

SUPPLEMENTARY MATERIAL

Table S1 Moreno PIRO score

Moreno PIRO Score											
Box1:	0	4	5	6	7	8	9	10	11	14	16
Predisposition											
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			Respiratory								
Agent							Candida, fungi				
Box3:Response	0	4	5	7	8	9	10	11	14	16	
Organ dysfunction (OD)		Renal	Coagulation								

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 or age>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

Table S3 Howell PIRO Score

Howell PIRO Score

PIRO Score							
P Score		I Score		R Score		O Score	
	Points		Points		Points		Points
Age <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 <70	4
Liver Disease	2					70-90	2
Nursing Home Resident	2					>90	0
Malignancy						Platelet Count <150,000	2
Without metastases	1					Total Possible O Points	14
With metastaese	2						
Total Possible P Points	9						
P +I +R +O = PIRO							

Table S4 Sequential Organ Failure Assessment (SOFA) score

Scores Parameters	0	1	2	3	4
Cardiovascular	MAP \geq 70 mmHg	MAP<70 mmHg	Dopamine <5 ug/kg/min Dobutamine (any dose)	Dopamine 5.1-15 ug/kg/min, Epinephrine or Norepinephrine \leq 0.1 ug/kg/min	*DA>15 ug/kg/min, Epinephrine or Norepinephrine > 0.1 ug/kg/min
Respiratory PaO ₂ /FiO ₂ (mmHg)	\geq 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	\geq 150	<150	<100	<50	<20
Central nervous system/ Glasgow Coma Score	15	13-14	10-12	6-9	<6

Table S5 Systemic inflammatory response syndrome criteria (SIRS)

1. Temperature $>38^{\circ}\text{C}$ or $<36^{\circ}\text{C}$
2. Heart rate > 90 /min
3. Respiratory rate > 20 /min or $\text{PaCO}_2 < 32$ mmHg
4. White blood cells count $>12,000$ or $< 4,000$ cells/ mm^3 or bandemia $> 10\%$

