

Supplementary Material

Supplementary Table 1:

	<i>Data Field</i>	<i>Data type</i>
Demographics		
	Study ID	Numerical
	Age	Numerical
	Sex	Categorical
	Weight	Numerical
	Height	Numerical
Initial Attendance Information		
	Date of first attendance	Date
	Attendance time	Time
	Was the patient accompanied	Boolean
	Most senior clinician reviewing patient on initial attendance	Categorical
Patient Background		
	Comorbidities	Free Text
	Known Dementia	Boolean
Presenting complaints		
	Presenting Complaint	Free Text
	Confusion	Boolean
	Delirium	Boolean
	SOB	Boolean
	Confusion / altered behaviour	Boolean
	Decreased mobility	Boolean
	Increased care needs	Boolean
	Falls	Boolean
	Chest Pain, tachycardia, or palpitations	Boolean
	Other respiratory (cough, wheeze, sore throat)	Boolean
	Abdominal symptoms (pain, bloating, diarrhoea, nausea, vomiting, constipation)	Boolean
	Urinary or GU symptoms (dysuria, catheter problems, retention)	Boolean
	Fatigue, weight loss, reduced oral intake	Boolean
	Bilateral leg swelling	Boolean
	Pain (back, hip/groin, shoulder, knee, wrist, toe, facial)	Boolean
	Biochemical or haematological derangement (electrolytes, renal function, LFTs)	Boolean
	Symptomatic anaemia	Boolean
	Glycaemic derangement	Boolean
	Other neurological (seizure, headache, tremor, visual symptoms, vertigo, tinnitus)	Boolean
	PR bleed / malaena	Boolean
	Leg weakness	Boolean
	Fever	Boolean
	Rash / erythema (incl face)	Boolean
	Unilateral swelling	Boolean
	Collapse	Boolean
	Drowsiness	Boolean
	Dizziness / unsteadiness	Boolean
	Anxiety / low mood	Boolean
Observations on Admission		
	Heart rate	Numerical
	Systolic blood pressure	Numerical
	Diastolic blood pressure	Numerical
	Oxygen saturations	Numerical

Respiratory rate	Numerical
Temperature	Numerical
Postural drop in blood pressure	Boolean
AMTS	Ordinal
Glasgow coma score	Ordinal

EMU Blood Results (categories)

Full blood count panel	Numerical
Urea and electrolytes panel	Numerical
C-reactive protein	Numerical
Liver function panel	Numerical
INR	Numerical
Lactate	Numerical
Troponin	Numerical

Initial Diagnosis

Initial Diagnosis	Free text
Suspected infection	Boolean
Infection Source	Free text

Treatments initiated

IV fluids	Boolean
Blood transfusion	Boolean
Nebulisers	Boolean
IV antibiotics	Boolean
Oral antibiotics	Boolean
IV iron	Boolean
IV furosemide	Boolean
Medications held	Boolean
Laxatives	Boolean
Analgesia	Boolean
Management	Free Text

Outcomes

Initial plan (ambulation or admission)	Categorical
Escalation unit	Categorical
Documented reason for escalation	Free text
Date of death	Date
Discharge Date	Date
Number of visits to EMU	Numerical
Length of stay (if admitted)	Numerical
Date of EMU review	Date
Reason for EMU review	Free text
Unexpected re-admission within 30 days	Boolean

Legend:

Relevant variables collected as part of routine healthcare provision

Supplementary Table 2

Method	Score components		Cut-off value
	Available	Unavailable	
NICE-HR [1]			
	HR > 130 bpm	Mottled Skin	≥1
	RR > 25 min ⁻¹	Cyanosis	
	New oxygen requirement	Non-blanching Rash	
	Systolic BP <90 mmHg	Urine Output	
	New Confusion	Systolic BP 40mmHG below normal	
NICE-MR [1]			
	HR 90 – 130 bpm	Steroid use / impaired immunity	≥1
	RR 21-24 min ⁻¹	Trauma or Invasive Procedure	
	Systolic BP 90-100 mmHg	Redness/swelling/discharge at surgical site or breakdown of wound	
	Temperature <36°C		
	Reduced mobility or deterioration		
qSOFA [2]			
	GCS < 15	-	≥1
	RR > 21 min ⁻¹		
	Systolic BP ≤100 mmHg		
SIRS [3]			
	WCC <4.0 x10 ³ or >12 x 10 ³	-	≥2
	HR > 90 bpm		
	Temperature <36°C or >38°C		
	RR > 20 min ⁻¹		
NEWS [4]			
	HR (multiple thresholds)	-	>4
	RR (multiple thresholds)		
	Oxygen Saturation (multiple thresholds)		
	Supplemental Oxygen (multiple thresholds)		
	Temperature (multiple thresholds)		
	Systolic BP (multiple thresholds)		
	Level of Consciousness (AVPU Scale)		

Legend

Components of diagnostic and severity assessment methods available and unavailable for use in this study. Cut-off values used as the threshold for predicting sepsis or poor patient outcome in this study. BPM – beats per minute, GCS – Glasgow Coma Scale, HR – Heart Rate, RR – Respiratory Rate, WCC – White Cell Count.

