SUPPLEMENTARY MATERIAL

Table S1 Moreno PIRO score

Moreno PIRO Score											
Box1: Predisposition	0	4	5	6	7	8	9	10	11	14	16
Age, years	<40	≥40<60				≥60<70			≥70<75	≥75<80	≥80
Location from which the patient was admitted to ICU		Same hospital									
Comorbidities				Cancer		Cirrhosis	AIDS				
Length of stay before ICU admission, days	<14		≥14<28		≥28						
Reason(s)forICU admission							Cardiac arrest				
Box2:Infection	0	4	5	7	8	9	10	11	14	16	
Acquisition		Nosocomial									
Extension		Other than localized									
Site			Respiratiry								
Agent							Candida,fungi				
Box3:Response	0	4	5	7	8	9	10	11	14	16	
Organ dysfunction (OD)		Renal	Coagulation								

1

Organ failure (OF)			Cardiovascular respiratory			CNS,coagulation renal					

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Table S2 Rubulotta PIRO Score

	Stratification Level				
Domain	0	1	2	3	4
Predisposition	P0 Age<46yrs	P1 Age46-64yrs,noCLD	P2 Age64-85yrs,noCLD and no congestive cardiomyopathy	P3 Age46-64yrs with CLD or 64-85yrs with congestive Cardiomyopathy	P4 Age64-85yrs with CLD orage>85yrs
Insult/infection	10 CA-UTI Gram-negative	11 CA-UTI not Gram-negative	12 CA infection except CA-UTI or nosocomial Gram-positive	13 Nosocomial acquired infection except Gram-positive or nosocomial fungal nonabdominal infection	14 Nosocomial abdominal fungal infection
Response	R0 No tachycardia and/or no tachypnea	R1 Both tachycardia and tachypnea			
Organ dysfunction	O0 2 OF	O1 3 OF,1 hepatic	O2 3 OF, none hepatic	O3 4 OF	O4 5 OF

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Table S3 Howell PIRO Score

Howell PIRO Score

PIRO Score							
P Score		I Score		R Score		O Score	
Age	Points		Points		Points		Points
<65	0	Pneumonia	4	Respiratory rate >20	3	BUN>20	2
65-80	1	Skin/soft tissue infection	0	Bands>5%	1	Resp failure/ hypoxemia	3
>80	2	Any other infection	2	Heart rate >120	2	Lactate>4.0	3
COPD	1	Total Possible I Points	4	Total Possible R Points	6	Systolic Blood Pressure	
Liver Disease	2					<70	4
Nursing Home Resident	2					70-90	2
Malignancy						>90	0
Without metastases	1					Platelet Count <150,000	2
With metastaese	2					Total Possible O Points	14
Total Possible P Points	9						
P +I +R +O = PIRO							

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Table S4 Sequential Organ Failure Assessment (SOFA) score

Scores / Parameters	0	1	2	3	4
Cardiovascular	MAP≥70 mmHg	MAP<70 mmHg	Dopamine <5 ug/kg/min Dobutamine (any dose)	Dopamine 5.1-15 ug/kg/min, Epinephirne or Norepinephrine ≤ 0.1 ug/kg/min	*DA>15 ug/kg/min, Epinephirne or Norepinephrine > 0.1 ug/kg/min
Respiratory PaO_2/FiO_2 (mmHg)	≥400	<400	< 300	<200 with respiratory support	<100 with respiratory support
Renal Creatinine, (mg/dL)	<1.2	1.2-1.9	2.0-3.4	3.5-4.9	>5.0
Urine output (mL/day)				<500	<200
Liver, Bilirubin, (mg/dL)	<1.2	1.2-1.9	2.0-5.9	6.0-11.9	>12.0
Coagulation Platelets, $\times 10^3$/uL	≥150	<150	<100	<50	<20
Central nervous system/ Glasgow Coma Score	15	13-14	10-12	6-9	<6

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Table S5 Systemic inflammatory response syndrome criteria (SIRS)

