

SEPSIS



THE UK
SEPSIS
TRUST



@SepsisUK

Dr Ron Daniels B.E.M.
CEO, UK Sepsis Trust
Vice President, Global Sepsis Alliance
WHO Technical Expert Group

SEPSIS is a life-threatening condition that arises when the body's response to an infection injures its own tissues and organs.

Breast cancer

Bowel cancer

Annual UK sepsis deaths



NEW YORK STATE 2019

Characteristic	Level	Sepsis Cases (N)	Sepsis Cases (%)	Sepsis Cases Per 100,000
Age	18-29	1,944	2.7%	58.7
	30-39	2,726	3.7%	100.4
	40-49	4,131	5.7%	166.9
	50-59	9,428	12.9%	347.0
	60-69	15,606	21.4%	662.1
	70-79	17,548	24.0%	1314.4
	80+	21,667	29.7%	2653.3
Total	Total	73,050	100.0%	464.5

NEW YORK STATE 2019

Characteristic	Level	Sepsis Cases (N)	Sepsis Cases (%)	Sepsis Cases Per 100,000
Age	< 1 year	148	23.7%	65.2
	1-2	89	14.3%	19.3
	3-5	58	9.3%	8.3
	6-11	120	19.2%	8.7
	12-17	209	33.5%	14.8
Total	Total	624	100.0%	14.9

SOURCES OF INFECTION

Source	% of cases (approx.)
Pneumonia	50%
Urinary tract	20%
Abdomen	15%
Skin, soft tissue, bone and joint	10%
Endocarditis	1%
Device-related infection	1%
Meningitis	1%
Others	2%

‘MIGHT BE’ SEPSIS CODES

- J18.0** Bronchopneumonia, unspecified organism
- J18.1** Lobar pneumonia, unspecified organism
- J18.9** Pneumonia, unspecified organism
- K65.0** Generalised peritonitis
- L03.9** Cellulitis, unspecified
- L03.1** Cellulitis of limb
- N39.0** Urinary tract infection

‘MIGHT BE’ SEPSIS CODES

J18.0

J18.1

J18.9

K65.0

L03.9

L03.1

N39.0



1,700,000
CASES

(HES data 2017)

**Embargoed for Release Until
17:01, JANUARY 16th, 2020**

New study - deadly sepsis rates double prior estimates

**Poor countries and children hit hardest as nearly 50m cases recorded
annually worldwide**

**Study confirms that sepsis is likely cause of 11 million deaths
worldwide – that's a life lost every three seconds**

GLOBAL SEPSIS MORTALITY



Sepsis

11 M

*

Ischaemic
Heart Disease

7.2M

(CDC 2015)

Cancer

9.6M

(WHO 2018)

Tobacco

8M

(WHO 2019)

COVID-19: 6.8 M

(JHU Feb 2023)

*Rudd K, Lancet 2020

G7 Health Ministers Commit to Boost the Implementation of the WHA 70.7 Resolution on Sepsis



Five years after the adoption of the [Resolution “Improving the Prevention, Diagnosis and Clinical Management of Sepsis”](#) by the World Health Assembly in 2017, G7 Health Ministers commit to intensify efforts to strengthen early detection, diagnosis, and



The NEW ENGLAND JOURNAL *of* MEDICINE

Perspective

Recognizing Sepsis as a Global Health Priority — A WHO Resolution

Konrad Reinhart, M.D., Ron Daniels, M.D., Niranjan Kissoon, M.D., Flavia R. Machado, M.D., Ph.D.,
Raymond D. Schachter, L.L.B., and Simon Finfer, M.D.

“Some very important clinical issues, some of them affecting life and death, stay largely in a backwater which is inhabited by academics and professionals and enthusiasts, dealt with very well

actions to reduce the burden of sepsis through improved prevention, diagnosis, and management (see table).

The true burden of disease arising from sepsis remains unknown. The current estimate is 6.2 million



The NEW ENGLAND JOURNAL of MEDICINE

Recognizing Sepsis as a Global Health Issue A WHO Resolution

Konrad Reinhart, M.D.,
Raymond D. Adams, M.D., Ph.D.,

... The public and political space is the space in which [sepsis] needs to be in order for things to change.”

Sir Liam Donaldson, Geneva ; May 2017

“... issues, some of which and death, stay largely in the water which is inhabited by academics and professionals and enthusiasts, dealt with very well

actions to reduce the burden of sepsis through improved prevention, diagnosis, and management (see table).

The true burden of disease arising from sepsis remains unknown. The current estimate is 6.2 million



THE UK
SEPSIS
TRUST

IF YOU'RE FEVERISH OR SHIVERING
AND FEELING REALLY UNWELL.


NHS

**JUST
ASK
"COULD
IT BE
SEPSIS?"**

**IT'S A SIMPLE QUESTION,
BUT IT COULD SAVE LIVES.**

sepsis is a life-threatening condition that can kill.
It's now the second leading cause of death in the UK.
It's also the most frequent cause of death in hospital.
But it can be treated if you spot it early. It's a simple question to ask.

