

Supplemental Table A. Comparison between study sites for demographics and severity of illness scores, stratified by trauma and non-trauma patient status

	Trauma			Non-Trauma		
	UVA (n=386)	VU (n=1021)	P value	UVA (n=393)	VU (n=491)	P value
Female sex	113 (29.3)	270 (26.4)	0.29	176 (44.8)	237 (48.3)	0.30
Age, years	46.2 ± 19.6	42.6 ± 18.1	0.0018	57.9 ± 15.0	59.1 ± 14.3	0.21
Race						
White, non-Hispanic	304 (78.8)	856 (83.8)	0.016	322 (81.9)	430 (87.6)	0.062
Black	47 (29.4)	113 (11.1)		53 (13.5)	47 (9.6)	
Other	35 (9.1)	52 (5.1)		18 (4.6)	14 (2.9)	
WHO score at ICU admission	0.24 ± 0.67	0.15 ± 0.52	0.025	1.35 ± 1.12	1.19 ± 1.19	0.044
McCabe score at ICU admission	0.21 ± 0.45	0.23 ± 0.47	0.49	1.28 ± 0.84	0.93 ± 0.58	<0.0001
APACHE II score	13.3 ± 6.2	17.2 ± 6.0	<0.0001	18.8 ± 7.2	19.2 ± 6.4	0.49
MOD score	4.9 ± 4.2	8.2 ± 3.0	<0.0001	4.7 ± 4.5	9.2 ± 3.7	<0.0001
Injury severity score	24.2 ± 11.4	31.4 ± 12.2	<0.0001	-	-	
Probability of trauma survival	0.66 ± 0.35	0.70 ± 0.31	0.13	-	-	
In hospital mortality	26 (6.7)	139 (13.6)	0.0003	89 (22.7)	104 (21.2)	0.060

Abbreviations: UVA, University of Virginia Health System; VU, Vanderbilt University Medical Center; WHO, World Health Organization; APACHE, acute physiology and chronic health evaluation; MOD, Marshall or multiple organ dysfunction
 Values reported as N (%) for categorical variables, mean ± standard deviation for continuous variables

Supplemental Table B. Expanded baseline patient characteristics of 2291 patients admitted for surgical/trauma intensive care

