



# SEPSIS STUDY

National Confidential Enquiry into Patient Outcome and Death (NCEPOD)

## ORGANISATIONAL QUESTIONNAIRE

**CONFIDENTIAL**

Name of Trust: \_\_\_\_\_

Name of Hospital: \_\_\_\_\_

**Who completed this questionnaire?**

Name: \_\_\_\_\_

Position: \_\_\_\_\_

### What is this study about?

NCEPOD is undertaking a study to identify and explore avoidable and remediable factors in the process of care for patients with known or suspected sepsis.

To build up as complete a picture as possible of the organisational structure of the care of patients with sepsis, organisational data are being collected from acute hospitals, specialist hospitals, community /cottage hospitals and independent hospitals in England, Wales, Northern Ireland, Jersey, Guernsey and the Isle of Man, either that admit patients with sepsis for treatment, or that admit inpatients that may develop sepsis during their hospital stay.

### Who should complete this form?

This questionnaire should be completed by the Medical Director of the Trust or person(s) nominated by them who would have the knowledge to complete it accurately or be able to seek help to complete it accurately. People who should help with the completion of this form include Acute Medical and Critical Care Leads and Sepsis Leads (if they exist within the Trust).

**A separate questionnaire should be completed for each hospital within a Trust**

**To ensure confidentiality of the data, completed questionnaires must be returned directly to NCEPOD in the SAE provided.**

### How to complete the form:

This questionnaire will collect information by using box cross and free text, where your opinion will be requested.

This form will be electronically scanned. Please use a black or blue pen. Please complete all questions with either block capitals or a bold cross inside the boxes provided e.g.

Does your hospital have an emergency department?

Yes  No

If you make a mistake, please "black-out" the incorrect box and re-enter the correct information, e.g.

Yes  No

**Unless indicated, please mark only one box per question.**

### Questions or help?

A list of definitions is provided on page 2 of the questionnaire.

If you have any queries about this study or this questionnaire, please contact

[sepsis@ncepod.org.uk](mailto:sepsis@ncepod.org.uk)

Or telephone: 020 7251 9060

Thank you for taking the time to complete this questionnaire. The findings of the study will be published in Autumn 2015.

FOR NCEPOD USE ONLY

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1 4 4 8 3 6 6 9 9 0 5 6 3

## DEFINITIONS

AVPU	A clinical assessment system for level of consciousness (Alert, Voice, Pain, Unresponsive)
CCOT, MET, RRT	Critical Care Outreach, Medical Emergency, Rapid Response Teams: Specialised clinical teams on hand on general/acute wards to deliver emergency or critical care to patients that become acutely unwell.
CQUIN	Commissioning for Quality and Innovation: The CQUIN framework encourages care providers to share and continually improve how care is delivered and to achieve transparency and overall improvement in healthcare.
Emergency Department (ED)	Also known as Accident and Emergency Department (A&E) (in a health care facility) A section of an institution that is staffed and equipped to provide rapid and varied emergency care, especially for those who are stricken with sudden and acute illness or who are the victims of severe trauma.
Early goal directed therapy	A technique used in critical care medicine involving intensive monitoring and aggressive management in patients with a high risk of morbidity and mortality. This approach involves adjustments of cardiac preload, afterload, and contractility to balance oxygen delivery with an increased oxygen demand before surgery
EWS	Early Warning Scores (EWS) are used to monitor physiological parameters to identify progress or deterioration in clinical conditions. Many versions of the scoring system exist, for example NEWS (the National Early Warning Score)
Levels of care (Higher Dependency Care/ Critical Care is Level 2 and 3)	<p>Critical care includes Level 2 and 3 patients:</p> <p>Level 0: Patients whose needs can be met through normal ward care in an acute hospital.</p> <p>Level 1: Patients at risk of their condition deteriorating, or those recently relocated from higher levels of care whose needs can be met on an acute ward with additional advice and support from the critical care team.</p> <p>Level 2: (e.g. HDU) Patients requiring more detailed observation or intervention including support for a single failing organ system or post operative care, and those stepping down from higher levels of care. (NB: When Basic Respiratory and Basic Cardiovascular support are provided at the same time during the same critical care spell and no other organ support is required, the care is considered to be Level 2 care).</p> <p>Level 3: (e.g. ICU) Patients requiring advanced respiratory support alone or basic respiratory support together with support of at least two organs. This level includes all complex patients requiring support for multi-organ failure. (NB: Basic Respiratory and Basic Cardiovascular do not count as 2 organs if they occur simultaneously (see above under Level 2 care), but will count as Level 3 if another organ is supported at the same time).</p>
MAU, SAU	<p>Medical assessment unit, Surgical assessment unit: A short stay department that may be linked to the hospitals Emergency Department and acts as a gateway between a patient's GP, the Emergency Department and the wards of the hospital. SAU's and MAU's have the potential to provide more intergrated care for patients with urgent medical needs. SAU assesses patients who have a confirmed or probable surgical condition and provides a service for the rapid assessment and treatment of a variety of surgical complications</p> <p>May also be designated as AMU, AAU, EAU, ASU</p>
NPT	Near Patient Testing is defined as any investigation carried out in a clinical setting or the patient's home for which the result is available without reference to a laboratory and perhaps rapidly enough to affect immediate patient management.
Nutrition service	A service for people requiring dietary and nutritional advice for both disease treatment and the prevention of future diseases, it supports patients with a variety of conditions that require nutrition as a key intervention.



