blood pressure decrease > 40 mmHg or less than two standard deviations below normal for age)
- Hyperglycemia (plasma glucose > 140 mg/dL or 7.7 mmol/L) in the absence of diabetes
- Leukocytosis (white blood cell count > 12,000 $\mu L^{-1}$) or Leukopenia (white blood cell count < 4000 $\mu L^{-1}$) (or normal white blood cell count with >10% immature forms)

Adapted from: Signs & symptoms of infection highlighted in Surviving Sepsis Campaign Sepsis Screening Tool.[1]

From the cases identified, a sample of 5 cases per hospital was randomly selected to be included in the study.

# Key findings & recommendations

## Key Findings

**Organisational data**

- 184/544 (33.8%) hospitals in this study had no formal sepsis protocol
- 309/343 (90.1%) hospitals with sepsis protocols had based them on published guidelines
- Most hospitals with protocols (305/321; 95%) stipulated that action should be taken within one hour of diagnosis of sepsis
- Of hospitals with protocols for recognition and management of sepsis, there was no formal education in the use of the protocol on general wards for medical staff in 65/305 (21.3%) and nursing staff in 86/314 (27.4%)
- In 518/532 (97.4%) hospitals, the hospital protocol policies and guidelines were immediately available on the hospital intranet
- The majority of hospitals without sepsis protocols (154/165; 93.3%) did have protocols for the identification of the deteriorating patient
- 95/186 (51.1%) acute hospitals stated that there was a system in place for receiving a pre-alert for patients arriving to the emergency department with sepsis
- The vast majority (530/538; 98.5%) of hospitals have track and trigger systems for monitoring sick patients and these were uniformly linked to escalation protocols (516/527; 97.9%)
- 199/223 (89.2%) hospitals with critical care facilities had a Critical Care Outreach Team or equivalent and 96/196 (49%) of these were available 24/7
- One in five hospitals (57/258; 22.1%) without critical care facilities did not have formal arrangements for the transfer of patients needing critical care
- 55/215 (25.6%) acute hospitals utilised specialised proformas to identify and monitor patients with sepsis
- 63/212 (29.7%) acute hospitals stated that there was no policy in place covering staff handovers. However, 270/287 (94.1%) hospitals with a policy set aside time for the formal handover of patients between doctors' shifts
- The vast majority of acute hospitals (224/226; 99%) had an antimicrobial policy and although 139/204 (68.1%) of acute hospitals had daily microbiology ward rounds on ICU (level 3), only 20/194 (10.3%) and 13/196 (6.6%) of acute hospitals reported having daily microbiology ward rounds on general medical or surgical wards (respectively).
- Only 29/519 (5.6%) hospitals in the study had leaflets to give to patients to provide information about sepsis
- Only 78/215 (36.3%) acute hospitals had any form of follow-up service for patients with sepsis
- Half of the hospitals in the study (166/322; 51.6%) had appointed a lead clinician for sepsis
- Less than half of acute hospitals (90/204; 44%) were carrying out audit of the timely treatment of severe sepsis
- 43/217 (20%) hospitals had a means of centrally recording incidents of severe sepsis



## Recommendations

1. All hospitals should have a formal protocol for the early identification and immediate management of patients with sepsis. The protocol should be easily available to all clinical staff, who should receive training in its use. Compliance with the protocol should be regularly audited. This protocol should be updated in line with changes to national and international guidelines and local antimicrobial policies. *(Medical Directors)*

2. Training in the recognition and management of sepsis in primary and secondary care should be included in educational materials for healthcare professionals undertaking new posts. Where appropriate this training should include the use of a standardised hospital protocol *(Medical Directors, Nursing Directors, Postgraduate Deaneries, Health Education England, Royal Colleges)*

3. A Clinical Lead in sepsis should be appointed in every Trust/Health Board to champion best practice and take responsibility for the clinical governance of patients with sepsis. This Lead should also work closely with those responsible for antimicrobial stewardship in their hospital(s). *(Medical Directors, Nursing Directors, Trust Chief Executives)*

4. Trusts/Health Boards should use a standardised sepsis proforma to aid the identification, coding, treatment and ongoing management of patients with sepsis (some examples are available at sepsistrust.org and survivingsepsis.org). To ensure continuity of care, this proforma should be compatible, where possible with any similar proforma or system used in primary care and should permit the data to be shared electronically. *(Medical Directors, Primary Care Practitioners, Commissioners)*

5. An early warning score, such as the National Early Warning Score (NEWS) should be used in both primary care and secondary care for patients where sepsis is suspected. This will aid the recognition of the severity of sepsis and can be used to prioritise urgency of care. *(General Practitioners, Ambulance Trusts, Health Boards, NHSE, Clinical Directors, Royal Colleges)*

6. Primary care providers should ensure that robust safety netting arrangements are in place for those patients who are suspected to be at risk of sepsis. *(General Practitioners)*

7. To facilitate the transition from primary to secondary care, a standard method of referral should be introduced in primary care for patients who are in need of a hospital admission for, or thought to be at risk of, sepsis. This should include a full set of observations/ vital signs/risks/relevant history (such as previous sepsis) and any early warning scores used. *(Primary Care Practitioners, Commissioners)*