1. Temperature $>38^O$C or $<36^O$C
2. Heart rate > 90 /min
3. Respiratory rate > 20 /min or $PaCO_2 < 32$ mmHg
4. White blood cells count $>12,000$ or $< 4,000$ cells/mm^{3}or bandemia> 10%

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Table S6 Quick Sequential Organ Failure Assessment (qSOFA) score

Two or more criteria of

1. Sytstolic blood pressure (SBP) $\leq$ 100 mmHg

2. Respiratory rate $\geq$ 22 /min

3. Glasgow Coma Score (GCS) $\leq$ 13

Table S7 P-value comparison between the area under receiving operating characteristic (AUC) of sepsis-base scores to predict ICU mortality

Score (AUC, 95%CI)	SIRS	Moreno	Rubulotta	Howell	SOFA
SIRS (0.595, 0.573-0.618)					
Moreno PIRO (0.804, 0.785-0.823)	<0.001				
Rubulotta PIRO (0.699, 0.676-0.722)	<0.001	<0.001			
Howell PIRO (0.703, 0.680-0.725)	<0.001	<0.001	0.74		
SOFA (0.838, 0.820-0.855)	<0.001	<0.001	<0.001	<0.001	
qSOFA (0.787, 0.770-0.805)	<0.001	0.15	<0.001	<0.001	<0.001

Table S8 P-value comparison between the area under receiving operating characteristic (AUC) of sepsis-base scores to predict hospital mortality in subgroup analysis (n = 1,239)