## A. HOSPITAL DETAILS

1. Type of facility: *(please select one option that fits best)*

- |   |  |
|---|--|
| <input type="checkbox"/> District general hospital: ≤500 beds     | <input type="checkbox"/> Community or "Cottage" hospital |
| <input type="checkbox"/> District general hospital: >500 beds     | <input type="checkbox"/> University teaching hospital    |
| <input type="checkbox"/> Tertiary specialist centre - stand alone | <input type="checkbox"/> Independent hospital            |
| <input type="checkbox"/> Other (please state):                    |  |

2. Do you admit patients as a non-planned/emergency admission?  Yes  No

3. How many inpatient beds are available in your hospital?

4a. Please state the number of hospital admissions between 1st April 2013 - 31st March 2014

b. Please state how many of these were day case admissions (1st April 2013 - 31st March 2014)

## B. EMERGENCY/ACUTE CARE

Please complete Section B if this hospital admits acute patients. If this hospital does NOT admit acute patients please go to Q9a

5. Does this hospital have an Emergency Department\*?  Yes  No

*\*Please see definitions on page 2*

If YES, please continue to Q6, if NO, please proceed directly to Q9a

6. Is the Emergency Department open: *(Please tick one box only)*

- |   |  |   |
|---|--|---|
| <input type="checkbox"/> 24 hours/day, 7 days/week                  | <input type="checkbox"/> Normal working hours (8am-6pm), 7 days/week | <input type="checkbox"/> Normal working hours (8am-6pm), Mon to Fri |
| <input type="checkbox"/> Other hours: please state: (24 hour clock) |  |   |

	H H : M M	until	H H : M M		H H : M M	until	H H : M M
<input type="checkbox"/> Mon:	<input type="text"/> <input type="text"/> : <input type="text"/> <input type="text"/>	until	<input type="text"/> <input type="text"/> : <input type="text"/> <input type="text"/>	<input type="checkbox"/> Fri:	<input type="text"/> <input type="text"/> : <input type="text"/> <input type="text"/>	until	<input type="text"/> <input type="text"/> : <input type="text"/> <input type="text"/>
<input type="checkbox"/> Tue:	<input type="text"/> <input type="text"/> : <input type="text"/> <input type="text"/>	until	<input type="text"/> <input type="text"/> : <input type="text"/> <input type="text"/>	<input type="checkbox"/> Sat:	<input type="text"/> <input type="text"/> : <input type="text"/> <input type="text"/>	until	<input type="text"/> <input type="text"/> : <input type="text"/> <input type="text"/>
<input type="checkbox"/> Wed:	<input type="text"/> <input type="text"/> : <input type="text"/> <input type="text"/>	until	<input type="text"/> <input type="text"/> : <input type="text"/> <input type="text"/>	<input type="checkbox"/> Sun:	<input type="text"/> <input type="text"/> : <input type="text"/> <input type="text"/>	until	<input type="text"/> <input type="text"/> : <input type="text"/> <input type="text"/>
<input type="checkbox"/> Thur:	<input type="text"/> <input type="text"/> : <input type="text"/> <input type="text"/>	until	<input type="text"/> <input type="text"/> : <input type="text"/> <input type="text"/>				

7. For patients referred to hospital from primary care, is information routinely collected on antimicrobials given by primary care and/or ambulance services for incoming patients?  Yes  No

8a. Is there a system for a pre-alert to be sent by primary care and/or ambulance trusts for incoming patients with sepsis?  Yes  No

b. If YES, please describe:



## C. POLICIES, PROTOCOLS AND GUIDELINES

**9a.** Do you have a protocol/care pathway/bundle specifically for the recognition and management of patients with sepsis?  Yes  No

**If YES to 9a, please send a copy to NCEPOD in the SAE provided**

**If NO to 9a, please proceed directly to Q10**

**b.** If YES to 9a, is this a Trust-wide protocol/care pathway/bundle?  Yes  No

**c.** If YES to 9a, please state the source of the protocol/care pathway/bundle:  
(please select one of the following)

Taken directly from national/international guidelines (please state which guideline)