8. On arrival in the emergency department a full set of vital signs, as stated in the Royal College of Emergency Medicine standards for sepsis and septic shock should be undertaken. *(Emergency Medicine Physicians, Clinical Directors, Nursing Directors)*

9. Where sepsis is suspected, early consideration should be given to the likely source of infection and the ongoing management plan recorded. Once identified, control of the source of infection should be undertaken as soon as possible. Appropriate staffing and hospital facilities (including theatre/interventional radiology) should be available to allow this to occur. *(Medical Directors, Clinical Directors)*

10. The importance of early identification and control of the source of sepsis should be emphasised to all clinicians, and be reinforced in any future guidelines or tools for the management of sepsis. *(International Sepsis Forum, UK Sepsis Trust, NICE, Health Education England, Postgraduate Deaneries, Royal Colleges)*

# Summary

## Overall quality of care

The Reviewers were asked to comment on the overall quality of care received by patients in the study. Just over one third of the study population were considered to have received good care during their admission. Most commonly in the group of patients who were judged to have received less than good care, it was considered that there was room for improvement in clinical aspects of their care rather than organisational factors. This suggests that the deficiencies are more in the management, awareness and decision making of the doctors and nurses caring for these patients rather than systematic deficiencies in process or the organisation of services or equipment (Table 9.1, Figure 9.1).

**Table 9.1 Overall quality of care as rated by the Reviewers**

| Overall quality of care | Number of patients | % |
|---|---|---|
| Good practice | 198 | 36.5 |
| Room for improvement (clinical) | 149 | 27.4 |
| Room for improvement (organisational) | 39 | 7.2 |
| Room for improvement (both) | 123 | 22.7 |
| Less than satisfactory | 34 | 6.3 |
| **Subtotal** | **543** | |
| Insufficient data | 8 | |
| **Total** | **551** | |

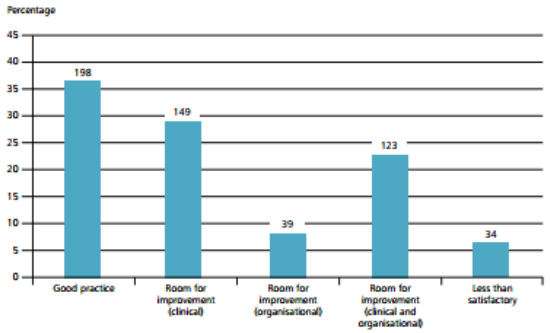



**Figure 9.1 Overall quality of care**



## Summary

This study set out to identify and explore avoidable and remediable factors in the process of care for patients with known or suspected sepsis. From the cases identified, the Reviewers were able to assess 551 cases. Of these, 54 sets of general practitioner (GP) notes were received and suitable for review.

This study confirmed that there is huge variability in the clinical presentation of sepsis. Patients seen in the community present diagnostic dilemmas and whilst the difficulty is recognised, it was of note that there was poor recording of clinical observations by primary and secondary care providers that may have assisted with both the immediate management and handover between primary and secondary care. Half of the patients referred to hospital by GPs had no referral letter. The use of pre-alerts was only apparent in 8 patients, although 50% of hospitals reported they were available, and in the Emergency Department (ED) 40% of patients did not have a timely review by a senior clinician.

The importance of source control is often overlooked and it was noted that a possible source of infection was only recorded at triage in 46% of patients admitted via the ED. And in those patients in whom a source was amenable to control, that control was delayed in 43% of cases which could have affected the outcome in 26/41 patients in the view of the case Reviewers.

Following admission to hospital, 20% of the patients in this study were not seen by a consultant within 14 hours. In view of the fact that 61.5% patients had changes made to their care following consultant review, it is paramount that the resources are in place to ensure prompt consultant review.

One quarter of the patients in this study acquired their infection whilst in hospital. In half of these patients the infection was diagnosed following an invasive procedure. A surgical site bundle was only utilised in 43/73 invasive procedures. In 10/88 patients with hospital-acquired infection, the Reviewers felt that the infection was preventable.

The Reviewers considered that there was a delay in identifying sepsis in 182/505 (36%) cases, severe sepsis in 167/324 (51%) and septic shock in 63/193 (32%), and identified that good documentation of sepsis was associated with more timely diagnosis. Despite the presence of protocols, investigations considered essential in the diagnosis of sepsis were missed in 39% of patients and delayed in 39%. Management on a care bundle reduced delays in the treatment of patients with sepsis. However, only 39.4% of patients were started on a sepsis care bundle. This study highlights the absolute requirement for hospitals accepting emergency admission to have a formal protocol for the early identification and immediate management of patients with sepsis. Only 55/215 (25.6%) acute hospitals used standard proformas to identify and monitor patients with sepsis, and less than half (90/204; 44%) audited the timely treatment of severe sepsis against their own protocols. It is recognised that if clinical management is to improve, clinical leadership is important. However, only half of the hospitals in the study (166/322; 52%) had appointed a lead clinician for sepsis.