	Trauma			Non-Trauma		
	Males (n=1024)	Females (n=383)	P Value*	Males (n=471)	Females (n=413)	P Value
Age, mean (SD), years	42.2 (18.1)	47.0 (19.4)	<0.0001	59.4 (13.5)	57.7 (15.8)	0.082
Race, No. (%)						
White	826 (80.7)	334 (87.2)	0.016	397 (84.3)	355 (86.0)	0.73
Black	128 (12.5)	32 (8.4)		57 (12.1)	43 (10.4)	
Other	70 (6.8)	17 (4.4)		17 (3.6)	15 (3.6)	
Pre-ICU admission medical history, No. (%)						
No listed comorbidities	679 (66.3)	220 (57.4)	0.0021	54 (11.5)	48 (11.6)	0.94
Diabetes mellitus	74 (7.2)	41 (10.7)	0.034	131 (27.8)	121 (29.3)	0.63
Cardiac disease	122 (11.9)	54 (14.1)	0.27	161 (34.3)	127 (30.8)	0.27
Cerebrovascular disease	26 (2.5)	14 (3.7)	0.26	40 (8.5)	38 (9.2)	0.72
Pulmonary disease	96 (9.3)	42 (11.0)	0.37	113 (24.0)	108 (26.2)	0.47
Chronic renal insufficiency	12 (1.2)	4 (1.0)	1.0	65 (13.8)	36 (8.7)	0.017
Dialysis dependence	2 (0.2)	3 (0.8)	0.13	30 (6.4)	17 (4.1)	0.13
HIV/AIDS	4 (0.4)	0 (0)	0.58	1 (0.2)	2 (0.5)	0.60
Malignancy	26 (2.5)	8 (2.1)	0.62	141 (30.0)	81 (19.6)	0.0004
Hepatic dysfunction	39 (3.8)	11 (2.9)	0.40	104 (22.1)	57 (13.8)	0.0034
Hyperlipidemia	34 (3.3)	18 (4.7)	0.22	37 (7.9)	38 (9.2)	0.48
Hypertension	188 (18.4)	90 (23.5)	0.032	228 (48.5)	209 (50.6)	0.53
Peripheral vascular disease	21 (2.0)	8 (1.8)	0.79	52 (11.1)	34 (8.2)	0.16
Rheumatic/connective tissue disorder	7 (0.7)	11 (2.9)	0.0025	9 (1.9)	19 (4.6)	0.023
Thyroid disease	12 (1.2)	16 (4.2)	0.0003	23 (4.9)	58 (14.0)	<0.0001
Chronic corticosteroid use	8 (0.8)	7 (1.8)	0.14	37 (7.9)	38 (9.2)	0.48
Inflammatory bowel disease	1 (0.1)	1 (0.3)	0.47	12 (2.6)	27 (6.5)	0.0040
Menopausal status, No. (%)						
Premenopausal	-	170 (44.4)	-	-	72 (17.4)	-
Perimenopausal	-	59 (15.4)	-	-	53 (12.8)	-
Postmenopausal	-	154 (40.2)	-	-	288 (69.7)	-
Solid organ transplants, No. (%)						
Any solid organ transplant	2 (0.2)	1 (0.3)	1.0	80 (17.0)	50 (12.1)	0.041
Kidney alone	1 (0.1)	0 (0)	1.0	13 (2.8)	7 (1.8)	0.30
Liver alone	0 (0)	1 (0.3)	0.27	66 (14.4)	39 (9.8)	0.040
Pancreas alone	0 (0)	0 (0)	-	0 (0)	0 (0)	-
Kidney/pancreas	1 (0.1)	0 (0)	1.0	1 (0.1)	0 (0)	0.54
Kidney/liver	0 (0)	0 (0)	-	0 (0)	3 (0.8)	0.10
Other organ (e.g., heart, lung)	0 (0)	0 (0)	-	2 (0.4)	1 (0.3)	1.0
NIH weight classification, No. (%)						
Underweight (BMI < 18.5)	11 (1.2)	12 (3.7)	0.0006	18 (4.2)	23 (6.0)	<0.0001
Normal weight (BMI 18.5 – 24.9)	307 (34.3)	119 (36.7)		135 (31.2)	111 (28.8)	
Overweight (BMI 25.0– 29.9)	317 (35.4)	86 (26.5)		133 (30.7)	80 (20.8)	
Obese (BMI 30.0 – 39.9)	211 (23.6)	76 (23.5)		111 (25.6)	97 (25.2)	
Extremely obese (BMI ≥ 40)	50 (5.6)	31 (9.6)		37 (8.5)	74 (19.2)	
Trauma mechanism, No. (%)						
Blunt	879 (86.9)	353 (93.9)	0.0002	-	-	-
Penetrating	133 (13.1)	23 (6.1)		-	-	-
Abode prior to admission, No. (%)						
Home	1004 (98.1)	372 (97.1)	0.30	416 (85.7)	416 (88.3)	0.25
Skilled nursing facility	2 (0.5)	1 (0.1)	0.18	19 (4.6)	11 (2.3)	0.064
Patients with infections present at the time of ICU admission, No. (%)	66 (6.4)	24 (6.3)	0.90	167 (35.5)	164 (39.7)	0.19
WHO score at ICU admission, mean (SD)	0.15 (0.52)	0.25 (0.65)	0.0093	1.3 (1.2)	1.2 (1.2)	0.56
McCabe score at ICU admission, mean (SD)	0.22 (0.46)	0.24 (0.47)	0.43	1.2 (0.8)	1.0 (0.7)	<0.0001
APACHE II score, mean (SD)	15.9 (6.4)	16.8 (5.9)	0.012	19.6 (6.9)	18.4 (6.5)	0.013
MOD score, mean (SD)	7.5 (3.6)	7.2 (3.6)	0.16	7.8 (4.7)	7.0 (4.5)	0.015
Injury severity score, mean (SD)	30.2 (12.5)	29.7 (12.0)	0.55	-	-	-
Probability of trauma survival, mean (SD)	0.68 (0.32)	0.71 (0.30)	0.26	-	-	-
DNR status at time of ICU admission, No. (%)	11 (1.1)	3 (0.8)	0.77	9 (1.9)	7 (1.7)	0.81