Modified version of national/ international guidelines (please state which guideline)

Locally developed protocol/care pathway/bundle

**d.** If YES to 9a, does the protocol/care pathway/bundle include guidance for recognising:

Sepsis  Severe sepsis  Septic shock

**e.** If YES to 9d, please select as appropriate, the criteria used to identify patients with sepsis and/or severe sepsis:

**i) Sepsis:**  Early warning score  Respiratory rate  Temperature  GCS  Heart rate

N/A  Other (please state):

**ii) Severe sepsis (above plus):**  Blood pressure  Urine output  Lactate  Blood test for organ dysfunction

N/A  Other (please state):

**f.** If YES to 9a, does the protocol/care pathway/bundle include the following actions:

**i)** Administering IV fluids  Yes  No **iv)** Administering oxygen therapy  Yes  No

**ii)** Administering IV antimicrobials  Yes  No **v)** Early lactate measurement  Yes  No

**iii)** Blood cultures to be taken before antimicrobials administered  Yes  No **vi)** Catheterisation/ urine output measurement  Yes  No

**g.** Is there a specified time-frame for the above actions listed in 9f?  Yes  No

**h.** If YES to 9g, please state the time-frame specified (i.e. within x hours/minutes) following diagnosis?      
h h m m

**i.** Does the protocol/care pathway/bundle specify the above actions for:  
(please select all that apply)

Sepsis patients  Severe sepsis patients  Septic shock patients

**j.** If YES to 9a, does the protocol/care/pathway/bundle include any of the following:

**i)** A scoring system for escalation?  Yes  No **ii)** A protocol for source control?  Yes  No

**iii)** Immediate transfer to hospital that provides acute care (for non acute hospitals)?  Yes  No  N/A - this is an acute hospital





k. If YES to 9a, is education around sepsis recognition and management, including the use of the protocol, included in the induction for the following staff members in the following areas:

i) Medical Staff				ii) Nursing Staff			
ED	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A (No ED)	ED	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A (No ED)
Other wards	<input type="checkbox"/> Yes	<input type="checkbox"/> No		Other wards	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

**Please answer Q10 & Q11 if there is no protocol/care pathway/bundle specifically for the recognition and management of patients with sepsis**

10a. If NO to 9a, is there any other guidance available specifically to help staff recognise patients with sepsis?  Yes  No

b. If YES to 10a, does this include: *(answers may be multiple, please list all that apply)*

- Electronic resources     Specific training     Printed guidance materials     Other (please specify):

11a. If NO to 9a, does this hospital have a general protocol for the recognition and management of the deteriorating/acutely ill patient?  Yes  No

b. If YES, please give details:

12a. Does your hospital use Track & Trigger tools for deteriorating patients?  Yes  No

b. If YES, which of the following:

- Early Warning Score (EWS)\* please give details: *\*Please see definitions on page 2*

- Automated system linked to observations that triggers escalation

- Other Track & Trigger tool (please give details):

c. Are all track and trigger tools linked to escalation protocols?  Yes  No  N/A (no Track & Trigger tool used)

d. If YES to 12c, what does this involve: *(answers may be multiple)* *\*Please see definitions on page 2*

- Call to Critical Care Outreach Team\*     Call to Rapid Reponse Team\*     ICU referral  
 Call to Medical Emergency Team\*     Call to cardiac arrest team     Transfer to other hospital  
 Review by patient's own medical team

- Other (please specify):

13a. Is there a policy/protocol in place covering the transfer of deteriorating/ acutely unwell patients (including those with sepsis) to a higher level of care (either on-site or to another hospital)?  Yes  No

b. Is there a specific policy/ protocol in place covering the transfer of sepsis patients to a higher level of care (either on-site or to another hospital)?  Yes  No





14. Is there a dedicated on-site:

a. Level 2 / HDU facility  Yes  No If YES, how many beds?

b. Level 3 / ICU facility  Yes  No If YES, how many beds?

15. If YES to both 14a and b, are the ICU and HDU facilities combined within one physical space?  Yes  No

16a. If NO to both 14a and b (no critical care (HDU or ICU) on site), does arrangement for critical care transfer exist with a nearby hospital or hospitals?  Yes  No

b. If NO to 16a, what process/ policy is in place for when patients become severely unwell?

No specific process/ policy  Ad-hoc arrangement to nearest hospital(s)

Other (please specify):

c. If patients with sepsis are transferred off-site for critical care, how long would transfer take? (average journey time in middle of the day in minutes)    minutes

d. If patients with sepsis are transferred off-site for critical care, would policy dictate that any of the following are performed prior to transfer?