Score (AUC, 95%CI)	SIRS	Moreno	Rubulotta	Howell	SOFA
SIRS (0.587, 0.557-0.616)					
Moreno PIRO (0.869, 0.849-0.889)	<0.001				
Rubulotta PIRO (0.721, 0.693-0.748)	<0.001	<0.001			
Howell PIRO (0.724, 0.696-0.752)	<0.001	<0.001	0.79		
SOFA (0.883, 0.864-0.901)	<0.001	0.14	<0.001	<0.001	
qSOFA (0.839, 0.819-0.860)	<0.001	0.02	<0.001	<0.001	<0.001
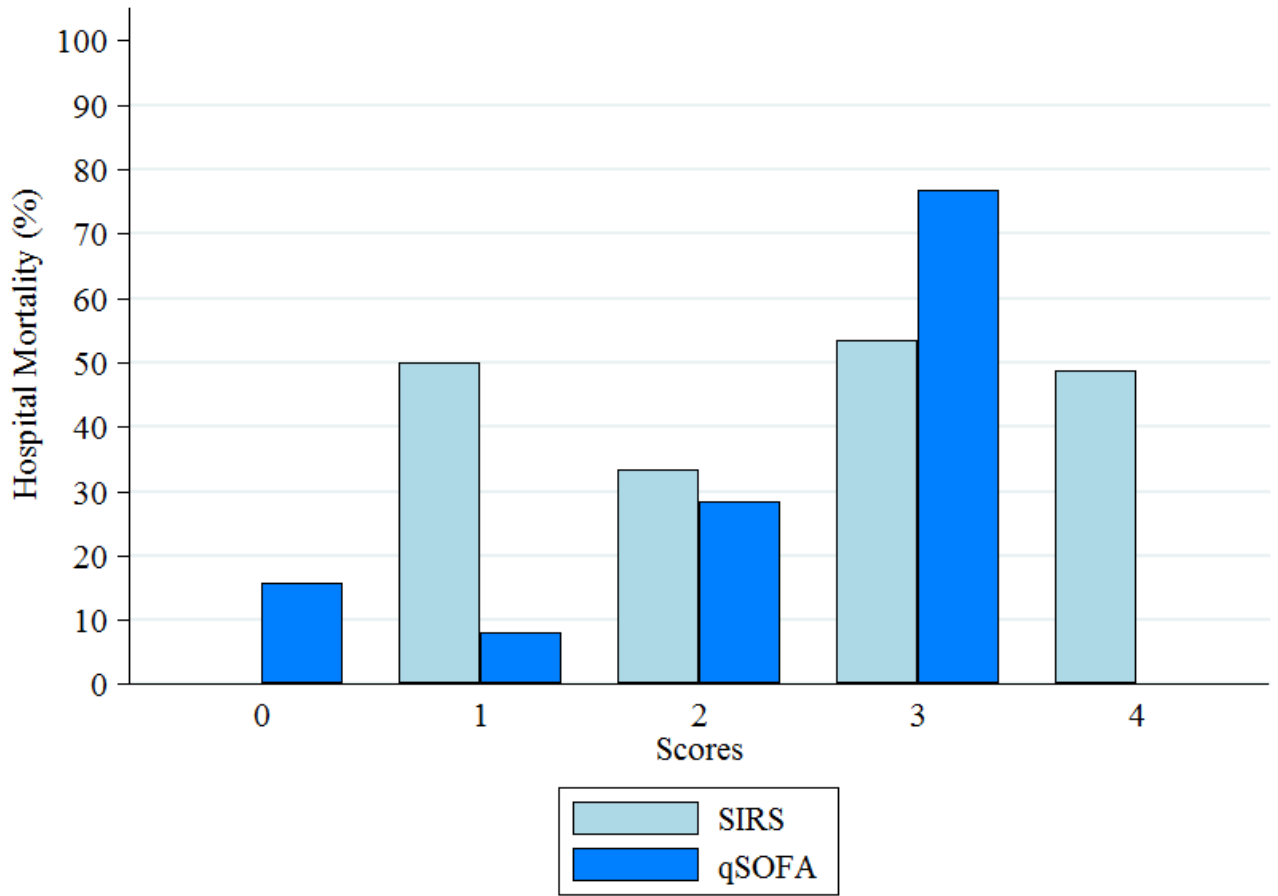
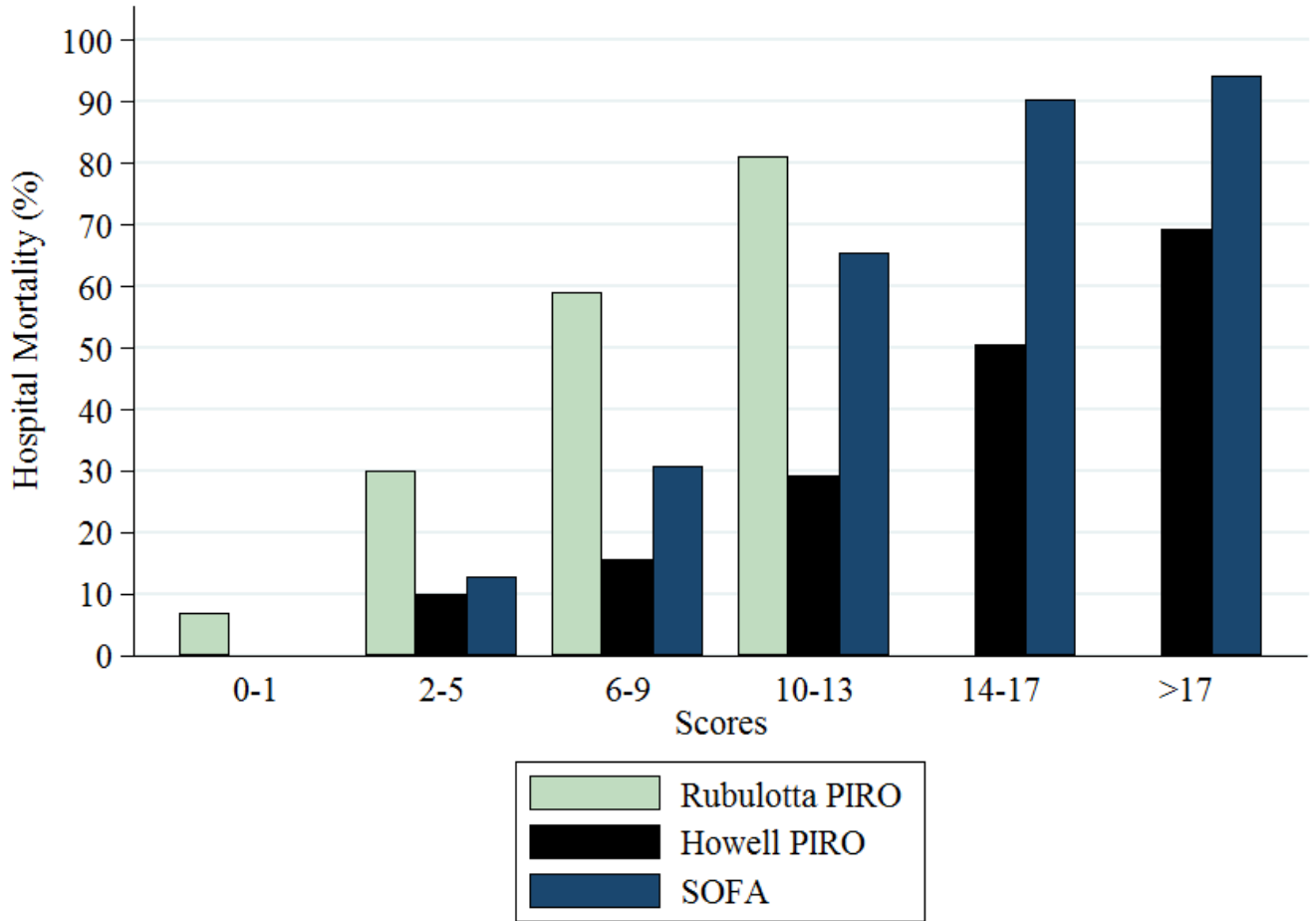**Figure S1** Mortality risk stratified by SIRS and qSOFA

