

# SEPSIS



THE UK  
SEPSIS  
TRUST

## MAKING SENSE OF IT ALL

JANUARY 18



@SepsisUK

Dr Ron Daniels B.E.M.  
CEO, UK Sepsis Trust  
CEO, Global Sepsis Alliance

Breast cancer

Bowel cancer

Annual UK sepsis deaths





# SEPSIS



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# BEDSIDE SOLUTIONS



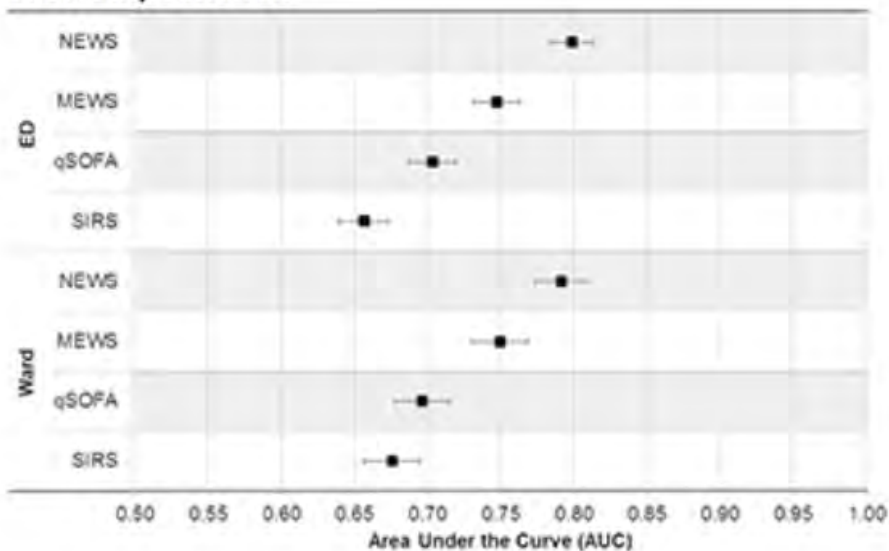
@sepsisuk

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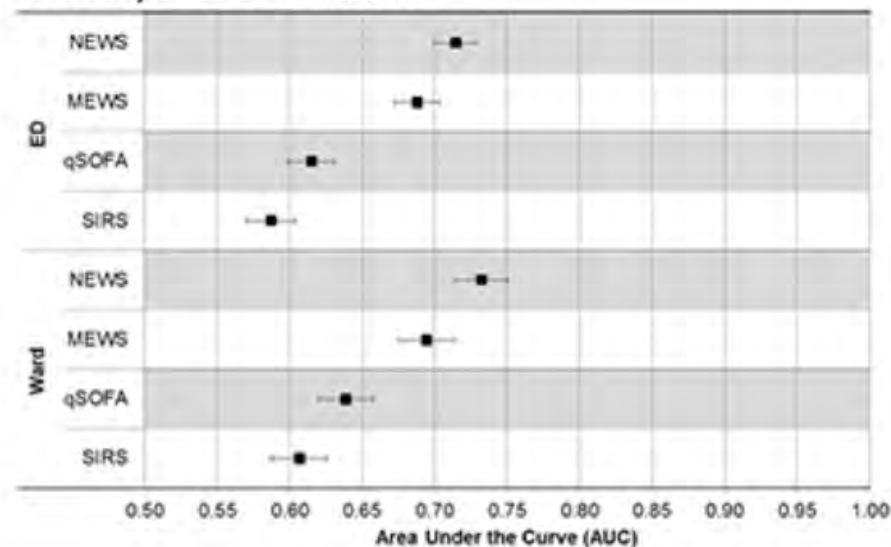


## Overall test performance

### Mortality outcome



### Mortality or ICU admission



# NEWS & SEPSIS n=21,000

| NEWS | Age | Mortality % |
|------|-----|-------------|
| 4+   | 68  | 20          |
| 6+   | 69  | 23          |
| 8+   | 71  | 29          |


# NEWS & SEPSIS n=21,000

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| 4+                 | 68  | 20          |
| 6+                 | 69  | 23          |
| 8+                 | 71  | 29          |
|                    |     |             |
| 4+ and lactate <2  |     | 15.9        |
| 4+ and lactate 2-4 |     | 21          |
| 4+ and lactate >4  |     | 32.5        |

Your logo!

## ED/ AMU Sepsis Screening & Action Tool

To be applied to **all non-pregnant adults and young people over 12 years** with fever (or recent fever) symptoms, or who are clearly unwell with any abnormal observations!



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**Patient details (affix label):**

.....!

.....!

.....!

.....!

**Staff member completing form:**

Date: (DD/MM/YY):! .....

Name (print):! .....

Designation:! .....

Signature:! .....

Important: Is an end of life pathway in place? Yes ☐ Is escalation clinically inappropriate? Yes ☐ Initials  Discontinue pathway!