Abbreviations: ICU, intensive care unit; HIV/AIDS: human immunodeficiency virus/acquired immunodeficiency syndrome; BMI, body mass index; MOD, Marshall or multiple organ dysfunction; WHO, World Health Organization; APACHE, acute physiology and chronic health evaluation; DNR, do not resuscitate; SD, standard deviation; NIH, National Institutes of Health

*Student's t-test for continuous variables; Chi-squared test or Fisher's Exact Test for categorical variables

Supplemental Table C. Pre-admission factors, outcomes, and their relationship to gender and the acquisition of an infection while in the intensive care unit. Values are either differences or risk ratios comparing patients with and without ICU-acquired infections

	All Patients	Trauma		Non-Trauma	
	(n=2293)	Male (n=1024)	Female (n=383)	Male (n=471)	Female (n=413)
Age, mean difference (95% CI), years	-1.51 (-3.04 – 0.024)	0.21 (-2.01 – 2.44)	-2.01 (-5.95 – 1.92)	-3.88 (-6.33 – -1.43) *	-0.88 (-3.95 – 2.17)
Race, RR (95% CI)					
White, non-Hispanic	0.98 (0.87 – 1.10)	0.93 (0.79 – 1.08)	0.95 (0.68 – 1.33)	0.95 (0.73 – 1.25)	1.30 (0.91 – 1.87)
Black	1.00 (0.87 – 1.15)	1.10 (0.91 – 1.32)	1.02 (0.67 – 1.53)	0.95 (0.68 – 1.31)	0.74 (0.49 – 1.13)
Other	1.06 (0.87 – 1.28)	1.02 (0.79 – 1.31)	1.10 (0.65 – 1.84)	1.35 (0.89 – 2.04)	0.87 (0.46 – 1.63)
Pre-ICU Admission Medical History, RR (95% CI)					
No comorbidities	1.04 (0.92 – 1.17)	1.15 (0.92 – 1.43)	0.90 (0.60 – 1.34)	1.05 (0.84 – 1.31)	1.04 (0.83 – 1.31)
Diabetes mellitus	0.97 (0.87 – 1.09)	0.92 (0.75 – 1.14)	0.94 (0.66 – 1.32)	1.23 (1.01 – 1.51) *	0.83 (0.65 – 1.06)
Cardiac disease	1.03 (0.92 – 1.17)	1.23 (1.02 – 1.48)	0.99 (0.69 – 1.44)	0.93 (0.72 – 1.19)	0.99 (0.78 – 1.26)
Pulmonary disease	0.83 (0.66 – 1.05)	1.05 (0.59 – 1.86)	0.58 (0.11 – 3.17)	0.90 (0.65 – 1.23)	0.71 (0.44 – 1.14)
Chronic renal insufficiency	1.34 (1.11 – 1.58) *	1.32 (0.77 – 2.26)	0.99 (0.42 – 2.35)	1.61 (1.25 – 2.06) *	1.23 (0.91 – 1.68)
Chronic corticosteroid use	1.06 (0.97 – 1.17)	1.15 (0.99 – 1.34)	0.94 (0.71 – 1.24)	1.09 (0.89 – 1.34)	1.07 (0.87 – 1.33)