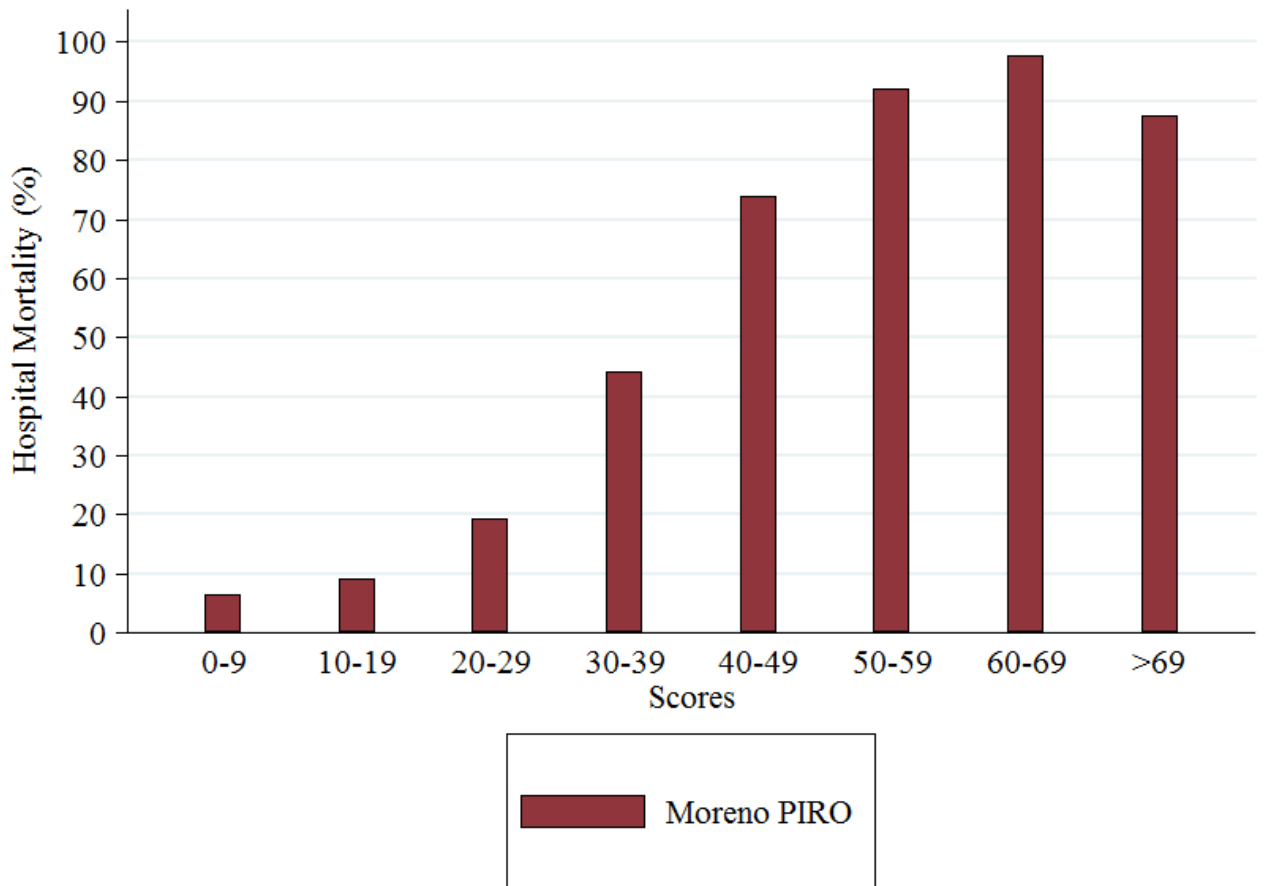**Figure S2** Mortality risk stratified by Rubulotta PIRO, Howell PIRO and SOFA scores