**1. Could this be sepsis?**

*Patient looks sick!*

*Patient, carer or relative very worried!*

*NEWS (or similar) triggering!*

*Risk factors present!*

e.g. age over 75, recent surgery, trauma or invasive procedure, immunosuppressed, indwelling device or skin integrity breached!

Tick

☐ ☐ ☐ ☐

↓ Y

**2. Could this be due to an infection?**

Yes, source unclear ☐ Tick

Urinary Tract Infection ☐ Pneumonia! ☐

Joint or skin infection ☐ Abdo. pain/ distension! ☐

Meningitis! ☐ Device-related infection! ☐

Other (specify: )

↓ Y

**3. Is any ONE red flag present?**

AVPU= V, P or U (if changed from normal)! ☐ Tick

Acute confusion! ☐

Respiratory rate  $\geq$  25 per minute! ☐

Needs oxygen to keep SpO<sub>2</sub>  $\geq$  92% (88% in COPD)! ☐

Heart rate > 130 per minute! ☐

Systolic B.P.  $\leq$  90 mmHg (or drop > 40 from normal)! ☐

Not passed urine in last 18 h/ UO < 0.5 ml/kg/hr! ☐

Non-blanching rash, mottled/ ashen/ cyanotic! ☐

Recent chemotherapy (last 6 weeks)! ☐

↓ Y

**4. Any Amber Flag criteria?**

Relatives concerned about mental status! ☐ Tick

Acute deterioration in functional ability! ☐

Immunosuppressed! ☐

Trauma/ surgery/ procedure in last 6 weeks! ☐

Respiratory rate 21-24! ☐

Systolic B.P 91-100 mmHg! ☐

Heart rate 91-130 OR new dysrhythmic! ☐

Not passed urine in last 12-18 hours! ☐

Temperature < 36°C! ☐

Clinical signs of wound, device or skin infection! ☐

↓ Y

**Send bloods if 2 criteria present, consider if 1!**

Include LACTATE/FBC, U&E/CRP, LFT, clotting!

Ensure urgent senior review!

Must review with results within 1 hour!

Time complete Initials

↓

**Is AKI present OR lactate > 2? (tick)** YES ☐ NO ☐

↓

Clinician to make antimicrobial prescribing decision within 3h!

If senior clinician happy, may discharge with appropriate safety netting!

Time complete Initials

↓

**Red Flag Sepsis. Start Sepsis 6 pathway NOW** (see overleaf)

This is time critical, immediate action is required.!

Sepsis Six and Red Flag Sepsis are copyright to and intellectual property of the UK Sepsis Trust, registered charity no. 1158843. sepsistrust.org



Your logo!

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Tick

☐
☐
☐
☐


# 2. Could this be due to an infection?

### 3. Is any ONE red flag present?

- |  | Tick                     |
|--|--------------------------|
| AVPU= V, P or U (if changed from normal)                 | <input type="checkbox"/> |
| Acute confusion  | <input type="checkbox"/> |
| Respiratory rate $\geq 25$ per minute                    | <input type="checkbox"/> |
| Needs oxygen to keep $SpO_2 \geq 92\%$ (88% in COPD)     | <input type="checkbox"/> |
| Heart rate $> 130$ per minute                            | <input type="checkbox"/> |
| Systolic B.P $\leq 90$ mmHg (or drop $> 40$ from normal) | <input type="checkbox"/> |
| Not passed urine in last 18 h/ UO $< 0.5$ ml/kg/hr       | <input type="checkbox"/> |
| Non-blanching rash, mottled/ ashen/ cyanotic             | <input type="checkbox"/> |
| Recent chemotherapy (last 6 weeks)                       | <input type="checkbox"/> |



Y

Y

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|                    |      |             |
| 5+                 | 100  | 21          |
| 5+ and Red Flag    | 81.7 | 23          |
| 5+ no Red Flag     | 18.3 | 13          |



# THE SEPSIS SIX

1. Give O2 to keep SATS above 94%
2. Take blood cultures
3. Give IV antibiotics
4. Give a fluid challenge
5. Measure lactate
6. Measure urine output

**JUST ASK**  
**"COULD IT BE SEPSIS?"**  
IT'S A SIMPLE QUESTION, BUT IT COULD SAVE A LIFE.

# OUTCOMES

|               | COHORT SIZE (%) | MORTALITY (%) | 'RRR' (%)   |
|---------------|-----------------|---------------|-------------|
| Total         | 567 (100)       | 34.7          | -           |
| No Sepsis Six | 347 (61.2)      | 44.0          |             |
| Sepsis Six    | 220 (38.8)      | 20.0          | 46.6 (4.16) |

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## POLICY CHANGE



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@sepsisuk

Dr Ron Daniels B.E.M.  
CEO, UK Sepsis Trust  
CEO, Global Sepsis Alliance





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**Embargoed until 00.01 on 20.02.17**