Please support our work by donating now at www.sepsistrust.org

 **SEPSIS
TRUST**

© 2010 Sepsis Trust. All rights reserved. Sepsis Trust is a registered charity in England and Wales (1142768) and in Scotland (SC042917). Sepsis Trust is a company limited by guarantee. Registered office: Sepsis Trust, 100, The Quadrant, London W1 8DB. Tel: 020 7462 0000. Email: info@sepsistrust.org



MORE NEWS



4h ago

Fabinho interview: 'I saw centre-back role coming'



3h ago

James Milner analyses Liverpool's evolution



1d ago

Gallery: More Melwood photos as Reds continue Palace prep



21h ago

LFC to celebrate 100th birthday of Bob Paisley



19h ago

Media Watch: Read the latest LFC transfer rumours

ODDS ARE YOU KNOW SOMEONE WHO'LL GET SEPSIS

THE UK
SEPSIS
TRUST



JUST ASK
“**COULD IT BE SEPSIS?**”

WHAT ARE THE SYMPTOMS?

SYMPTOMS IN CHILDREN

A child may have sepsis if he or she:

- Is breathing very fast
- Has a ‘fit’ or convulsion
- Looks mottled, bluish, or pale
- Has a rash that does not fade when you press it
- Is very lethargic or difficult to wake
- Feels abnormally cold to touch

SYMPTOMS IN ADULTS

An adult may have sepsis if they show any of these signs:

- S**lurred speech or confusion
- E**xtrême shivering or muscle pain
- P**assing no urine (in a day)
- S**evere breathlessness
- I**t feels like you’re going to die
- S**kin mottled or discoloured

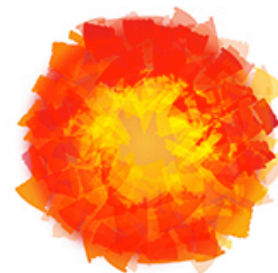
JUST ASK
“**COULD IT BE SEPSIS?**”

Call **111** or **contact your GP** if you’re worried about an infection.
Call **999** or **visit A&E** if someone has one of the sepsis symptoms.

The Iceland Foods Charitable Foundation registered charity number 281943. Second Avenue, Deeside Industrial Park, Deeside, Flintshire, CH5 2NW
The UK Sepsis Trust registered charity number (England & Wales) 1158843. Company registration number 8644039. Sepsis Enterprises Ltd.
Company number 9583335. VAT reg. number 225570222



SEPSIS



THE UK
SEPSIS
TRUST

WHAT ABOUT SURVIVORS?



@sepsisuk

Around 40% of survivors of sepsis suffer at least one of a range of **physical, cognitive, and psychological** sequelae.

43% of survivors in one study were
still not back at work at
one year.

Sepsis can affect ANYONE



THE UK
SEPSIS
TRUST

Every year ...



11 million **deaths**
(3 every second)



245,000 **affected**.
48,000 **deaths**
(5 every hour)



£15.6 Billion
cost to the UK economy

DONATE TODAY

SUPPORT FOR SURVIVORS

[FIND OUT MORE](#)

SUPPORT FOR RELATIVES

[FIND OUT MORE](#)

DEALING WITH BEREAVEMENT

[FIND OUT MORE](#)

LEGAL ADVICE

[FIND OUT MORE](#)

CONTACT US

SUPPORT GROUPS

[FIND OUT MORE](#)

INFORMATION BOOKLETS

[FIND OUT MORE](#)

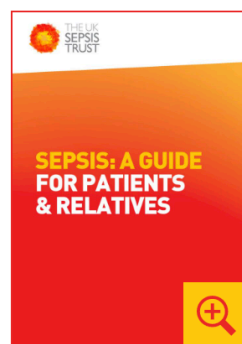
FAQS AND USEFUL LINKS



DONATE TODAY

SEPSIS: A GUIDE FOR PATIENTS & RELATIVES

A new comprehensive guide to what sepsis is, its treatment, recovery and how to access support.



[DOWNLOAD PDF](#)

BEREAVEMENT FOLLOWING SEPSIS

This booklet has been produced to help and guide those navigating grief following the loss of a loved one to sepsis.



[DOWNLOAD PDF](#)

RECOVERY & WELLBEING DIARY

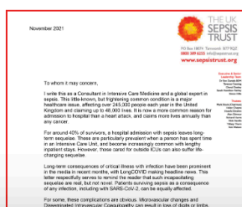
The UK Sepsis Trust's Recovery and Wellbeing Diary has been created to help enhance your recovery following sepsis and serious infection.



[DOWNLOAD PDF](#)

RECOVERY SUPPORTING LETTER

A letter from our Founder and Executive Director Dr Ron Daniels encouraging people to provide the support and validation required to those recovering from sepsis.



RECOVERY AFTER CRITICAL ILLNESS

What you should know after leaving a Critical Care Unit. 1st Edition 2020.



RETURNING TO WORK FOLLOWING CRITICAL ILLNESS

What your employer should know after leaving a Critical Care Unit and returning to work. 1st Edition 2020.



SEPSIS



THE UK
SEPSIS
TRUST

INTELLIGENT SCREENING?



@SepsisUK

qSOFA

Hypotension
Systolic BP
<100 mmHg

Altered
Mental
Status

Tachypnea
RR >22/Min

Score of ≥2 Criteria Suggests a Greater Risk of a Poor Outcome

qSOFA CRASHES & BURNS??

PulmCrit – Bad news for sepsis-3.0: qSOFA fails validation

October 1, 2016 by Josh Farkas — 9 Comments



Sepsis 3.0 replaced the SIRS criteria with a new risk-stratification tool, qSOFA. qSOFA was initially developed *within* the Sepsis-3 publication itself. Until now, qSOFA has never been validated. The value of qSOFA vs. SIRS remains controversial.

Churpek 2016: qSOFA, SIRS, and early warning scores for detecting clinical deterioration in infected patients outside the ICU.