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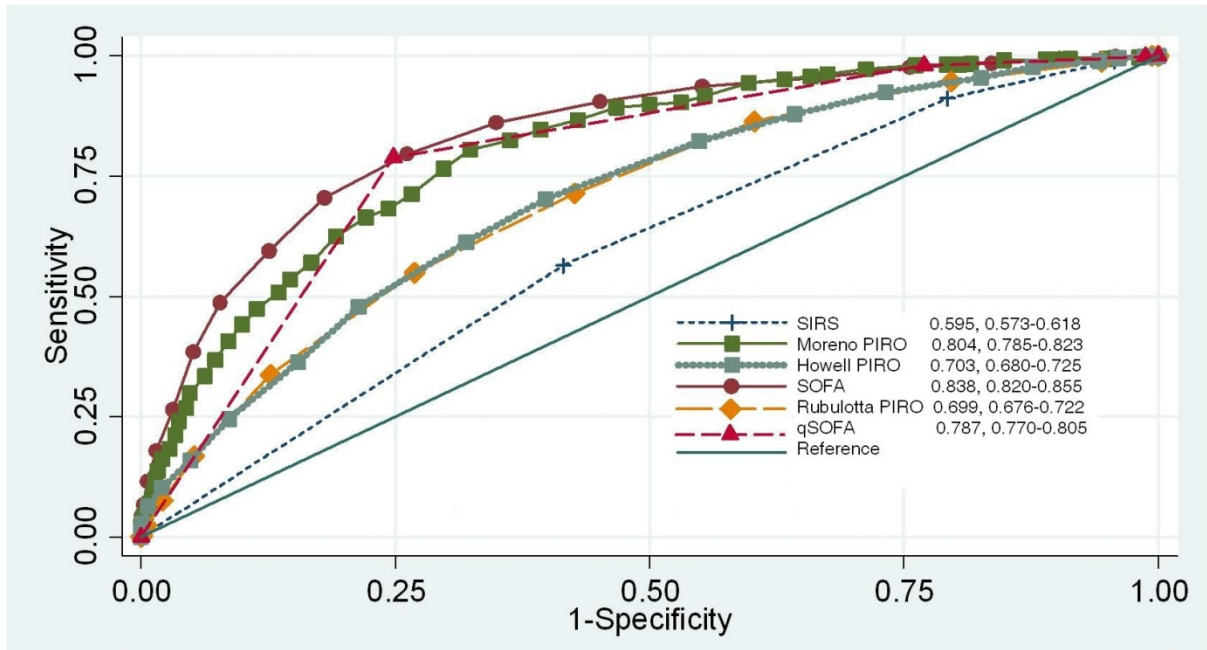**Figure S3** Mortality risk stratified by Moreno PIRO score

Figure S4 Area under ROC with 95% confidence interval of severity scores for predict ICU mortality