## **NEW STUDY SHOWS SEPSIS COULD BE COSTING THE UK ECONOMY UP TO £15.6 BILLION EACH YEAR**

- **New data from an independent study shows the cost of sepsis to the UK economy is likely to be as much as £15.6 billion every year, rather than the £2.5 billion previously estimated**
- **The UK sees 260,000 cases of sepsis annually – over 100,000 more than initial projections suggested**
- **Potential savings to the economy by improving sepsis care across the NHS could be as high as £2.8 billion**

**Monday 20<sup>th</sup> February** – A study commissioned by the UK Sepsis Trust and carried out by the independent York Health Economics Consortium (YHEC) has found that

*Depending on the increase in guideline compliance- by 10%, 20% or 30%- the annual direct NHS savings range between £83 million, £166 million and £249 million*



*‘The same muscle and effort should be put into sepsis as for meningitis, MRSA and C Diff’*

# National Clinical Guideline Centre

Consultation

## Sepsis

Sepsis: the recognition, diagnosis and management of sepsis

*NICE guideline <number>*

*Methods, evidence and recommendations*

*January 2016*





## TIME TO ACT

Severe sepsis: rapid diagnosis  
and treatment saves lives



Improving outcomes for  
patients with sepsis  
*A cross-system action plan*



## Summary: To meet the AMR and Sepsis CQUINs



- Design systems to force better prescribing eg day 3 review for de-escalation AND IV to oral switch
- Review guidelines containing piperacillin-tazobactam and meropenem. Ensure they are followed through audit & feedback
- Quality improvement, not annual audit of AMS
- Merge sepsis and AMR CQUIN – start smart then focus
- Protected (restricted) antibiotic systems need to work
- Monitor & benchmark antibiotic usage
- Regular but varied communication on progress
- Local education & training at ward level
- Strong and effective multidisciplinary leadership (champions) at all levels



## Summary: To meet the AMR and Sepsis COUINs



### Results of antibiotic consumption to Mar-17

| Drug (DDD/1000 adm<br>inc daycase) Rx-Info | ED 2015-6 | ED 2016-7    | Acute Trust<br>2015-6 | Acute Trusts<br>2016-7 |
|--|-----------|--------------|-----------------------|------------------------|
| <b>Total IV AB</b>                         | 110.7     | 134 (+21%)   | 907.6                 | 925 (+1.7%)            |
| <b>Carbapenem</b>                          | 7.2       | 7.5 (+4.2%)  | 85.1                  | 77.8 (-8.6%)           |
| <b>Piperacillin-<br/>tazobactam</b>        | 13.4      | 14.4 (+7.5%) | 112.8                 | 102.6 (-9.0%)          |

- Strong and effective multidisciplinary leadership (champions) at all levels

## ANY CHILD WHO:

- 1 Is breathing very fast
- 2 Has a 'fit' or convulsion
- 3 Looks mottled, bluish, or pale
- 4 Has a rash that does not fade when you press it
- 5 Is very lethargic or difficult to wake
- 6 Feels abnormally cold to touch

## MIGHT HAVE SEPSIS

**Call 999 and just ask: could it be sepsis?**

The UK Sepsis Trust registered charity number  
(England & Wales) 1158843.

## ANY CHILD UNDER 5 WHO:

- 1 Is not feeding
- 2 Is vomiting repeatedly
- 3 Hasn't had a wee or wet nappy for 12 hours

## MIGHT HAVE SEPSIS

If you're worried they're deteriorating **call 111** or **see your GP**

**JUST ASK**  
**"COULD IT BE SEPSIS?"**  
IT'S A SIMPLE QUESTION, BUT IT COULD SAVE A LIFE.

# SEPSIS IS A SERIOUS CONDITION THAT CAN INITIALLY LOOK LIKE FLU, GASTROENTERITIS OR A CHEST INFECTION.

**Seek medical help urgently if you develop any or one of the following:**

**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



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[www.sepsistrust.org](http://www.sepsistrust.org)

**Email [info@sepsistrust.org](mailto:info@sepsistrust.org) for more information.**

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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.  
IT'S HARD TO RECOGNISE, BUT IT CAN BE TREATED EARLY.  
ASKING THE RIGHT QUESTION COULD BE THE KEY TO EARLY TREATMENT.  
DON'T WAIT. ASK YOUR DOCTOR OR NURSE TODAY.

Please support our work by donating now at [www.sepsistrust.org](http://www.sepsistrust.org)

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It's safer to stay on the train than attempting to get off  
Follow instructions from staff or emergency services  
Do not take any risks

Zone 1 Zone 2 Zone 3 Zone 4 Zone 5

**IF YOU'RE GOING DOWNHILL FAST,**

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

Sepsis is easily mistaken for a bad stomach bug or flu. 8,000-44,000 a year in the UK. But it's treatable if caught early.

For a symptom checklist, text SEPSIS to XXXXX

www.sepsistrust.org

NHS

THE UK SEPSIS TRUST











# SEPSIS



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**TOGETHER WE CAN**  
**SAVE 14,000 LIVES**