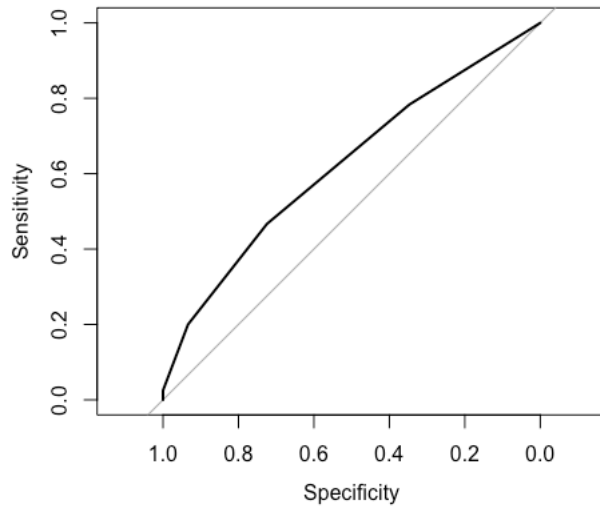
Supplementary Table 3:

<i>Outcome Measure</i>	<i>Test</i>	<i>PPV (%)</i>	<i>NPV (%)</i>	<i>Sensitivity (%)</i>	<i>Specificity (%)</i>
Escalated care					
	SIRS	55.6 (39.3 to 71.8)	80.8 (72.0 to 89.5)	57.1 (40.7 to 73.5)	79.7 (70.9 to 88.6)
	NICE High-Risk	40.4 (27.0 to 53.7)	77.4 (67.0 to 87.8)	60.0 (43.8 to 76.2)	60.8 (50.0 to 71.5)
	Nice Moderate- and High-Risk	31.0 (21.9 to 40.1)	71.4 (47.8 to 95.1)	88.6 (78.0 to 99.1)	12.7 (5.3 to 20.0)
	qSOFA	35.0 (24.5 to 45.5)	79.4 (65.8 to 93.0)	80.0 (66.7 to 93.3)	34.2 (23.7 to 44.6)
	NEWS >4	53.3 (35.5 to 71.2)	77.4 (68.4 to 86.3)	45.7 (29.2 to 62.2)	82.3 (73.9 to 90.7)
30-Day Mortality					
	SIRS	19.4 (6.5 to 32.4)	92.3 (86.4 to 98.2)	53.8 (26.7 to 80.9)	71.3 (62.5 to 80.1)
	NICE High-Risk	13.5 (4.2 to 22.7)	90.3 (83.0 to 97.7)	53.8 (26.7 to 80.9)	55.4 (45.8 to 65.1)
	Nice Moderate- and High-Risk	13.0 (6.4 to 19.6)	100.0 (100.0 to 100.0)	100.0 (100.0 to 100.0)	13.9 (7.1 to 20.6)
	qSOFA	13.8 (6.2 to 21.3)	94.1 (86.2 to 100.0)	84.6 (65.0 to 100.0)	31.7 (22.6 to 40.8)
	NEWS >4	20.0 (5.7 to 34.3)	91.7 (85.8 to 97.6)	46.2 (19.1 to 73.3)	76.2 (67.9 to 84.5)
30-Day Admission					
	SIRS	88.9 (78.6 to 99.2)	32.1 (21.7 to 42.4)	37.6 (27.3 to 47.9)	86.2 (73.7 to 98.8)
	NICE High-Risk	80.8 (70.1 to 91.5)	30.6 (19.2 to 42.1)	49.4 (38.8 to 60.0)	65.5 (48.2 to 82.8)
	Nice Moderate- and High-Risk	75.0 (66.5 to 83.5)	28.6 (4.9 to 52.2)	88.2 (81.4 to 95.1)	13.8 (1.2 to 26.3)
	qSOFA	77.5 (68.3 to 86.7)	32.4 (16.6 to 48.1)	72.9 (63.5 to 82.4)	37.9 (20.3 to 55.6)
	NEWS >4	93.3 (84.4 to 100.0)	32.1 (22.2 to 42.1)	32.9 (22.9 to 42.9)	93.1 (83.9 to 100.0)
30-Day Composite					
	SIRS	88.9 (78.6 to 99.2)	30.8 (20.5 to 41.0)	37.2 (27.0 to 47.4)	85.7 (72.8 to 98.7)
	NICE High-Risk	80.8 (70.1 to 91.5)	29.0 (17.7 to 40.3)	48.8 (38.3 to 59.4)	64.3 (46.5 to 82.0)
	Nice Moderate- and High-Risk	76.0 (67.6 to 84.4)	28.6 (4.9 to 52.2)	88.4 (81.6 to 95.1)	14.3 (1.3 to 27.2)
	qSOFA	77.5 (68.3 to 86.7)	29.4 (14.1 to 44.7)	72.1 (62.6 to 81.6)	35.7 (18.0 to 53.5)
	NEWS >4	93.3 (84.4 to 100.0)	31.0 (21.1 to 40.8)	32.6 (22.7 to 42.5)	92.9 (83.3 to 100.0)