Hypertension	0.86 (0.72 – 1.02)	1.19 (0.89 – 1.59)	0.41 (0.12 – 1.46)	0.82 (0.62 – 1.07)	0.78 (0.55 – 1.12)
Hepatic dysfunction	1.06 (0.92 – 1.21)	0.97 (0.64 – 1.47)	0.58 (0.17 – 1.92)	1.19 (0.97 – 1.47)	1.07 (0.83 – 1.38)
Solid organ transplant, RR (95% CI)	0.80 (0.63 – 1.00) *	- [#]	-	0.82 (0.61 – 1.12)	0.81 (0.56 – 1.18)
Menopausal status, RR (95% CI)					
Premenopausal	-	-	1.10 (0.87 – 1.38)	-	0.89 (0.66 – 1.20)
Perimenopausal	-	-	1.07 (0.79 – 1.46)	-	1.33 (1.03 – 1.72) *
Postmenopausal	-	-	0.87 (0.60 – 1.11)	-	0.91 (0.73 – 1.14)
NIH weight classification, RR (95% CI)					
Underweight (BMI < 18.5)	0.77 (0.55 – 1.08)	0.80 (0.36 – 1.75)	0.67 (0.30 – 1.53)	0.94 (0.54 – 1.62)	0.68 (0.35 – 1.30)
Normal weight (BMI 18.5 – 24.9)†	1.00	1.00	1.00	1.00	1.00
Overweight (BMI 25.0– 29.9)	0.99 (0.90 – 1.14)	1.13 (0.96 – 1.32)	0.80 (0.58 – 1.10)	0.86 (0.65 – 1.12)	1.08 (0.80 – 1.47)
Obese (BMI 30.0 – 39.9)	1.04 (0.92 – 1.18)	1.15 (0.96 – 1.37)	0.80 (0.57 – 1.11)	1.00 (0.77 – 1.31)	1.08 (0.80 – 1.44)
Extremely obese (BMI ≥ 40)	1.09 (0.93 – 1.28)	1.00 (0.72 – 1.38)	1.11 (0.77 – 1.60)	0.97 (0.70 – 1.49)	1.20 (0.89 – 1.61)
Trauma Mechanism, RR (95% CI)					
Blunt†	1.00	1.00	1.00	-	-
Penetrating	1.04 (0.88 – 1.24)	1.07 (0.89 – 1.29)	0.79 (0.45 – 1.40)	-	-
Abode prior to admission, RR (95%CI)					
Home†	1.00	1.00	1.00	1.00	1.00
Skilled nursing facility	1.04 (0.73 – 1.48)	-	1.16 (0.29 – 4.64)	1.18 (0.68 – 2.04)	0.98 (0.61 – 1.60)
WHO score at ICU admission, mean difference (95% CI)	-0.48 (-0.13 – 0.04)	-0.02 (-0.08 – 0.05)	0.02 (-0.12 – 0.15)	-0.20 (-0.41 – 0.016)	0.06 (-0.17 – 0.30)
McCabe score at ICU Admission, mean difference (95% CI)	-0.01 (-0.07 – 0.05)	0.03 (-0.03 – 0.09)	0.01 (-0.12 – 0.09)	-0.60 (-0.20 – 0.08)	0.01 (-0.13 – 0.14)
APACHE II score, mean difference (95% CI)	1.62 (1.08 – 2.16) *	2.02 (1.25 – 2.80) *	1.80 (0.62 – 2.97) *	1.20 (-0.06 – 2.46)	1.28 (0.02 – 2.55) *
MOD score, mean difference (95% CI)	0.82 (0.48 – 1.16) *	0.83 (0.38 – 1.28) *	0.79 (0.02 – 1.55) *	0.77 (-0.12 – 1.67)	0.92 (0.00 – 1.84) *
Injury severity score, mean difference	2.67 (1.24 – 4.09) *	2.83 (1.14 – 4.51) *	2.18 (-0.49 – 4.86)	-	-