*(answers may be multiple, please select all that apply)*

Take blood cultures  Administer antimicrobials  Administer oxygen therapy

Haemodynamically stabilise the patient (fluids)  Measure lactate

Attempt to isolate the source of infection  Monitor urine output

Other (please specify)

None of the above

17. Is there a specific standard proforma in the medical notes to monitor the progress of patients with sepsis?  Yes  No

**If YES, please send a copy to NCEPOD in the SAE provided**

18a. Does this hospital have a care bundle for source isolation/control?  Yes  No  N/A - source control not carried out at this hospital

b. If YES, does this include any of the following:

i) A specific anatomical diagnosis and source control should be carried out, if feasible, within 12 hours of diagnosis:  Yes  No v) Identification of collection:  Yes  No

ii) Intervention with least physiological insult for severe sepsis patients:  Yes  No vi) Draining of collection:  Yes  No

iii) Delay in intervention for peripancreatic necrosis patients until adequate demarcation of viable / non-viable tissues:  Yes  No vii) Identification of necrotic tissue:  Yes  No

iv) Definitive measures to restore function:  Yes  No viii) Debridement of necrotic tissue:  Yes  No

c. If YES to 18b(iv), please give details:

19a. Does this hospital have a care bundle for goal- directed haemodynamic support (e.g. EGDT\*)?  Yes  No  N/A - not delivered at this hospital

*\*Please see definitions on page 2*



b. If YES to 19a, please answer questions i, ii & iii for the areas listed in the left hand column:

Clinical area	i) Is goal directed haemodynamic support (eg. EGDT*) routinely delivered within the following areas:	ii) If YES, are there human resources and skills to do this in the following areas:	iii) Is the necessary monitoring to support this routinely available within the following areas:
Emergency Department <input type="checkbox"/> N/A - no ED	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Acute wards <input type="checkbox"/> N/A - no acute ward	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
General wards <input type="checkbox"/> N/A - no general ward	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Higher Dependency Care: Level 2 or 3 (HDU/ICU)* <input type="checkbox"/> N/A - no HDU/ICU	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No

\*Please see definitions on page 2

c. Is the patient's fluid balance chart recorded on a proforma in the medical notes?  Yes  No

d. If YES, is there guidance dictating who should complete this?  Yes  No

e. If YES, does this include: *(answers may be multiple, please select all that apply)*

- Senior doctor (ST3 or above)       Junior doctor (below ST3)       Staff nurse  
 Other healthcare worker (please specify):       Senior nurse (senior staff nurse or above)       Healthcare assistant

20. Which members of staff usually take observations and calculate EWS? *(answers may be multiple)*

- Senior doctor (ST3 or above)       Junior doctor (below ST3)       Staff nurse  
 Other healthcare worker (please specify):       Senior nurse (senior staff nurse or above)       Healthcare assistant

21. Does this hospital have policies for:

- a. Blood product administration?  Yes  No  N/A - not administered on site
- b. Administration of intravenous immunoglobulins?  Yes  No  N/A - not administered on site
- c. Blood glucose control?  Yes  No
- d. i) DVT risk assessment?  Yes  No
- ii) If YES, when is this done?
- On admission       After 24 hours       Other (please specify):



- e. i) DVT prophylaxis?  Yes  No  
ii) If YES, when is this done?  On admission  After 24 hours  Other (please specify)

- f. Stress ulcer prophylaxis?  Yes  No      h. Nutritional support?  Yes  No  
g. Sedation in critical care?  Yes  No      i. End of life care pathway?  Yes  No  
 N/A (no critical care)

22. Does your hospital have consultant sessions with daily ward rounds dedicated to palliative or end of life care?  Yes  No  N/A - no palliative care

23a. Is there a policy covering staff handover?  Yes  No

- b. If YES, does this include any of the following:  
i) Structured proforma for handover?  Yes  No      iii) Time set aside for face to face handover?  Yes  No  
ii) Clear escalation plan?  Yes  No      iv) DNACPR status?  Yes  No

24a. Do all hospital staff have immediate access to hospital guidelines/ protocols?  Yes  No

- b. If YES, by which means can they be accessed? *(Please select all that apply)*  
 Printed copies stored in relevant locations       Electronic copies on hospital intranet  
 Internet       Other (please specify):

**D. AVAILABILITY OF INVESTIGATIONS AND SERVICES**

**Microbiology**

25a. Are there currently Microbiologists employed to practice in this hospital?  Yes  No

b. If YES, how many microbiology consultants (full time equivalent sessions) are employed in this hospital?    .