Screening for sepsis

PICO Question	2021 Recommendation	Recommendation Strength and Quality	Change from 2016
In acutely ill patients should we use qSOFA criteria to screen for the presence of sepsis?	We recommend against using qSOFA compared with SIRS, NEWS, or MEWS as a single-screening tool for sepsis or septic shock.	Strong, moderate-quality evidence	New recommendation

NHS recommends 'Think Sepsis' if total NEWS2 is 5 or above

NEWS key		FULL NAME										DATE OF BIRTH										DATE OF ADMISSION											
0	1	2	3																														
				DATE TIME												DATE TIME																	
A+B Respirations Breaths/min				≥25												≥25																	
				21–24												21–24																	
				18–20												18–20																	
				15–17												15–17																	
				12–14												12–14																	
				9–11												9–11																	
				≤8												≤8																	
A+B SpO ₂ Scale 1 Oxygen saturation (%)				≥96												≥96																	
				94–95												94–95																	
				92–93												92–93																	
				≤91												≤91																	
SpO₂ Scale 2* Oxygen saturation (%) Use Scale 2 if target range is 88–92%, eg in hypercapnic respiratory failure *ONLY use Scale 2 under the direction of a qualified clinician				≥97 on O ₂												≥97 on O ₂																	
				95–96 on O ₂												95–96 on O ₂																	
				93–94 on O ₂												93–94 on O ₂																	
				≥93 on air												≥93 on air																	
				88–92												88–92																	
				86–87												86–87																	
				84–85												84–85																	
				≤83%												≤83%																	
				Air or oxygen?				A=Air												A=Air													
								O ₂ L/min												O ₂ L/min													
Device												Device																					
C Blood pressure mmHg Score uses systolic BP only				≥220												≥220																	
				201–219												201–219																	
				181–200												181–200																	
				161–180												161–180																	
				141–160												141–160																	
				121–140												121–140																	
				111–120												111–120																	
				101–110												101–110																	
				91–100												91–100																	
				81–90												81–90																	
				71–80												71–80																	
				61–70												61–70																	
				51–60												51–60																	
				≤50												≤50																	
C Pulse Beats/min				≥131												≥131																	
				121–130												121–130																	
				111–120												111–120																	
				101–110												101–110																	
				91–100												91–100																	
				81–90												81–90																	
				71–80												71–80																	
				61–70												61–70																	
				51–60												51–60																	
				41–50												41–50																	
				31–40												31–40																	
				≤30												≤30																	
				D Consciousness Score for NEW onset of confusion (no score if chronic)				Alert												Alert													
Confusion												Confusion																					
V												V																					
P												P																					
U												U																					
E Temperature °C				≥39.1°												≥39.1°																	
				38.1–39.0°												38.1–39.0°																	
				37.1–38.0°												37.1–38.0°																	
				36.1–37.0°												36.1–37.0°																	
				35.1–36.0°												35.1–36.0°																	
				≤35.0°												≤35.0°																	
NEWS TOTAL														TOTAL																			
Monitoring frequency														Monitoring frequency																			
Escalation of care Y/N														Escalation of care Y/N																			
Initials														Initials																			

SEPSIS SCREENING TOOL ACUTE ASSESSMENT

AGE 12+

PATIENT DETAILS:

DATE:

TIME:

NAME:

DESIGNATION:

SIGNATURE:

01 START THIS CHART IF THE PATIENT LOOKS UNWELL OR NEWS2 IS 5 OR ABOVE

RISK FACTORS FOR SEPSIS INCLUDE:

- | | |
|--|---|
| <input type="checkbox"/> Age > 75 | <input type="checkbox"/> Recent trauma / surgery / invasive procedure |
| <input type="checkbox"/> Impaired immunity (e.g. diabetes, steroids, chemotherapy) | <input type="checkbox"/> Indwelling lines / IVDU / broken skin |

02 COULD THIS BE DUE TO AN INFECTION?

LIKELY SOURCE:

- | | | | |
|--------------------------------------|-----------------------------------|---|--|
| <input type="checkbox"/> Respiratory | <input type="checkbox"/> Urine | <input type="checkbox"/> Skin / joint / wound | <input type="checkbox"/> Indwelling device |
| <input type="checkbox"/> Brain | <input type="checkbox"/> Surgical | <input type="checkbox"/> Other | |

YES

NO

**SEPSIS
UNLIKELY,
CONSIDER
OTHER
DIAGNOSIS**

03 ANY RED FLAG PRESENT?

YES

- ☐ Objective evidence of new or altered mental state
- ☐ Systolic BP \leq 90 mmHg (or drop of >40 from normal)
- ☐ Heart rate \geq 130 per minute
- ☐ Respiratory rate \geq 25 per minute
- ☐ Needs O₂ to keep SpO₂ \geq 92% (88% in COPD)
- ☐ Non-blanching rash / mottled / ashen / cyanotic
- ☐ Lactate \geq 2 mmol/l
- ☐ Recent chemotherapy
- ☐ Not passed urine in 18 hours (<0.5 ml/kg/hr if catheterised)

YES

RED FLAG SEPSIS

START

SEPSIS SIX

PATIENT DETAILS:

DATE:

TIME:

NAME:

DESIGNATION:

SIGNATURE:

COMPLETE ALL ACTIONS WITHIN ONE HOUR

01 ENSURE SENIOR CLINICIAN ATTENDS

NOT ALL PATIENTS WITH RED FLAGS WILL NEED THE 'SEPSIS 6' URGENTLY. A SENIOR DECISION MAKER MAY SEEK ALTERNATIVE DIAGNOSES/ DE-ESCALATE CARE.