Table S6 Quick Sequential Organ Failure Assessment (qSOFA) score

Two or more criteria of

1. Systolic 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

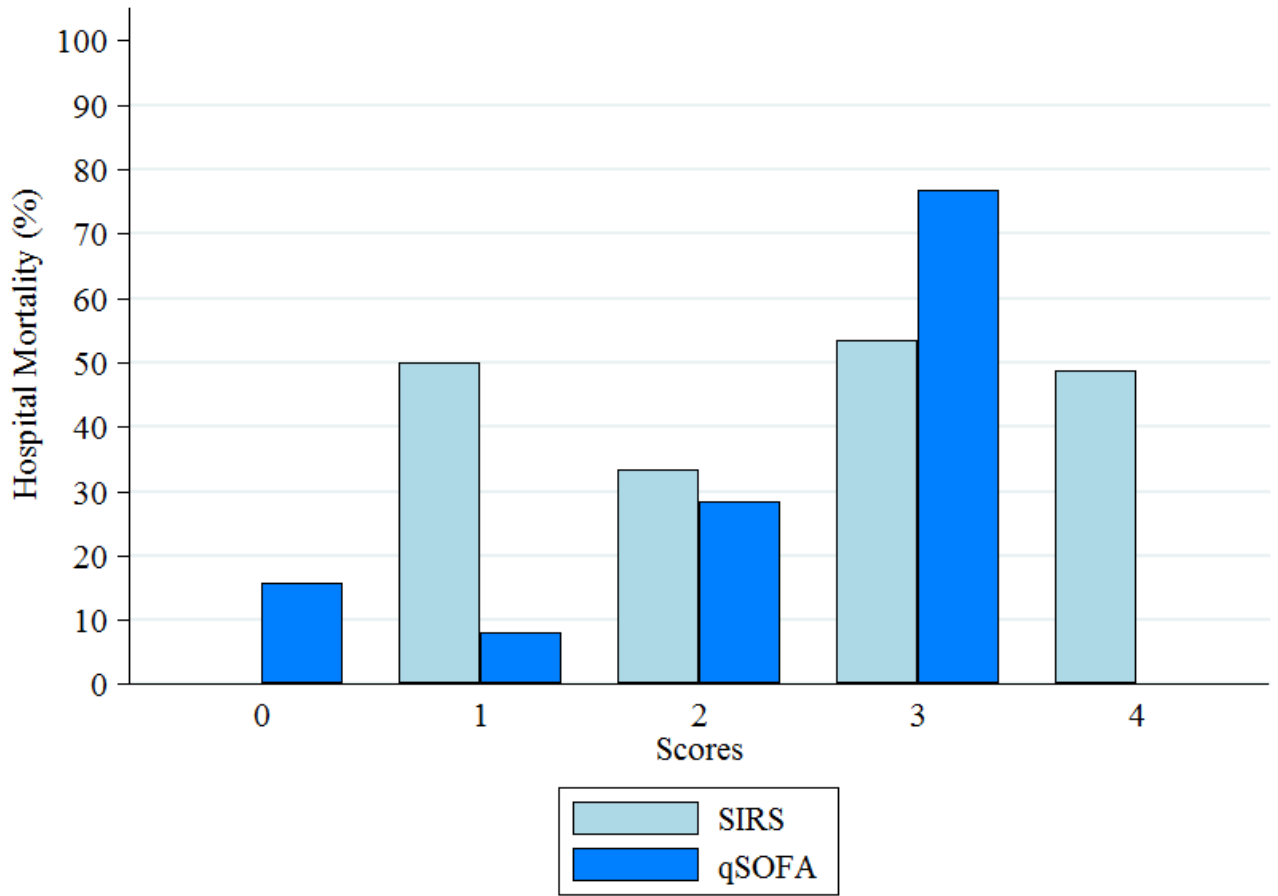


