

## Supplementary

**Table S1** Comparison of baseline characteristics between survivor and non-survivor critically ill patients with sepsis at 30 days

Characteristics	All patients	Survivors	Non-survivors	P value
Number	3,969	2,908	1,061	
Age (years)	66.1 [53.5–78.4]	63.7 [51.6–77.1]	70.8 [59.1–80.9]	<0.001
Male	2,112 (53.2)	1,526 (52.5)	586 (55.2)	0.124
Ethnicity				<0.001
White	2,777 (70.0)	2,070 (71.2)	707 (66.6)	
Black	320 (8.1)	251 (8.6)	69 (6.5)	
Others	872 (22.0)	587 (20.2)	285 (26.9)	
Service unit				<0.001
MICU	2,257 (56.9)	1,586 (54.5)	671 (63.2)	
SICU/TSICU	995 (25.1)	780 (26.8)	215 (20.3)	
CCU/CSRU	717 (18.1)	542 (18.6)	175 (16.5)	
SOFA score	6 [4–9]	5 [3–8]	8 [5–11]	<0.001
SAPS II score	43 [33–53]	39 [31–49]	52 [42–62]	<0.001
Interventions				
MV use (first 24 h)	2,413 (60.8)	1,748 (60.1)	665 (62.7)	0.143
RRT use (first 24 h)	262 (6.6)	173 (5.9)	89 (8.4)	0.006
Vasopressor use (first 24 h)	1,620 (40.8)	1,096 (37.7)	524 (49.4)	<0.001
Vital signs				
Heart rate (bpm)	90.8 [78.1–102.7]	89.3 [77.5–101.6]	92.3 [79.6–106.0]	<0.001
SBP (mmHg)	112.4 [103.5–125.8]	114.1 [104.8–127.4]	108.6 [100.5–120.6]	<0.001
DBP (mmHg)	58.8 [52.5–65.8]	59.7 [53.2–66.7]	56.4 [50.6–62.6]	<0.001
MBP (mmHg)	74.9 [69.0–83.0]	75.7 [69.9–84.0]	72.3 [66.4–79.8]	<0.001
Respiratory rate (bpm)	19.9 [17.1–23.1]	19.6 [16.9–22.6]	20.6 [17.7–24.4]	<0.001
SpO <sub>2</sub> (%)	97.4 [96.0–98.7]	97.5 [96.1–98.7]	97.1 [95.4–98.5]	<0.001
Temperature (°C)	36.9 [36.4–37.4]	36.9 [36.5–37.5]	36.7 [36.2–37.2]	<0.001
Laboratory tests				
RDW to albumin ratio	5.59 [4.57–6.98]	5.39 [4.43–6.63]	6.24 [5.08–10.2]	<0.001
WBC (×10 <sup>9</sup> /L)	13.9 [9.7–19.9]	13.6 [9.7–19.5]	14.9 [9.5–21.5]	0.010
Hemoglobin (g/dL)	9.7 [8.5–11.1]	9.8 [8.6–11.2]	9.4 [8.3–10.8]	<0.001
Platelet count (×10 <sup>9</sup> /L)	172 [104–251]	178 [111–255]	148 [76.5–237]	<0.001
RDW (%)	15.3 [14.2–17.0]	15 [14–16.6]	16.3 [14.9–18.2]	<0.001
Bicarbonate (mmol/L)	20 [17–24]	21 [17–24]	19 [16–23]	<0.001
Potassium (mmol/L)	3.7 [3.3–4.1]	3.6 [3.3–4.0]	3.8 [3.4–4.2]	<0.001
Sodium (mmol/L)	137 [133–140]	137 [133–140]	136 [133–140]	0.022
Glucose (mg/dL)	134.4 [112–164.1]	133.7 [112.0–162.2]	136.1 [110.8–168.5]	0.230