TIME

:

02 GIVE OXYGEN IF REQUIRED

START IF O2 SATURATIONS LESS THAN 92% - AIM FOR O2 SATURATIONS OF 94-98%
IF AT RISK OF HYPERCARBIA AIM FOR SATURATIONS OF 88-92%

TIME

:

03 SEND BLOODS INCLUDING CULTURES

BLOOD CULTURES, BLOOD GLUCOSE, LACTATE, FBC, U&Es, CRP AND CLOTTING LUMBAR PUNCTURE IF INDICATED

TIME

:

04 GIVE IV ANTIBIOTICS, THINK SOURCE CONTROL

MAXIMUM DOSE BROAD SPECTRUM THERAPY

CONSIDER: LOCAL POLICY / ALLERGY STATUS / ANTIVIRALS

EVALUATE NEED FOR IMAGING/ SPECIALIST REVIEW

IF SOURCE AMENABLE TO DRAINAGE ENSURE ACHIEVED AS SOON AS POSSIBLE BUT ALWAYS WITHIN 12H

TIME

<input type="text"/>	<input type="text"/>	:	<input type="text"/>	<input type="text"/>
<input type="text"/>				

05 GIVE IV FLUIDS

GIVE IN DIVIDED FLUID BOLUSES OF 500ml

NICE RECOMMENDS USING LACTATE TO GUIDE FURTHER FLUID THERAPY

TIME

<input type="text"/>	<input type="text"/>	:	<input type="text"/>	<input type="text"/>
<input type="text"/>				

06 MONITOR

USE NEWS2. MEASURE URINARY OUTPUT: THIS MAY REQUIRE A URINARY CATHETER
REPEAT LACTATE AT LEAST HOURLY IF INITIAL LACTATE ELEVATED OR IF CLINICAL
CONDITION CHANGES

TIME

<input type="text"/>	<input type="text"/>	:	<input type="text"/>	<input type="text"/>
<input type="text"/>				

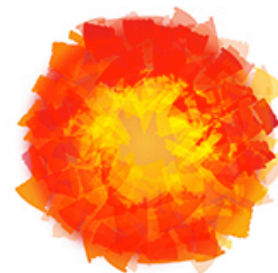
RED FLAGS AFTER ONE HOUR – ESCALATE TO CONSULTANT NOW

RECORD ADDITIONAL NOTES HERE:

e.g. allergy status, arrival of specialist teams, de-escalation of care, delayed antimicrobial decision making,
variance from Sepsis Six