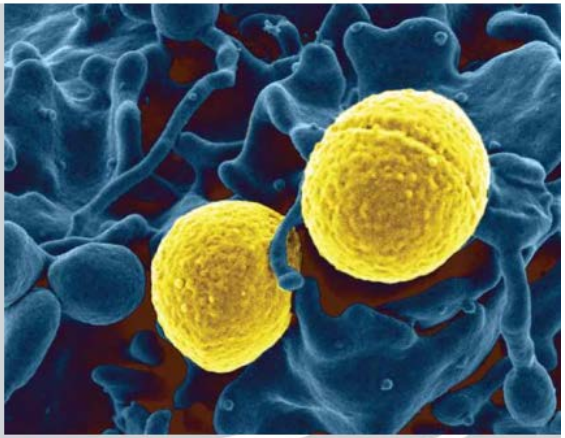
This is a group of patients who benefit from the use of antimicrobials, but with the current awareness of over use of antimicrobials, antimicrobial stewardship is important; not only in the management of sepsis but also the in broader environment of healthcare. It was of note that a microbiologist was consulted on the suitability of therapy in only 52% of patients. This was also reflected in the organisational data. Senior microbiological input is essential in the management of patients with sepsis to aid the appropriateness of antimicrobial usage.

Morbidity following sepsis is common and 22% patients had evidence of complications at discharge. There was little evidence of information being given to sepsis patients on the disease and its consequences.

# Executive summary, summary

## Just Say Sepsis!

A review of the process of care received by patients with sepsis



NCEPOD

Improving the quality of healthcare

## Summary


This study set out to identify and explore avoidable and remediable factors in the process of care for patients with known or suspected sepsis.

The study confirmed that there is huge variability in the clinical presentation of sepsis. Patients seen in the community present diagnostic dilemmas and whilst the difficulty is recognised, it was of note that there was poor recording of clinical observations by primary and secondary care providers that may have assisted with both the immediate management and handover between primary and secondary care.

It was noted that a possible source of infection was only recorded at triage in 46% of patients admitted via the ED. And in those patients in whom a source was amenable to control, that control was delayed in 43% of cases which could have affected the outcome in 26/41 patients in the view of the case Reviewers.

One quarter of the patients in this study acquired their infection whilst in hospital. In half of these patients the infection was diagnosed following an invasive procedure.

The Reviewers considered that there was a delay in identifying sepsis in 182/505 (36%) cases, severe sepsis in 167/324 (51%) and septic shock in 63/193 (32%), and identified that good documentation of sepsis was associated with more timely diagnosis. Despite the presence of protocols, investigations considered essential in the diagnosis of sepsis were missed in 39% of patients and delayed in 39%. Management on a care bundle reduced delays in the treatment of patients with sepsis. However, only 39.4% of patients were started on a sepsis care bundle. This study highlights the absolute requirement for hospitals accepting emergency admission to have a formal protocol for the early identification and immediate management of patients with sepsis. Only 55/215 (25.6%) acute hospitals used standard proformas to identify and monitor patients with sepsis, and less than half (90/204; 44%) audited the timely treatment of severe sepsis against their own protocols. It is recognised that if clinical management is to improve, clinical leadership is important. However, only half of the hospitals in the study (166/322; 52%) had appointed a lead clinician for sepsis.

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Morbidity following sepsis is common and 22% of patients had evidence of complications at discharge. There was little evidence of information being given to sepsis patients on the disease and its consequences.

For those patients who died, an autopsy was only performed in 12.1% of cases, sepsis was only included on the death certificate in 40.8% and only 63.8% of cases were discussed at mortality and morbidity reviews, missing opportunities to learn from the care provided.

Throughout the patient pathway areas for improvement were identified and the Reviewers were of the opinion that good care was delivered in only 36% of cases. Early recognition, better documentation and prompt treatment of sepsis would all lead to improved care for this group of patients. Using the word 'sepsis' as soon as it is considered would also raise awareness amongst healthcare professionals and patients.


## Principal recommendations

All hospitals should have a formal protocol for the early identification and immediate management of patients with sepsis. The protocol should be easily available to all clinical staff, who should receive training in its use. Compliance with the protocol should be regularly audited. This protocol should be updated in line with changes to national and international guidelines and local antimicrobial policies. *(Medical Directors)*

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In line with previous NCEPOD and other national reports' recommendations on recognising and caring for the acutely deteriorating patients, hospitals should ensure that their staffing and resources enable:

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NCEPOD www.ncepod.org.uk @ncepod #sepsis

# Or you can be a bit flash...

# My top 10ish tips

1. Put the most important messages first
2. Introduce the report and list any references used
3. Summarise the method
4. Include participation
5. Include all key findings
6. Include all the recommendations

# My top 10ish tips

7. Provide a summary of the report
8. Keep key data in the same order as chapters in the full report
9. Only include content from in the main report - CTRL C + V
10. Keep style and artwork consistent
11. Write it last
12. Don’t forget to make changes that are made to the full report

# Thank you