**Table S1** (continued)

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Characteristics	All patients	Survivors	Non-survivors	P value
Albumin (g/dL)	2.8 [2.4–3.3]	2.9 [2.4–3.3]	2.6 [2.2–3.1]	<0.001
BUN (mg/dL)	29 [18–50]	27 [17–45]	39 [24–62]	<0.001
Creatinine (mg/dL)	1.4 [0.9–2.3]	1.3 [0.9–2.2]	1.7 [1.0–2.8]	<0.001
Chloride (mmol/L)	108 [103–112]	108 [104–112]	107 [102–112]	0.002
Lactate level (mmol/L)	2.6 [1.7–4.1]	2.5 [1.6–3.7]	3.1 [1.9–5.1]	<0.001
Comorbidities				
Congestive heart failure	1,284 (32.4)	920 (31.6)	364 (34.3)	0.111
Chronic renal disease	566 (14.3)	401 (13.8)	165 (15.6)	0.160
Liver disease	538 (13.6)	331 (11.4)	207 (19.5)	<0.001
COPD	570 (14.4)	383 (13.2)	187 (17.6)	<0.001
Stroke	328 (8.3)	227 (7.8)	101 (9.5)	0.083
Malignancy	804 (20.3)	473 (16.3)	331 (31.2)	<0.001
Length of stay (days)	5.1 [2.6–11.2]	5.0 [2.6–11.8]	5.2 [2.7–10.2]	0.093

Data are presented as n, median [IQR], or n (%). MICU, medical intensive care unit; SICU, surgical intensive care unit; TSICU, trauma/surgical intensive care unit; CCU, coronary care unit; CSRU, cardiac surgery recovery unit; SOFA, Sequential Organ Failure Assessment; SAPS II, Simplified Acute Physiology Score II; MV, mechanical ventilation; RRT, renal replacement therapy; SBP, systolic blood pressure; DBP, diastolic blood pressure; MBP, mean blood pressure; SpO<sub>2</sub>, percutaneous oxygen saturation; RDW, red blood cell distribution width; WBC, white blood cell; BUN, blood urea nitrogen; COPD, chronic obstructive pulmonary disease; IQR, interquartile range.

**Table S2** Comparison of baseline characteristics between the survivor and non-survivor critically ill patients with sepsis at 90 days

Characteristics	All patients	Survivors	Non-survivors	P value
Number	3,969	2,600	1,369	
Age (years)	66.1 [53.5–78.4]	62.8 [51.0–75.9]	72.0 [59.3–81.2]	<0.001
Male	2,112 (53.2)	1,342 (51.6)	770 (56.2)	0.005
Ethnicity				<0.001
White	2,777 (70.0)	1,851 (71.2)	926 (67.6)	
Black	320 (8.1)	225 (8.7)	95 (6.9)	
Others	872 (22.0)	524 (20.2)	348 (25.4)	
Service unit				0.001
MICU	2,257 (56.9)	1,421 (54.7)	836 (61.1)	
SICU/TSICU	995 (25.1)	696 (26.8)	299 (21.8)	
CCU/CSRU	717 (18.1)	483 (18.6)	234 (17.1)	
SOFA score	6 [4–9]	5 [3–8]	7 [5–11]	<0.001
SAPS II score	43 [33–53]	39 [30–48]	51 [41–61]	<0.001
Interventions				
MV use (first 24 h)	2,413 (60.8)	1,564 (60.2)	849 (62.0)	0.253
RRT use (first 24 h)	262 (6.6)	143 (5.5)	119 (8.7)	<0.001
Vasopressor use (first 24 h)	1,620 (40.8)	966 (37.2)	654 (47.8)	<0.001
Vital signs				
Heart rate (bpm)	90.8 [78.1–102.7]	89.6 [77.5–101.7]	90.8 [79.1–105.0]	0.001
SBP (mmHg)	112.4 [103.5–125.8]	114.3 [105.0–128.0]	109.3 [100.7–121.1]	<0.001
DBP (mmHg)	58.8 [52.5–65.8]	60.0 [53.6–67.1]	56.4 [50.4–62.8]	<0.001
MBP (mmHg)	74.9 [69.0–83.0]	76.0 [70.1–84.4]	72.6 [66.7–79.8]	<0.001
Respiratory rate (bpm)	19.9 [17.1–23.1]	19.6 [16.9–22.6]	20.4 [17.5–24.0]	<0.001
SpO <sub>2</sub> (%)	97.4 [96.0–98.7]	97.5 [96.1–98.7]	97.2 [95.6–98.6]	<0.001
Temperature (°C)	36.9 [36.4–37.4]	37.0 [36.5–37.5]	36.7 [36.2–37.2]	<0.001
Laboratory tests				
RDW to albumin ratio	5.59 [4.57–6.98]	5.27 [4.39–6.52]	6.19 [5.06–7.80]	<0.001
WBC (×10 <sup>9</sup> /L)	13.9 [9.7–19.9]	13.5 [9.8–19.4]	14.7 [9.4–21.3]	0.017
Hemoglobin (g/dL)	9.7 [8.5–11.1]	9.9 [8.6–11.3]	9.4 [8.2–10.7]	<0.001
Platelet count (×10 <sup>9</sup> /L)	172 [104–251]	180 [113–256]	153 [82–240]	<0.001
RDW (%)	15.3 [14.2–17.0]	14.9 [13.9–16.4]	16.2 [14.8–18.1]	<0.001
Bicarbonate (mmol/L)	20 [17–24]	21 [17.3–24.0]	19 [16–23]	<0.001
Potassium (mmol/L)	3.7 [3.3–4.1]	3.6 [3.3–4.0]	3.7 [3.4–4.2]	<0.001
Sodium (mmol/L)	137 [133–140]	137 [133–140]	136 [133–140]	0.013
Glucose (mg/dL)	134.4 [112–164.1]	134.2 [112.7–163.2]	134.6 [110.6–166.7]	0.823