SEPSIS



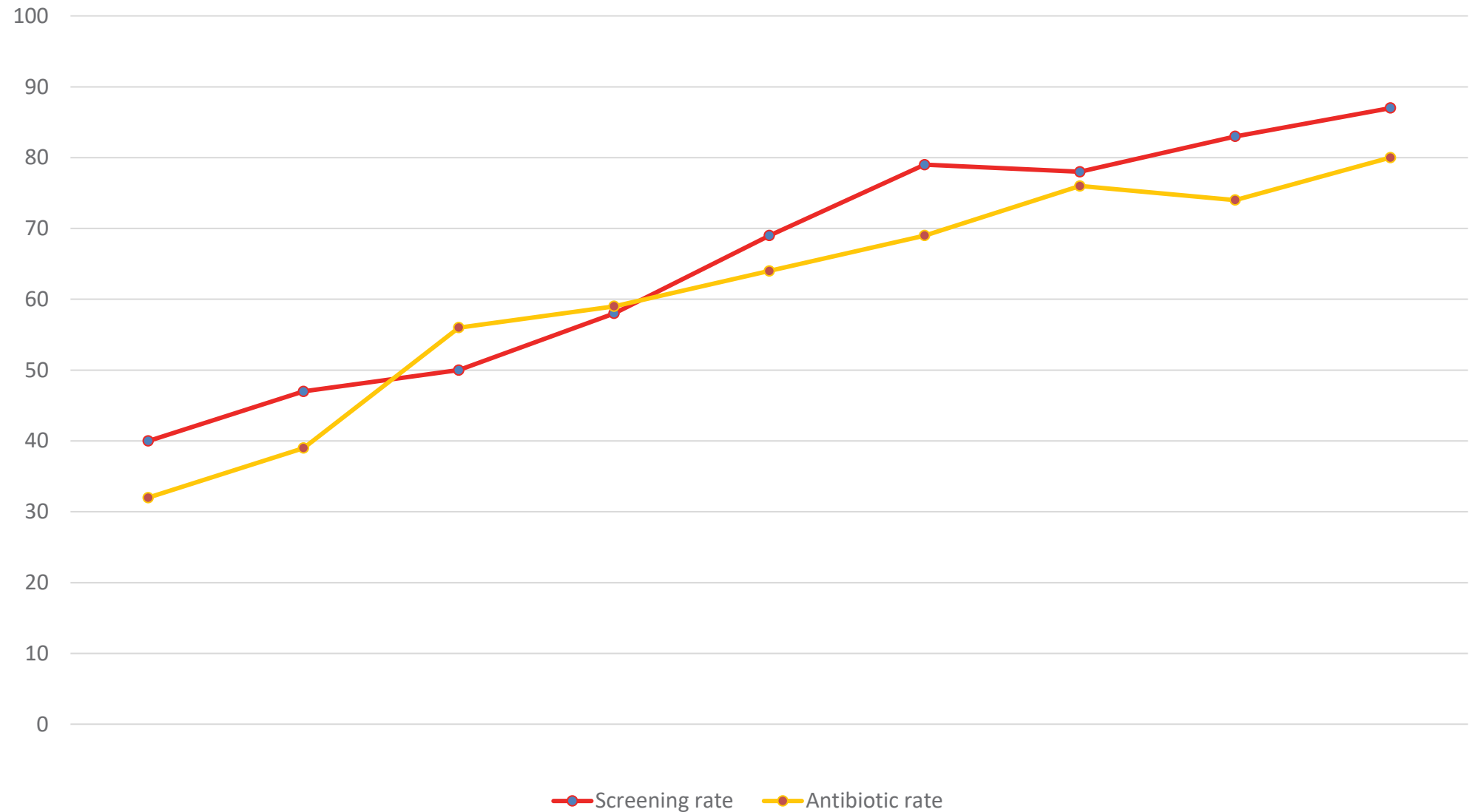
THE UK
SEPSIS
TRUST

BARRIERS

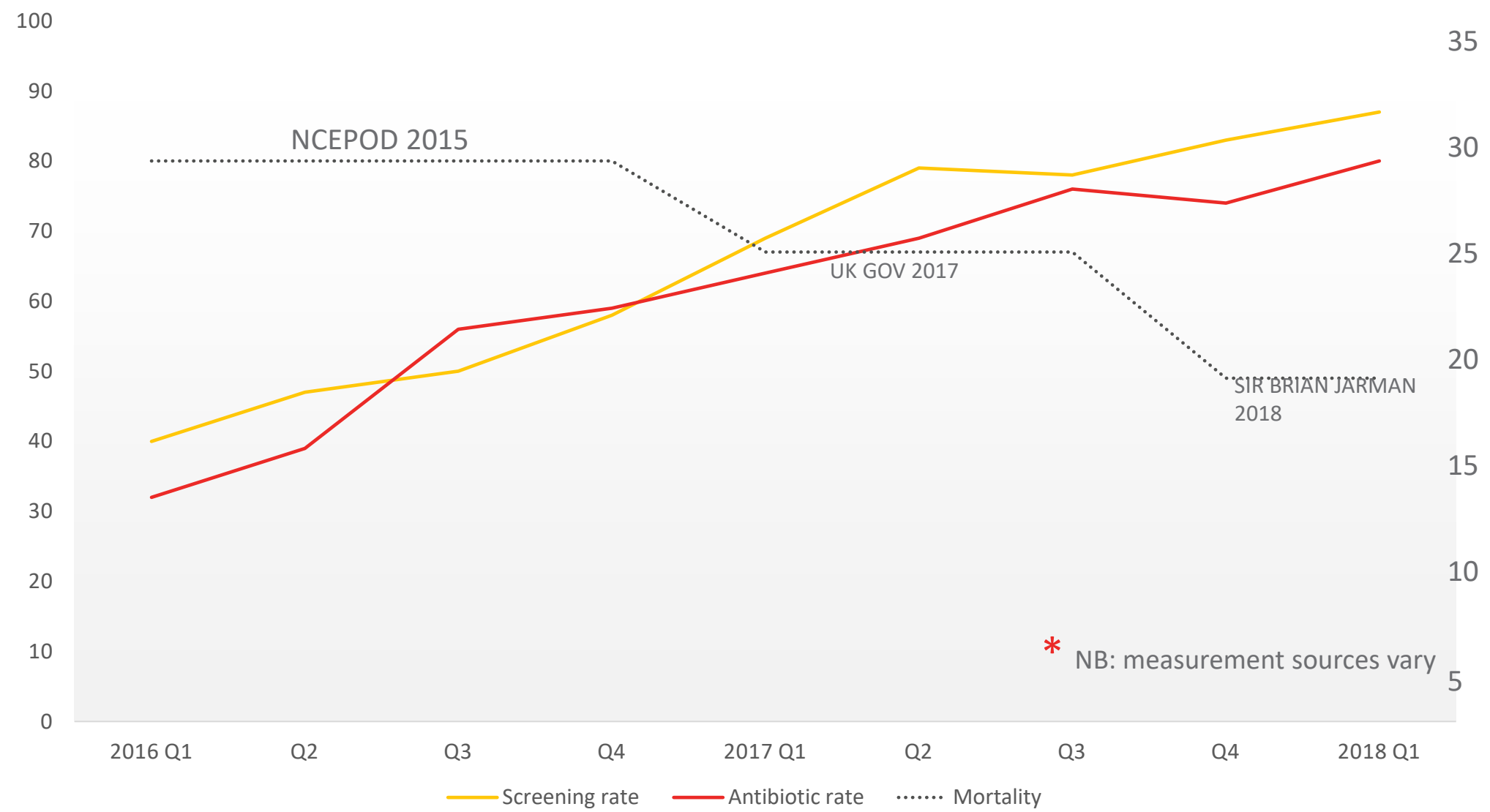


@SepsisUK

NHS ENGLAND CQUIN DATA



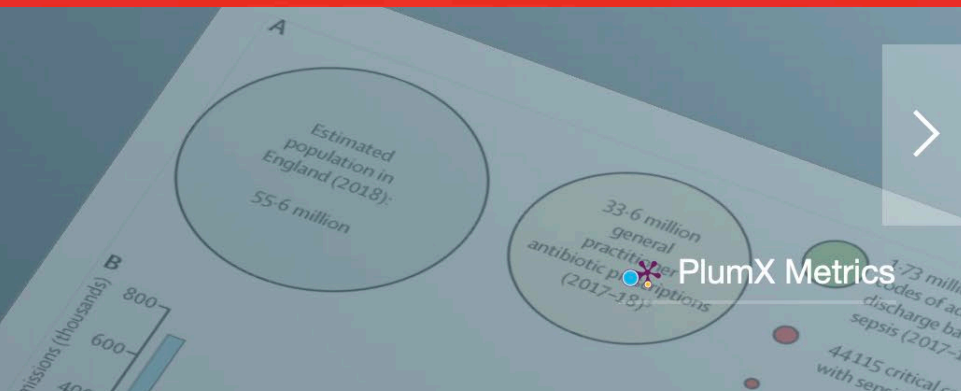
OVERLAID WITH EST^D MORTALITY*



Sepsis hysteria: excess hype and unrealistic expectations

Mervyn Singer  • Matt Inada-Kim • Manu Shankar-Hari

Published: October 26, 2019 • DOI: [https://doi.org/10.1016/S0140-6736\(19\)32483-3](https://doi.org/10.1016/S0140-6736(19)32483-3)



PlumX Metrics

References

Uncited Reference

Article Info

Figures

“Sepsis kills over 52 000 every year—each death a preventable tragedy”, tweeted Matt Hancock, UK Secretary of State for Health and Social Care, in March, 2019.¹ Many other non-contextualised or fictitious claims regularly fill media pages and airwaves, creating a distorted picture of sepsis epidemiology and unrealistic expectations of outcomes. This hype has generated an unhealthy climate of fear and retribution in both the UK and the USA. Patients and families fear the so-called hidden killer and their confidence in health-care providers is undermined. Hospitals are criticised, penalised, and litigated against for failing to give patients antibiotics within 1 h of presumptive diagnosis. Doctors are reported for not giving antibiotics to patients they deem non-infected. It is thus worth

Recommend this journal
to your librarian

ADVERTISEMENT

THE LANCET
Conference Alerts

Connect directly to the content
we publish to coincide with major,
global conferences in your field,
right from your inbox.

You can choose to receive alerts in fields
most relevant to your interests.

RPS DATA FOR ENGLAND

DDD's	IV AB in ED depts	Annual Growth %	IV broad spectrum AB in ED (4C antibiotics plus carbapenems and pip-tazo)	Annual Growth %	IV AB in hospitals per 1000 admissions excl day case	Annual Growth %	IV broad AB in hospitals per 1000 admissions excl day case	Annual Growth %	Total AB use / 1000 adm incl daycase	Annual Growth %
FY 2011/12	791,209		320,717		1790		773		4,457	
FY 2012/13	985,263	25%	398,445	24%	1923	7%	842	9%	4,918	10%