(95% CI)					
Probability of trauma survival, mean difference (95% CI), %	-3.64 (-7.73 – 0.40)	-3.22 (-8.06 – 1.6)	-4.53 (-12.2 – 3.1)	-	-
DNR status at time of ICU admission, RR (95% CI)	0.73 (0.44 – 1.21)	0.38 (0.11 – 1.33)	1.55 (0.69 – 3.49)	0.25 (0.04 – 1.58)	1.58 (0.97 – 2.55)
Blood cell product transfusion, RR (95% CI)	1.10 (0.99 – 1.23)	1.16 (0.97 – 1.36)	1.07 (0.81 – 1.40)	0.93 (0.73 – 1.19)	1.19 (0.93 – 1.54)
Required mechanical ventilation, RR (95% CI)	1.19 (1.00 – 1.42)	1.61 (1.11 – 2.33) *	1.28 (0.80 – 2.06)	0.94 (0.70 – 1.28)	1.01 (0.74 – 1.39)
Length of stay, mean difference (95% CI), days					
ICU length of stay	8.95 (7.42 – 10.5) *	8.53 (7.41 – 9.66)*	7.93 (6.39 – 9.47) *	12.0 (9.94 – 14.1) *	7.59 (0.007 – 15.1) *
Hospital length of stay	11.3 (8.65 – 13.9) *	10.4 (6.88 – 14.0)*	10.1 (6.98 – 13.2) *	13.8 (7.74 – 20.0) *	12.0 (3.52 – 20.4) *
Mortality, RR (95% CI)	1.19 (1.07 – 1.33) *	0.98 (0.81 – 1.20)*	0.78 (0.49 – 1.25)	1.50 (1.22 – 1.83) *	1.50 (1.22 – 1.85) *
Live patient discharge disposition, RR (95% CI)					
Home, No. (%)†	1.00	1.00	1.00	1.00	1.00
Rehabilitation facility	1.56 (1.37 – 1.78) *	1.39 (1.17 – 1.66)*	1.53 (1.09 – 2.16) *	1.62 (1.15 – 2.28) *	1.92 (1.37 – 2.70) *
Skilled nursing facility	1.40 (1.18 – 1.66) *	1.36 (1.08 – 1.72) *	1.24 (0.77 – 1.97)	1.56 (1.04 – 2.33) *	1.49 (0.99 – 2.25)
Hospital	1.35 (1.14 – 1.60) *	1.11 (0.87 – 1.41)	1.04 (0.64 – 1.68)	1.78 (1.22 – 2.54) *	2.23 (1.55 – 3.23) *
Functional status at discharge					
WHO functional status, mean (SD)	0.37 (0.28 - 0.47) *	0.30 (0.17 - 0.43) *	0.33 (0.11 - 0.54) *	0.47 (0.24 - 0.69) *	0.47 (0.24 - 0.70) *
Change In WHO functional status from admission, Mean (SD)	0.45 (0.33 – 0.58) *	0.31 (0.16 – 0.45) *	0.33 (0.095 – 0.56) *	0.61 (0.31 – 0.91) *	0.40 (0.11 – 0.70) *