Table S2 (continued)

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Characteristics	All patients	Survivors	Non-survivors	P value
Albumin (g/dL)	2.8 [2.4–3.3]	2.9 [2.5–3.4]	2.7 [2.2–3.1]	<0.001
BUN (mg/dL)	29 [18–50]	26 [15–44]	37 [23–60.5]	<0.001
Creatinine (mg/dL)	1.4 [0.9–2.3]	1.3 [0.9–2.1]	1.6 [1.0–2.8]	<0.001
Chloride (mmol/L)	108 [103–112]	108 [104–112]	107 [102–112]	0.005
Lactate level (mmol/L)	2.6 [1.7–4.1]	2.4 [1.6–3.7]	3.0 [1.9–4.9]	<0.001
Comorbidities				
Congestive heart failure	1,284 (32.4)	794 (30.5)	490 (35.8)	0.001
Chronic renal disease	566 (14.3)	333 (12.8)	233 (17.0)	<0.001
Liver disease	538 (13.6)	283 (10.9)	255 (18.6)	<0.001
COPD	570 (14.4)	343 (13.2)	227 (16.6)	0.004
Stroke	328 (8.3)	196 (7.5)	132 (9.6)	0.022
Malignancy	804 (20.3)	391 (15.0)	413 (30.2)	<0.001
Length of stay (days)	5.1 [2.6–11.2]	5.0 [2.5–11.1]	5.4 [2.8–11.2]	0.141

Data are presented as n, median [IQR], or n (%). MICU, medical intensive care unit; SICU, surgical intensive care unit; TSICU, trauma/surgical intensive care unit; CCU, coronary care unit; CSRU, cardiac surgery recovery unit; SOFA, Sequential Organ Failure Assessment; SAPS II, Simplified Acute Physiology Score II; MV, mechanical ventilation; RRT, renal replacement therapy; SBP, systolic blood pressure; DBP, diastolic blood pressure; MBP, mean blood pressure; SpO<sub>2</sub>, percutaneous oxygen saturation; RDW, red blood cell distribution width; WBC, white blood cell; BUN, blood urea nitrogen; COPD, chronic obstructive pulmonary disease; IQR, interquartile range.