FY 2013/14	1,139,211	16%	462,630	16%	2033	6%	885	5%	4,945	1%
FY 2014/15	1,360,263	19%	564,045	22%	2141	5%	940	6%	5,119	4%
FY 2015/16	1,671,524	23%	720,600	28%	2179	2%	949	1%	5,044	-1%
FY 2016/17	1,770,266	6%	734,151	2%	2240	3%	973	3%	5,106	1%
FY 2017/18	2,255,663	27%	906,687	24%	2344	5%	982	1%	5,298	4%
FY 2018/19	2,766,703	23%	1,126,652	24%	2280	-3%	971	-1%	5,191	-2%
Growth since FY1415		103%		100%		6%		3%		1%

RPS DATA FOR ENGLAND

DDD	IV AB in ED depts	Annual Growth %	IV broad spectrum AB in ED (4C antibiotics plus carbapenems and pip-tazo)	Annual Growth %	IV AB in hospitals per 1000 admissions excl day case	Annual Growth %	IV broad AB in hospitals per 1000 admissions excl day case	Annual Growth %	Total AB use / 1000 adm incl daycase	Annual Growth %
FY 2011/12	791,209		320,717		1790		773		4,457	
FY 2012/13	985,263	25%	398,445	24%	1923	7%	842	9%	4,918	10%
FY 2013/14	1,139,211	16%	462,630	16%	2033	6%	885	5%	4,945	1%
FY 2014/15	1,360,263	19%	564,045	22%	2141	5%	940	6%	5,119	4%
FY 2015/16	1,671,524	23%	720,600	28%	2179	2%	949	1%	5,044	-1%
FY 2016/17	1,770,266	6%	734,151	2%	2240	3%	973	3%	5,106	1%
FY 2017/18	2,255,663	27%	906,687	24%	2344	5%	982	1%	5,298	4%
FY 2018/19	2,766,703	23%	1,126,652	24%	2280	-3%	971	-1%	5,191	-2%
Growth since FY1415		103%		100%		6%		3%		1%

SEPSIS



THE UK
SEPSIS
TRUST

A NEW MODEL?



@SepsisUK

Guidelines | [Published: 02 October 2021](#)

Surviving sepsis campaign: international guidelines for management of sepsis and septic shock 2021

[Laura Evans](#) , [Andrew Rhodes](#), [...] [Mitchell Levy](#)




[Intensive Care Medicine](#) (2021) | [Cite this article](#)

186k Accesses | **1124** Altmetric | [Metrics](#)

Introduction

Sepsis is life-threatening organ dysfunction caused by a dysregulated host response to infection [[1](#)]. Sepsis and septic shock are major healthcare problems, impacting millions of people around the world each year and killing between one in three and one in six of those it affects [[2,3,4](#)].¹ Early identification and appropriate management in the initial hours after the development of sepsis improve outcomes.