26a. Does this hospital have an antimicrobial policy?  Yes  No

b. If YES, when was it last formally reviewed?            
 N/A - Never reviewed       Unknown      d d m m y y y y

c. Is there a section in the policy on the antimicrobial treatment (empirical and/or directed) of patients diagnosed with sepsis?  Yes  No

d. If YES, please give details?

27a. Is there a hospital policy regarding who can administer intravenous antimicrobials?  Yes  No

- b. If YES, does this include:  Senior doctor (ST3 or above)  Junior doctor (below ST3)  
 Other healthcare worker (please specify):  Senior nurse (senior staff nurse or above)  Staff nurse  Healthcare assistant







**30a.** Can blood cultures be carried out in your hospital?

Yes  No

**b.** If NO to 30a, would you send samples to another hospital/specialist service?

Yes  No

N/A - patients transferred immediately to acute care hospital

**c.** If YES to 30a, do you have a policy covering the standard time frames for reporting results?

Yes  No

**d.** If YES, please specify maximum length of time from collection of sample to incubation in the laboratory:

days hours mins

Unknown

**e.** If YES to 30c, please specify maximum length of time from identification of positive result to reporting of results

days hours mins

Unknown

**f.** If YES to 30c, please specify maximum total length of time from request made to results reported to requesting clinician (during normal working hours)

days hours mins

Unknown

**g.** If YES to 30c, please specify maximum length of time from request made to results reported to requesting clinician (out of hours, weekends, bank holidays)

days hours mins

Unknown

**31a.** Can mannan antibody assays be carried out in your hospital?

Yes  No

i) If NO to 31a, would you send patients to another hospital/specialist service?  Yes  No

ii) If YES to 31a, please specify maximum length of time from request to completion

days hours mins Unknown

**b.** Can anti-mannan antibody assays be carried out in your hospital?

Yes  No

i) If NO to 31b, would you send patients to another hospital/specialist service?  Yes  No

ii) If YES to 31b, please specify maximum length of time from request to completion

days hours mins Unknown

**c.** Can pro-calcitonin levels be measured in your hospital?

Yes  No

i) If NO to 31c, would you send patients to another hospital/specialist service?  Yes  No

ii) If YES to 31c, please specify maximum length of time from request to completion

days hours mins Unknown

**d.** Can 1,3 beta-D-glucan assays be measured in your hospital?

Yes  No

i) If NO to 31d, would you send patients to another hospital/specialist service?  Yes  No

ii) If YES to 31d, please specify maximum length of time from request to completion

days hours mins Unknown



32. Please state the availability of the following investigations at this hospital for patients that present or develop sepsis:

	Not available	Available on-site 24/7	Available normal hours (8am-6pm) 7days/ week	Available normal working hours (8am-6pm), Mon-Fri	Other hours (please specify)
a. X-ray	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
b. Ultrasound	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
c. CT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
d. CTA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
e. MRI	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
f. Laboratory blood/NPT* equivalent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

33. Is there relevant consultant cover to interpret results for:

	N/A - investigation not available	Consultant cover not available	Available on-site 24/7	Available normal hours (8am-6pm) 7days/ week	Available normal hours (8am-6pm), Mon-Fri	Other hours (please specify)
a. X-ray	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
b. Ultrasound	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
c. CT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
d. CTA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
e. MRI	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
f. Laboratory blood/ NPT* equivalent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

\*Please see definitions on page 2

34a. If an investigation is not available when a patient presents/develops sepsis, is there an agreement with a nearby hospital to transfer the patient, if necessary?  Yes  No

b. If YES, is this:  At another Trust  At another hospital in the same Trust



35. For each investigation carried out at this hospital, please state if the hospital has a standard for time from presentation to delivery of investigation and if so please specify time frame:

X-ray	Ultrasound	CT	CTA	MRI	Laboratory blood or NPT* equivalent
<input type="checkbox"/> Yes within <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> h h m m <input type="checkbox"/> No <input type="checkbox"/> N/A-Not available at this hospital	<input type="checkbox"/> Yes within <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> h h m m <input type="checkbox"/> No <input type="checkbox"/> N/A-Not available at this hospital	<input type="checkbox"/> Yes within <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> h h m m <input type="checkbox"/> No <input type="checkbox"/> N/A-Not available at this hospital	<input type="checkbox"/> Yes within <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> h h m m <input type="checkbox"/> No <input type="checkbox"/> N/A-Not available at this hospital	<input type="checkbox"/> Yes within <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> h h m m <input type="checkbox"/> No <input type="checkbox"/> N/A-Not available at this hospital	<input type="checkbox"/> Yes within <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> h h m m <input type="checkbox"/> No <input type="checkbox"/> N/A-Not available at this hospital

*\*Please see definitions on page 2*

36a. How are abnormal laboratory results flagged up:

- i) Automatically on electronic hospital system?  Yes  No  N/A
- ii) As a personal alert to the responsible consultant?  Yes  No  N/A
- iii) As a personal alert to the requesting doctor?  Yes  No  N/A

b. If YES to ii or iii, who contacts the consultant/doctor?

c. If YES to 36a, within what time limits are results flagged up to the responsible consultant?

days	hours	mins

37. Does this hospital have a nutrition service\*?

Yes  No

*\*Please see definitions on page 2*

38a. Does this hospital have a pharmacy service?

