

**Supplementary Table 1.** Subgroup analysis for risk of early or late mortality between patients with culture positive and blood culture negative sepsis.

	Early mortality		Late mortality	
	OR(95% CI)	P value	OR(95% CI)	P value
<b>Gender</b>				
Male	0.6(0.29,1.24)	0.167	2.02(1.09,3.72)	0.025*
<b>Age group</b>				
Elderly (>=65 year old)	0.85(0.44,1.63)	0.622	1.98(1.08,3.65)	0.028*
Adult (>=18 year old)	0.84(0.49,1.42)	0.507	2.1(1.27,3.49)	0.004**
<b>Source of infection</b>				
Lower respiratory tract infection	1.52(0.81,2.86)	0.190	1.59(0.73,3.43)	0.242
Urinary tract infection	0.6(0.12,3.13)	0.544	4.02(1.01,16.05)	0.049*
Skin and musculoskeletal infection	-	0.967	4.45(0.37,53.59)	0.240
Intra-abdominal infection	0.45(0.05,4.19)	0.486	9.32(0.32,275.24)	0.196
<b>SOFA</b>				
qSOFA = 0,1	0.88(0.45,1.69)	0.692	1.68(0.62,4.57)	0.313
qSOFA = 2,3	0.76(0.3,1.88)	0.545	2.32(1.29,4.17)	0.005**

\* p<0.05, \*\* p<0.01

**Supplementary Table 2.** Model of propensity score (AUC: 0.68)

	<b>OR (95%CI)</b>	<b>P value</b>
<b>Demographics</b>		
Male sex	1.14(0.83,1.58)	0.418
Age	1.04(0.98,1.10)	0.240
Age squared	1.00(1.00,1.00)	0.453
Nursing home residents	1.09(0.58,2.05)	0.796
<b>Comorbidities</b>		
Diabetes mellitus	1.70(1.21,2.37)	0.002**
COPD	1.22(0.67,2.21)	0.512
Stroke	0.97(0.62,1.51)	0.889
Myocardial infarction	0.64(0.27,1.53)	0.313
Congestive heart failure	1.24(0.73,2.12)	0.421
Chronic kidney disease	1.24(0.76,2.02)	0.384
Chronic liver disease	1.25(0.78,2.02)	0.354
Malignancies	1.38(0.89,2.16)	0.155
<b>Site of primary infection</b>		
Lower respiratory tract infection	0.79(0.57,1.08)	0.142
Urinary tract infection	1.85(1.20,2.85)	0.005**
Skin and musculoskeletal infection	1.25(0.55,2.85)	0.601
Hepatobiliary infection	2.45(1.39,4.32)	0.002**
Intra-abdomen infection	0.98(0.53,1.81)	0.946
<b>Organ dysfunction</b>		
SOFA score	1.03(0.91,1.17)	0.633
SOFA score squared	1.00(0.99,1.01)	0.506