Antibiotic Timing

	 Shock is present	 Shock is absent
Sepsis is definite or probable	<input checked="" type="checkbox"/> Administer antimicrobials immediately , ideally within 1 hour of recognition.	<input checked="" type="checkbox"/> Administer antimicrobials immediately , ideally within 1 hour of recognition.
Sepsis is possible	<input checked="" type="checkbox"/> Administer antimicrobials immediately , ideally within 1 hour of recognition.	<input checked="" type="checkbox"/> Rapid assessment* of infectious vs. noninfectious causes of acute illness. <input checked="" type="checkbox"/> Administer antimicrobials within 3 hours if concern for infection persists.

**Rapid assessment includes history and clinical examination, tests for both infectious and noninfectious causes of acute illness, and immediate treatment of acute conditions that can mimic sepsis. Whenever possible, this should be completed within 3 hours of presentation so that a decision can be made on to*

Statement on the initial antimicrobial treatment of sepsis

[DOWNLOAD THIS PUBLICATION](#)



01 START THIS CHART IF **NEWS2** HAS TRIGGERED / YOU'RE WORRIED ABOUT YOUR PATIENT **AND** THEY'RE LIKELY TO HAVE AN INFECTION

ADDITIONAL FACTORS PROMPTING SCREENING FOR SEPSIS INCLUDE:

- ☐ Carer or relative concern
- ☐ Evidence of organ dysfunction (e.g. lactate >2mmol/l)
- ☐ Recent chemotherapy/ known to be neutropenic

YES

CALCULATE **NEWS2** SCORE USING LATEST VITAL SIGNS

02 IS **NEWS2** 7 OR ABOVE?
OR IS **NEWS2** 1-4 **AND** ONE OF:

- ☐ Chemotherapy in last 6 weeks
- ☐ Other organ failure evident (e.g. AKI)
- ☐ Patient looks extremely unwell
- ☐ Patient is actively deteriorating

NO

03 IS **NEWS2** 5 OR 6?
OR IS **NEWS2** 1-4 **AND** ONE OF:

- ☐ Chemotherapy in last 6 weeks
- ☐ Other organ failure evident (e.g. AKI)
- ☐ Patient looks extremely unwell
- ☐ Patient is actively deteriorating

1 **NATIONAL INSTITUTE FOR HEALTH AND CARE**
2 **EXCELLENCE**

3 **Guideline**

4 **Suspected sepsis in people aged 16 or over**
5 **who are not and have not recently been**
6 **pregnant**

7 **Draft for consultation, March 2023**

This guideline covers the recognition, diagnosis and early management of sepsis for all populations. The guideline committee identified that the key issues to be included were: recognition and early assessment, diagnostic and prognostic value of blood markers for sepsis, initial treatment, escalating care, identifying the source of infection, early monitoring, information and support for patients and carers, and training and education.

This guideline will update NICE guideline NG51 (published July 2016)

Who is it for?

03 ANY RED FLAG PRESENT?

- ☐ Objective evidence of new or altered mental state
- ☐ Systolic BP \leq 90 mmHg (or drop of >40 from normal)
- ☐ Heart rate \geq 130 per minute
- ☐ Respiratory rate \geq 25 per minute
- ☐ Needs O₂ to keep SpO₂ \geq 92% (88% in COPD)
- ☐ Non-blanching rash / mottled / ashen / cyanotic
- ☐ Lactate \geq 2 mmol/l
- ☐ Recent chemotherapy
- ☐ Not passed urine in 18 hours (<0.5 ml/kg/hr if catheterised)
- ☐ NEWS2 score 7 or higher

YES

YES

RED FLAG SEPSIS

START

SEPSIS SIX

MATERNAL TOOL

SEPSIS SCREENING TOOL ACUTE ASSESSMENT

PREGNANT
OR UP TO 6 WEEKS POST-PREGNANCY

PATIENT DETAILS:

DATE:

TIME:

NAME:

DESIGNATION:

SIGNATURE:

01 START THIS CHART IF THE PATIENT LOOKS UNWELL OR **MEWS** HAS TRIGGERED

RISK FACTORS FOR SEPSIS INCLUDE:

- ☐ Impaired immunity (e.g. diabetes, steroids, chemotherapy)
- ☐ Recent trauma / surgery / invasive procedure
- ☐ Indwelling lines / IVDU / broken skin

02 COULD THIS BE DUE TO AN INFECTION?

YES

LIKELY SOURCE:

- ☐ Respiratory
- ☐ Urine
- ☐ Infected caesarean / perineal wound
- ☐ Breast abscess
- ☐ Abdominal pain / distension
- ☐ Chorioamnionitis / endometritis

NO

**SEPSIS
UNLIKELY,
CONSIDER
OTHER
DIAGNOSIS**

03 ANY RED FLAG PRESENT?

☐ MEWS score is 8 or higher
or any one of:

- ☐ Objective evidence of new / altered mental state
 - ☐ Non-blanching rash / mottled / ashen / cyanotic
 - ☐ Lactate ≥ 2 mmol/l*
 - ☐ Not passed urine in 18 hours (<0.5ml/kg/hr if catheterised)
- *lactate may be raised in & immediately after normal delivery

NO

04 ANY AMBER FLAG PRESENT?

☐ MEWS score is 5 or higher
or any one of:

- ☐ Acute deterioration in functional ability
- ☐ Has had invasive procedure in last 6 weeks
- ☐ Temperature $< 36^{\circ}\text{C}$
- ☐ Has diabetes or gestational diabetes
- ☐ Close contact with GAS
- ☐ Prolonged rupture of membranes
- ☐ Bleeding / wound infection
- ☐ Offensive vaginal discharge
- ☐ Non-reassuring CTG / fetal tachycardia >160
- ☐ Behavioural / mental status change

YES

YES

RED FLAG SEPSIS

START MATERNAL SEPSIS SIX



YES

SEND FULL SET OF BLOODS

ENSURE MIDWIFE IN CHARGE REVIEWS
WITHIN 15 MINS & ST3+ WITHIN 60 MINS

IF ANTIMICROBIALS NEEDED, GIVE THESE
AND ACHIEVE SOURCE CONTROL WITHIN 3 H

I have prescribed antimicrobials ☐

This patient does not require antimicrobials as:

- ☐ - I don't think this patient has an infection
- ☐ - Patient already on appropriate antimicrobials
- ☐ - Escalation is not appropriate
- ☐ - Other _____

Name:

Date:

Grade:

Time:

COMPLETE ALL ACTIONS WITHIN ONE HOUR



01 ENSURE SENIOR STAFF ATTEND
OBSTETRICIAN, MIDWIFE, ANAESTHETIST. SENIOR DECISION-MAKERS MAY IDENTIFY
ALTERNATIVE DIAGNOSES/ SPEED OR DE-ESCALATE CARE. RECORD DECISIONS BELOW
NAME: GRADE:

TIME

<input type="text"/>	<input type="text"/>	:	<input type="text"/>	<input type="text"/>
<input type="text"/>				

02 OXYGEN IF REQUIRED
START IF O₂ SATURATIONS LESS THAN 92% - AIM FOR O₂ SATURATIONS OF 94-98%
IF AT RISK OF HYPERCARBIA AIM FOR SATURATIONS OF 88-92%

TIME

<input type="text"/>	<input type="text"/>	:	<input type="text"/>	<input type="text"/>
<input type="text"/>				

03 SEND BLOODS INCLUDING CULTURES
BLOOD CULTURES, BLOOD GLUCOSE, LACTATE, FBC, U&Es, CRP, CLOTTING.
Consider other samples as indicated, e.g. urine, lumbar puncture, pus

TIME

<input type="text"/>	<input type="text"/>	:	<input type="text"/>	<input type="text"/>
<input type="text"/>				

04 GIVE IV ANTIBIOTICS, CONSIDER DELIVERY
CHOOSE ANTIBIOTIC & DOSE ACCORDING TO LOCAL GUIDELINES.
SENIOR DECISION-MAKERS SHOULD DETERMINE OPTIMAL TIMING OF DELIVERY IF APPROPRIATE.
CONSIDER URGENT CONTROL OF OTHER SOURCES OF INFECTION E.G. ABSCESS

TIME

<input type="text"/>	<input type="text"/>	:	<input type="text"/>	<input type="text"/>
<input type="text"/>				

05 GIVE IV FLUIDS
GIVE IN DIVIDED FLUID BOLUSES OF 250-500ml, ASSESS RESPONSE AFTER EACH BOLUS.

TIME

<input type="text"/>	<input type="text"/>	:	<input type="text"/>	<input type="text"/>
<input type="text"/>				

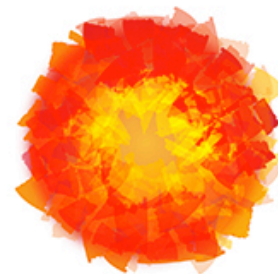
06 MONITOR
USE MEWS. MEASURE URINARY OUTPUT: THIS MAY REQUIRE A URINARY CATHETER. CTG AS
INDICATED. REPEAT LACTATE AT LEAST ONCE PER HOUR IF INITIAL LACTATE ELEVATED OR IF
CLINICAL CONDITION CHANGES

TIME

<input type="text"/>	<input type="text"/>	:	<input type="text"/>	<input type="text"/>
<input type="text"/>				

RED FLAGS AFTER ONE HOUR – ESCALATE TO CONSULTANT NOW

SEPSIS



THE UK
SEPSIS
TRUST

Imagine an integrated ecosystem
of devices, empowerment &
communication.



@sepsisuk



whitepaper



Infection Management Coalition White Paper

INFECTION MANAGEMENT COALITION MEMBERS



ABHI



BIVDA



whitepaper



1. OUTBREAK AND PANDEMIC PREPAREDNESS

including global systems surveillance, and a renewed focus on the research and development of new antibiotics.



2. INFECTION PREVENTION

including screening, sanitation, buildings and systems design, hygiene, healthy living, and vaccination.



3. RAPID RECOGNITION, DIAGNOSIS AND TREATMENT OF TIME-CRITICAL VIRAL AND BACTERIAL INFECTIONS

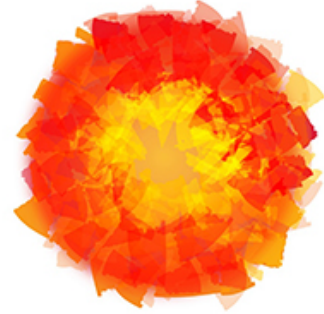
through public awareness, improved diagnosis, recognition and treatment



4. ANTIMICROBIAL STEWARDSHIP

including streamlined therapeutic pipeline, clear deployment of effective antimicrobial prescribing, rapid diagnostics including pathogen

SEPSIS



THE UK
SEPSIS
TRUST

TOGETHER WE CAN
SAVE THOUSANDS
OF LIVES