Yes  No

b. If YES to Q37 or Q38, please mark the availability:	i) Nutrition service	ii) Pharmacy service
Available on-site 24/7	<input type="checkbox"/>	<input type="checkbox"/>
Available normal working hours (8am-6pm), 7days/ week	<input type="checkbox"/>	<input type="checkbox"/>
Available normal working hours (8am-6pm), Mon-Fri	<input type="checkbox"/>	<input type="checkbox"/>
Telephone on-call from 6pm-8am	<input type="checkbox"/>	<input type="checkbox"/>
Other (please specify)	<input type="checkbox"/>	<input type="checkbox"/>





- 39a. Are intravenous starch based colloid solutions available in your hospital?  Yes  No  N/A
- b. If YES, is there a policy for the use of starch containing solutions in patients with sepsis?  Yes  No
- c. If YES to 39b, please give details:

40. Is intravenous albumin readily available in your hospital?  Yes  No  N/A
- 41a. Does your hospital offer rehabilitation services (including for patients with sepsis)?  Yes  No

b. If YES, does this include: (please mark all that apply)

- |   |  |
|---|--|
| <input type="checkbox"/> Specialist rehabilitation consultants      | <input type="checkbox"/> Specialist rehabilitation nurses            |
| <input type="checkbox"/> Physiotherapy services (domiciliary)       | <input type="checkbox"/> Physiotherapy services (in-patient)         |
| <input type="checkbox"/> Physiotherapy services (out-patient)       | <input type="checkbox"/> Occupational therapy services (domiciliary) |
| <input type="checkbox"/> Occupational therapy services (in-patient) | <input type="checkbox"/> Occupational therapy services (out-patient) |
| <input type="checkbox"/> Plastic surgery                            | <input type="checkbox"/> Psychology                                  |

Other (please specify):

42. Does your hospital provide a follow-up service for sepsis patients who have been discharged?  Yes  No
43. If YES, does your hospital routinely organise a follow up appointment with any of the following healthcare professionals for each patient that has recovered from sepsis: (please mark all that apply)

- |   |  |
|---|--|
| <input type="checkbox"/> ICU consultant             | <input type="checkbox"/> ICU nursing team            |
| <input type="checkbox"/> General medical consultant | <input type="checkbox"/> General surgical consultant |
| <input type="checkbox"/> Other (please specify):    | <input type="checkbox"/> Psychologist                |

- 44a. At discharge, are patients who have had an episode of sepsis routinely provided with printed information about sepsis and the long-term effects?  Yes  No

b. If YES, is this information provided to: (*Answers may be multiple*)

- |  |   |  |
|--|---|--|
| <input type="checkbox"/> The patient           | <input type="checkbox"/> The patient's family | <input type="checkbox"/> The patient's principal carer |
| <input type="checkbox"/> Other (please state): | <input type="checkbox"/> None of the above    |  |

- 45a. Following discharge of patients who have had an episode of sepsis, is it standard practice to inform the patient's GP within 24 hours?  Yes  No
- b. If YES, does this include providing them with a copy of the discharge summary?  Yes  No
- c. Is it standard practice to provide the patient with a copy of their discharge summary?  Yes  No



## E. STAFFING

46a. Does your hospital have a critical care outreach service or equivalent (e.g. MET)?  Yes  No  N/A - no acute care

If NO or N/A to 46a please continue directly to Q47

b. If YES to 46a please state who the team is staffed by and the availability of the team  
(Please mark all that apply)

Critical care outreach service or equivalent			
<b>Grade</b>	<input type="checkbox"/> Consultant	<input type="checkbox"/> Trainee	<input type="checkbox"/> Nurses
<b>Specialty</b>	<input type="checkbox"/> Critical care	<input type="checkbox"/> Acute care	
	<input type="checkbox"/> Other: (please state) <input style="width: 500px; height: 20px;" type="text"/>		
<b>Availability of outreach team</b>			
<input type="checkbox"/>	24 hours, 7 days/week		<input type="checkbox"/> Normal working hours (8am-6pm), 7days/week
<input type="checkbox"/>	Normal working hours (8am-6pm), Mon-Fri		
<input type="checkbox"/>	Other: (please state) <input style="width: 600px; height: 20px;" type="text"/>		

c. Which of the following areas are covered by the outreach team (or other acute care teams)?  
(Please mark all that apply) \*Please see definitions on page 2

ED  MAU\*  SAU\*  General wards  Specialist wards  
 Other (please state)

d. Which of the following triggers a call to the outreach team (or other acute care teams)?