Figure S1 Mortality risk stratified by SIRS and qSOFA

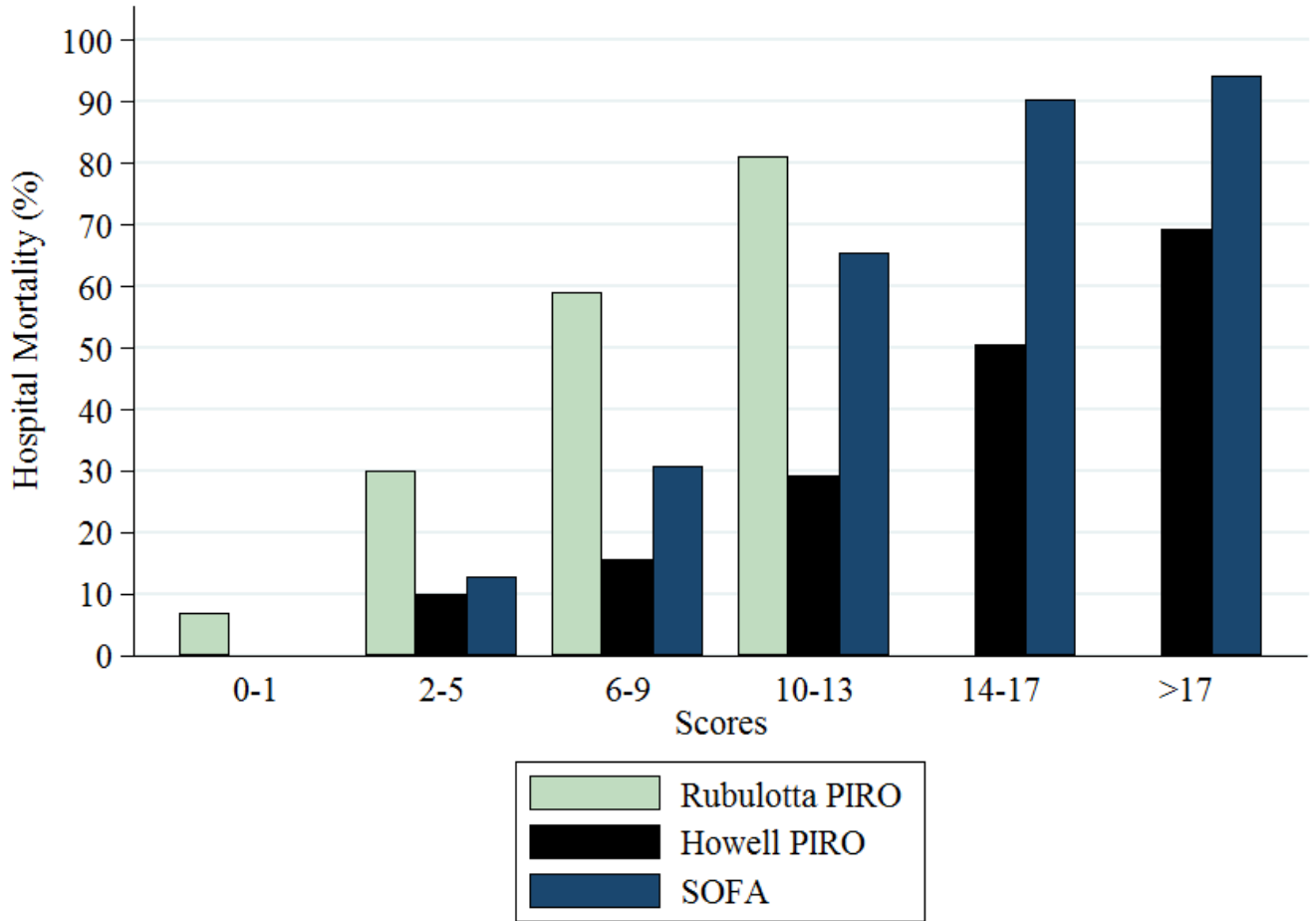


Figure S2 Mortality risk stratified by Rubulotta PIRO, Howell PIRO and SOFA scores