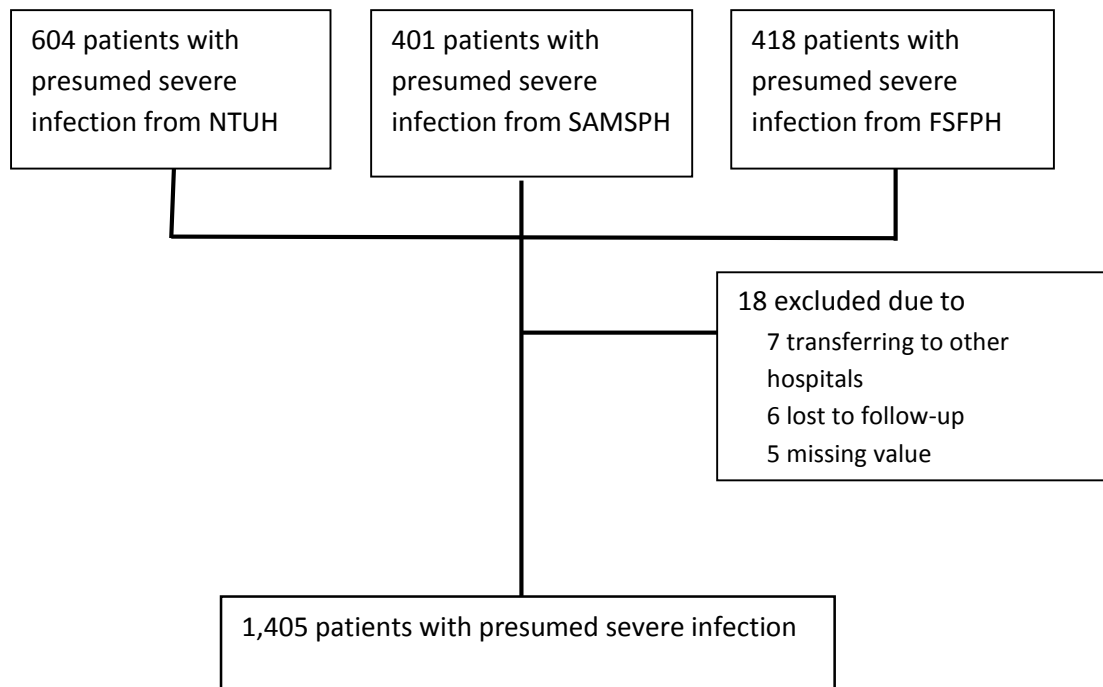
\*  $p < 0.05$ , \*\*  $p < 0.01$

**Supplementary Table 3.** Microbiology of bacteria isolated

Microbiology of bacteria isolated	Number (%)
<i>Escherichia coli</i>	53 (24.5%)
<i>Klebsiella pneumoniae</i>	21 (9.7%)
<i>Staphylococcus epidermidis</i>	20 (9.3%)
<i>Staphylococcus aureus</i>	14 (6.5%)
<i>Staphylococcus hominis</i>	10 (4.6%)
<i>Coagulase neg. staphylococci</i>	10 (4.6%)
<i>Staphylococcus haemolyticus</i>	8 (3.7%)
<i>Streptococcus agalactiae</i>	3 (1.4%)
<i>Pseudomonas aeruginosa</i>	3 (1.4%)
<i>Penicillium marneffeii</i>	3 (1.4%)
<i>Enterococcus faecium</i>	3 (1.4%)
<i>Enterobacter cloacae</i>	3 (1.4%)
<i>Acinetobacter baumannii</i>	3 (1.4%)
<i>Viridans streptococci</i>	2 (0.9%)
<i>Salmonella</i>	2 (0.9%)
<i>Other gram negative bacilli</i>	2 (0.9%)
<i>Other enterococcus species</i>	2 (0.9%)
<i>Enterococcus faecium</i>	2 (0.9%)
<i>Streptococcus pneumoniae</i>	1 (0.5%)
<i>Streptococcus mitis</i>	1 (0.5%)
<i>Streptococcus intermedius</i>	1 (0.5%)
<i>Streptococcus anginosus</i>	1 (0.5%)
<i>Stenotrophomonas maltophilia</i>	1 (0.5%)
<i>Staphylococcus xylosus</i>	1 (0.5%)
<i>Staphylococcus warneri</i>	1 (0.5%)

<i>Staphylococcus cohnii</i>	1 (0.5%)
<i>Staphylococcus capitis</i>	1 (0.5%)
<i>Sphingomonas paucimobilis</i>	1 (0.5%)
<i>Ochrobactrum anthropi</i>	1 (0.5%)
<i>Morganella morganii</i>	1 (0.5%)
<i>Moraxella species</i>	1 (0.5%)
<i>Micrococcus luteus</i>	1 (0.5%)
<i>Klebsiella oxytoca</i>	1 (0.5%)
<i>Fusobacterium necrophorum</i>	1 (0.5%)
<i>Enterococcus faecalis</i>	1 (0.5%)
<i>Capnocytophaga sputigena</i>	1 (0.5%)
<i>Candida glabrata</i>	1 (0.5%)
<i>Brucella melitensis</i>	1 (0.5%)
<i>Aeromonas hydrophila</i>	1 (0.5%)
Polymicrobial infection	31(14.4%)

**Supplementary Figure 1.** Patient inclusion flowchart



NTUH: National Taiwan University Hospital; SAMSPH: Sichuan Academy of Medical Sciences and Sichuan Provincial People's Hospital; FSFPH: The First People's Hospital of Foshan; ICU: intensive care unit

**Supplementary Figure 2.** Covariate balance before (blue) and after (red) IPTW weighting for culture negative versus culture positive sepsis patients. Improved balance (i.e., reduced standardized differences) was obtained after IPTW weighting.