Automated system linked to monitoring of standard observations  
 Concern expressed by medical staff  Concern expressed by nursing staff  
 EWS  
 Other (please specify)

47. What is the availability of consultants in the following areas?

	ED	MAU	SAU	ICU/ HDU		ED	MAU	SAU	ICU/ HDU
N/A - service not provided (no acute care)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Normal working hours (8am-6pm), Mon-Fri	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On-site 24/7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Normal working hours plus telephone contact (weekend/nights)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Normal working hours (8am-6pm), 7days/week	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Normal working hours plus on-call consultant (weekend/nights)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (please specify)					<input style="width: 650px; height: 20px;" type="text"/>				



## F. SEPSIS QUALITY IMPROVEMENT INITIATIVES

48. Have any initiatives been undertaken to improve the recognition and treatment of sepsis in your hospital?  Yes  No
49. If YES to Q48, please state if there are any of the following and in which areas?
- a. Sepsis "trolley" (or equivalent supplied with necessary equipment and medication for treating patients with sepsis, e.g. antimicrobials, fluids, blood culture bottles, antiseptic etc.)  Yes  No
- i) If YES to 49a, in which of the following areas?
- |                      |                              |                             |  |
|----------------------|------------------------------|-----------------------------|--|
| Emergency department | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A - no ED           |
| Acute ward           | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A - no acute ward   |
| General ward         | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A - no general ward |
- b. Sepsis nurses:  Yes  No
- i) If YES to 49b, please state the number of sepsis nurse (full time equivalent) sessions?   .    Unknown
- ii) If YES to 49b, in which of the following areas?
- |                      |                              |                             |  |
|----------------------|------------------------------|-----------------------------|--|
| Emergency department | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A - no ED           |
| Acute ward           | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A - no acute ward   |
| General ward         | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A - no general ward |
- c. Lead clinician with responsibility of improving the hospital-wide care of patients with sepsis at this hospital  Yes  No
- i) If YES to 49c, please state the number of dedicated consultant time (full time equivalent) sessions?   .    Unknown
- d. Educational activities to promote staff awareness?  Yes  No
- i) If YES to 49d, please give details:
- 
- ii) If YES to 49d, please state if educational activities are promoted for staff in any of the following areas?
- |                      |                              |                             |  |
|----------------------|------------------------------|-----------------------------|--|
| Emergency department | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A - no ED           |
| Acute ward           | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A - no acute ward   |
| General ward         | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A - no general ward |
- Other ward (please specify):
- 50a. Is there ongoing quality improvement (e.g. CQUIN)\* work on the management of sepsis?  Yes  No
- \*Please see definitions on page 2*
- b. If YES, please give details:
- 



## G. AUDIT AND DATA COLLECTION

**51a.** Does your hospital have a "Sepsis Action Group" or a similar organisation-wide group that reviews sepsis management and provides audit/governance?  Yes  No

**b.** If YES, please provide further details:

**52a.** Are infection rates routinely monitored?  Yes  No

**b.** If YES, are the results routinely reported:

i) At board level  Yes  No    ii) To any other governance group  Yes  No

**c.** If YES to either i) or ii) please give details:

**53a.** Is there a target to reduce infection rates?  Yes  No

**b.** If YES, by what percentage?     %

**54a.** Does this hospital audit the number of episodes of sepsis where the patient receives antimicrobials within the first hour of:

**b.** If YES to 54a, please state percentage of patients (receiving antimicrobials within 1 hour) between 1st April 2013 - 31st March 2014

i) Severe sepsis identification?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> %	<input type="checkbox"/> Unknown
ii) Sepsis identification?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> %	<input type="checkbox"/> Unknown
iii) Other (please specify):	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> %	<input type="checkbox"/> Unknown

**55.** Does your hospital have a mechanism for centrally recording all incidents of:

i) Sepsis	<input type="checkbox"/> Yes <input type="checkbox"/> No	iii) Septic shock	<input type="checkbox"/> Yes <input type="checkbox"/> No
ii) Severe sepsis	<input type="checkbox"/> Yes <input type="checkbox"/> No	iv) Septicaemia	<input type="checkbox"/> Yes <input type="checkbox"/> No

**b.** If YES to any of 55a (i - iv), please give details on the method by which this is done:

**c.** If YES to 55a what was the annual incidence between 1st April 2013 - 31st March 2014 for:

i) Sepsis	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="checkbox"/> Unknown	iii) Septic shock	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="checkbox"/> Unknown
ii) Severe sepsis	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="checkbox"/> Unknown	iv) Septicaemia	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="checkbox"/> Unknown







**56a.** Between 1st April 2013 - 31st March 2014 how many Serious Untoward Incidents (SUIs) directly or indirectly involved an episode of severe sepsis?