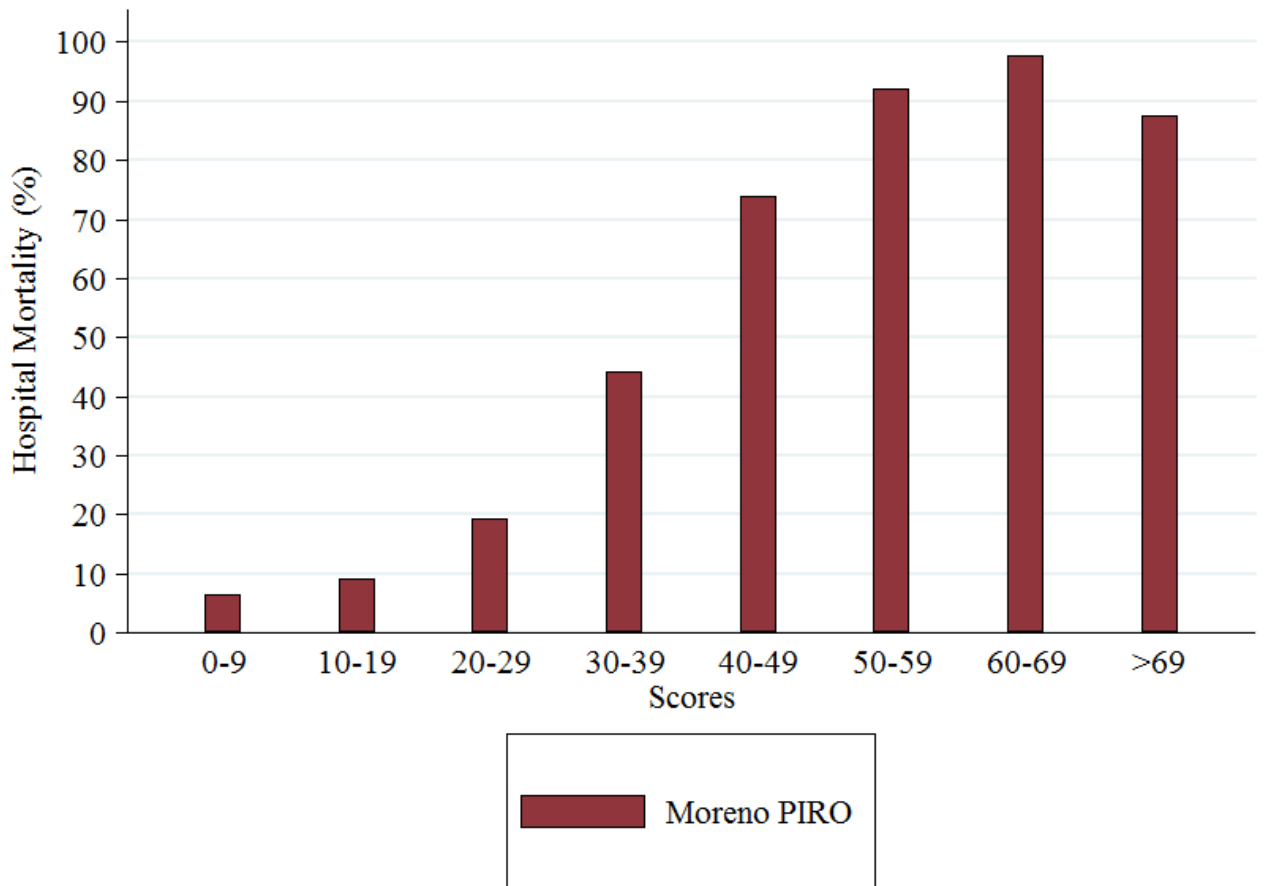


Figure S3 Mortality risk stratified by Moreno PIRO score

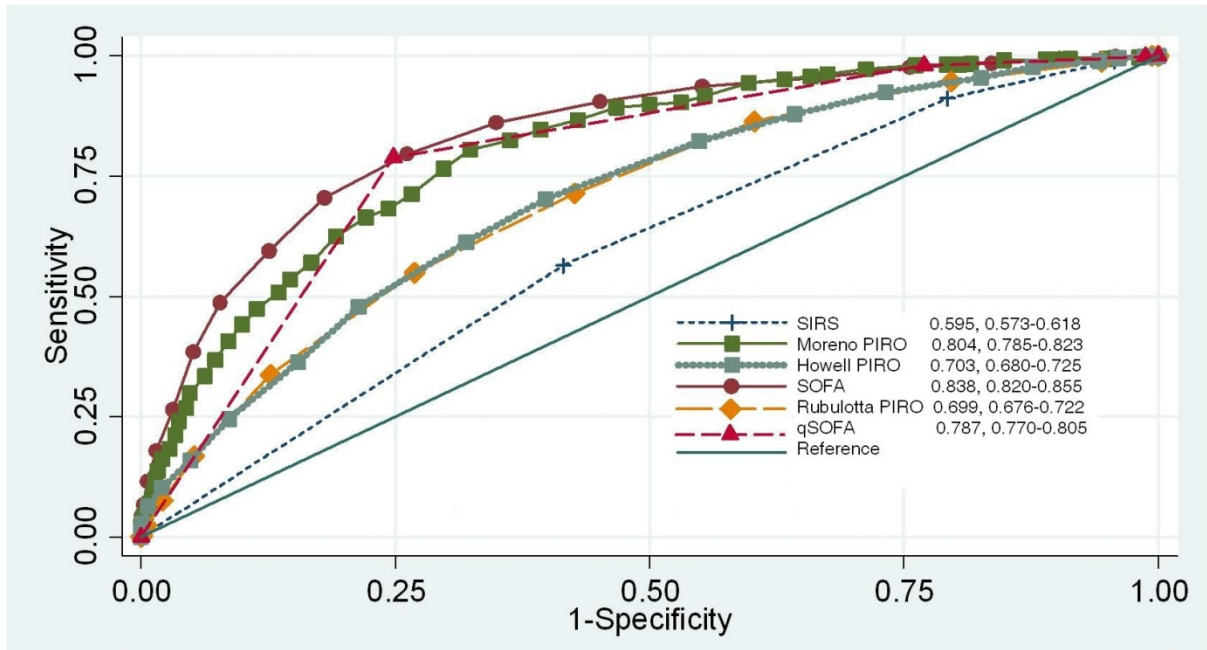


Figure S4 Area under ROC with 95% confidence interval of severity scores for predict ICU mortality