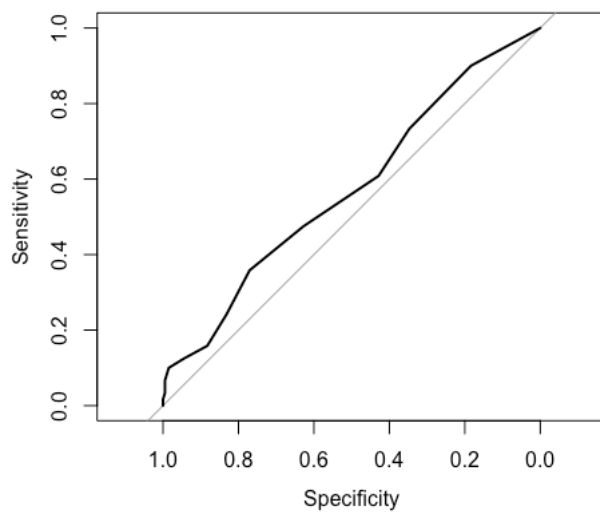
Legend:

Analysis of Scoring Systems vs outcome measures in patients >85 years old with suspected infection (n=114). PPV = Positive predictive value, NPV = negative predictive value. PPV, NPV, Sensitivity, and Specificity show percentage and 95% confidence intervals.

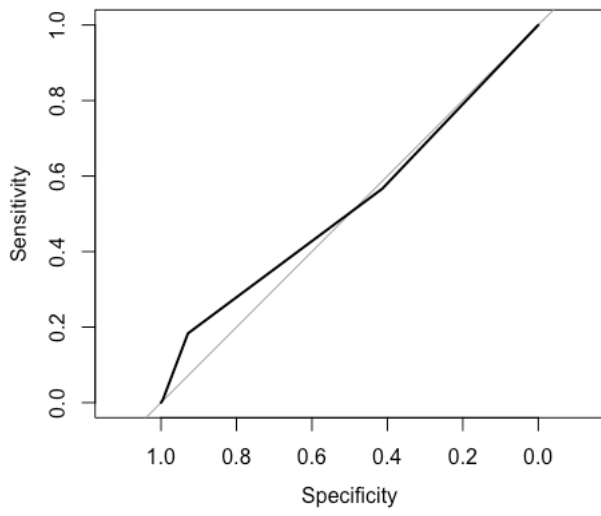
Supplementary Figure 1. ROC Curves showing the discriminating ability of the different sepsis scoring systems for escalated care for infection



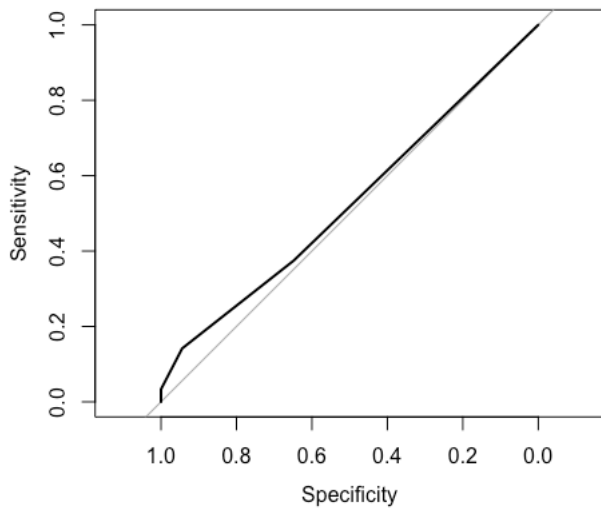
1a SIRS Area Under Curve (AUC) = 0.623 (95% CI: 0.5607-0.6843)



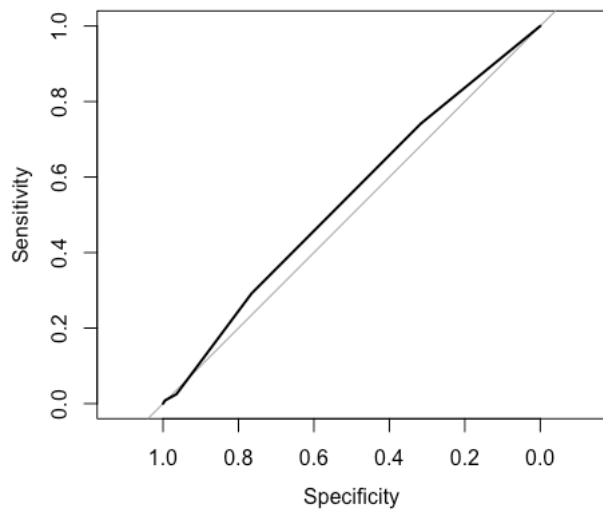
1b NEWS AUC = 0.573 (95% CI: 0.5079-0.6375)



1c qSOFA AUC = 0.523 (95% CI: 0.4612-0.5855)



1d NICE High Risk AUC = 0.527 (95% CI: 0.4696-0.584)



1e NICE Moderate and High Risk AUC = 0.540 (95% CI: 0.4784-0.6006)