--	--	--	--	--

Unknown

**b.** Between 1st April 2013 - 31st March 2014 how many adverse incidents/near misses directly or indirectly involved an episode of severe sepsis?

--	--	--	--	--

Unknown

**57.** Do you have any specific comments on the work on sepsis not covered in this questionnaire or any aspect of this study?

Yes

No

If YES, please write in the box below:

**Thank you for taking the time to complete this questionnaire**



**a) Modified SIRS Criteria- Diagnostic for Sepsis: Infection, documented or suspected, and more than one of the following:**

- Fever ( $> 38.3^{\circ}\text{C}$ )/Hypothermia (core temperature  $< 36^{\circ}\text{C}$ )
- Heart rate  $> 90/\text{min}-1$  or more than two sd above the normal value for age
- Tachypnea (RR $>20$  breaths/minute)
- Acutely altered mental status
- Arterial hypotension (SBP  $< 90$  mm Hg, MAP  $< 70$  mm Hg, or an SBP decrease  $> 40$  mm Hg in adults or less than two sd below normal for age)
- Hyperglycaemia (plasma glucose  $> 140$  mg/dL or  $7.7$  mmol/L) in the absence of diabetes
- Leukocytosis (WBC count  $> 12,000 \mu\text{L}^{-1}$ ) or Leukopenia (WBC count  $< 4000 \mu\text{L}^{-1}$ ) (or normal WBC count with  $>10\%$  immature forms)
- Significant oedema or positive fluid balance ( $> 20$  mL/kg over 24 hr)
- Plasma C-reactive protein more than two sd above the normal value
- Plasma procalcitonin more than two sd above the normal value
- Arterial hypoxemia ( $\text{Pao}_2/\text{Fio}_2 < 300$ )
- Acute oliguria (urine output  $< 0.5$  mL/kg/hr for at least 2 hrs despite adequate fluid resuscitation)
- Creatinine increase  $> 0.5$  mg/dL or  $44.2 \mu\text{mol/L}$
- Coagulation abnormalities (INR  $> 1.5$  or aPTT  $> 60$  s)
- Ileus (absent bowel sounds)
- Thrombocytopenia (platelet count  $< 100,000 \mu\text{L}^{-1}$ )
- Hyperbilirubinemia (plasma total bilirubin  $> 4$  mg/dL or  $70 \mu\text{mol/L}$ )
- Hyperlactatemia ( $> 1$  mmol/L)
- Decreased capillary refill or mottling

(WBC = white blood cell) Adapted from: Signs & symptoms of infection highlighted in Surviving Sepsis Campaign Sepsis Screening Tool: <http://www.survivingsepsis.org/SiteCollectionDocuments/ScreeningTool.pdf> and R. Phillip Dellinger, MD; Mitchell M. Levy, MD; Andrew Rhodes, MB BS; et al: 2001 Surviving Sepsis Campaign: International Guidelines for Management of Severe Sepsis and Septic Shock: 2012 Critical Care Medicine Journal, February 2013; 41(2)pp580-637

**b) Severe sepsis definition = sepsis-induced tissue hypoperfusion or organ dysfunction (any of the following thought to be due to the infection)**

- Sepsis-induced hypotension
- Lactate above upper limits laboratory normal
- Urine output  $< 0.5$  mL/kg/hr for more than 2 hrs despite adequate fluid resuscitation
- Acute lung injury with  $\text{Pao}_2/\text{Fio}_2 < 250$  in the absence of pneumonia as infection source
- Acute lung injury with  $\text{Pao}_2/\text{Fio}_2 < 200$  in the presence of pneumonia as infection source
- Creatinine  $> 2.0$  mg/dL ( $176.8 \mu\text{mol/L}$ )
- Bilirubin  $> 2$  mg/dL ( $34.2 \mu\text{mol/L}$ )
- Platelet count  $< 100,000 \mu\text{L}$
- Coagulopathy (international normalized ratio  $> 1.5$ )

Adapted from Levy MM, Fink MP, Marshall JC, et al: 2001 SCCM/ESICM/ACCP/ATS/SIS International Sepsis Definitions Conference. Crit Care Med 2003; 31:1250–1256.



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