Abbreviations: ICU, intensive care unit; SD, standard deviation; CI, confidence interval; RR, relative risk or risk ratio; BMI, body mass index; MOD, Marshall or multiple organ dysfunction; WHO, World Health Organization; APACHE, acute physiology and chronic health evaluation; DNR, do not resuscitate; NIH, National Institutes of Health

* Significant differences between those who developed or did not develop an ICU acquired infection

Risk ratios are not calculated if all events occurred in one group

† Referent group

Shaded values are those with significant differences between patients with and without ICU-acquired infections

Supplemental Table D. Pre-admission factors, outcomes, and their relationship to sex and all-cause in-hospital mortality. Values are either differences or risk ratios comparing patients not surviving or surviving to hospital discharge

	All Patients	Trauma		Non-Trauma	
	(n=2292)	Male (n=1024)	Female (n=383)	Male (n=471)	Female (n=413)
Age, mean difference (95% CI), years	11 (9-13)*	10 (7 – 14)*	12 (5.6 – 19)*	6.4 (3.6 – 9.3)*	7.7 (4.0 – 11)*
Race, RR (95% CI)					
White, non-Hispanic †	1.0	1.0	1.0	1.0	1.0
Black	1.2 (0.8 – 1.9)	0.6 (0.3 – 1.1)	1.0 (0.3 – 3.0)	1.2 (0.8 – 1.9)	0.9 (0.5 – 1.7)
Other	0.7 (0.4 – 1.2)	0.4 (0.2 – 1.1)	#	1.9 (1.0 – 3.5)*	1.0 (1.0 – 3.4)
Pre-ICU Admission Medical History, RR (95% CI)					
No comorbidities	0.5 (0.4 – 0.6)*	0.5 (0.4 – 0.7)*	0.6 (0.3 – 1.1)	0.2 (0.07 – 0.7)*	1.1 (0.7 – 2.0)
Diabetes mellitus	1.1 (0.9 – 1.5)	1.7 (1.0 – 2.7)*	1.1 (0.4 – 2.9)	0.7 (0.4 – 1.0)	1.1 (0.9 – 1.4)
Cardiac disease	1.9 (1.6 – 2.4)*	2.4 (1.7 – 3.4)*	2.4 (1.2 – 4.8)*	1.4 (1.0 – 1.9)	1.3 (0.9 – 1.9)
Pulmonary disease	1.2 (1.0 – 1.6)	1.3 (0.8 – 2.1)	1.7 (0.7 – 3.8)	0.9 (0.6 – 1.4)	1.0 (0.6 – 1.5)
Chronic renal insufficiency	1.8 (1.3 – 2.5)*	3.4 (1.7 – 6.7)*	5.7 (2.0 – 16)*	1.1 (0.7 – 1.7)	1.2 (0.7 – 2.3)
Chronic corticosteroid use	2.2 (1.6 – 3.0)*	2.0 (0.6 – 6.7)	3.3 (1.0 – 11)	1.9 (1.2 – 2.9)*	1.3 (0.7 – 2.3)
Hypertension	1.2 (1.0 – 1.5)	1.3 (0.9 – 1.9)	1.7 (0.9 – 3.3)	0.8 (0.6 – 1.1)	0.9 (0.6 – 1.3)
Hepatic dysfunction	1.8 (1.4 – 2.3)*	2.8 (1.7 – 4.5)*	1.0 (0.2 – 6.6)	1.4 (1.0 – 2.0)	0.8 (0.5 – 1.5)
Malignancy	2.1 (1.7 – 2.6)*	0.9 (0.3 – 2.7)	4.4 (1.7 – 11)*	1.7 (1.3 – 2.4)*	1.4 (0.9 – 2.2)
Solid organ transplant, RR (95% CI)	1.5 (1.1 – 2.1)*		11 (8.2 – 16)*	1.0 (0.7 – 1.6)	1.0 (0.5 – 1.8)
Menopausal status, RR (95% CI)					
Premenopausal †	-	-	1.0	-	1.0
Perimenopausal	-	-	4.3 (1.6 – 11.6)*	-	1.6 (0.6 – 4.0)
Postmenopausal	-	-	3.7 (1.5 – 8.9)*	-	2.5 (1.2 – 5.2)*
NIH weight classification, RR (95% CI)					
Underweight (BMI < 18.5)	1.4 (0.9 – 2.3)	0.8 (0.1 – 5.4)	1.7 (0.4 – 6.5)	1.4 (0.7 – 2.9)	0.9 (0.4 – 2.2)
Normal weight (BMI 18.5 – 24.9) †	1.0	1.0	1.0	1.0	1.0
Overweight (BMI 25.0– 29.9)	1.1 (0.8 – 1.4)	1.1 (0.7 – 1.7)	1.0 (0.9 – 1.1)	1.1 (0.7 – 1.6)	1.0 (0.6 – 1.7)
Obese (BMI 30.0 – 39.9)	1.0 (0.7 – 1.2)	1.1 (0.6– 1.5)	1.0 (0.5 – 2.4)	1.0 (0.6 – 1.5)	0.8 (0.5 – 1.4)
Extremely obese (BMI ≥ 40)	0.8 (0.5 – 1.2)	1.6 (0.8 – 3.1)	-	0.3 (0.1 – 1.1)	0.7 (0.4 – 1.3)
Trauma mechanism, RR (95% CI)					
Blunt†	1.0	1.0	1.0	-	-
Penetrating	0.8 (0.5 – 1.3)	0.6 (0.3 – 1.0)	2.6 (1.1 – 6.0)*	-	-
Abode prior to admission, RR (95%CI)					
Home†	1.0	1.0	1.0	1.0	1.0
Skilled nursing facility	1.8 (1.0 – 3.1)*	-	-	0.8 (0.2 – 2.8)	1.8 (1.0 – 3.4)
WHO score at ICU Admission, mean difference (95% CI)	0.4 (0.2 – 0.5)*	0.2 (-0.1 – 0.3)	0.3 (0.1 – 0.6)*	0.2 (-0.1 – 0.4)	0.1 (-0.2 – 0.4)
McCabe Score at ICU Admission, mean difference (95% CI)	0.4 (0.3 – 0.5)*	0.3 (0.2 – 0.4)*	0.3 (0.1 – 0.4)*	0.3 (0.2 – 0.5)*	0.2 (0.02 – 0.4)
APACHE II score, mean difference (95% CI)	5.8 (5.1 – 6.5)*	6.4 (5.3 – 7.5)*	6.6 (4.7 – 8.5)*	4.3 (2.9 – 5.8)*	4.2 (2.7 – 5.7)*
MOD score, mean difference (95% CI)	0.9 (0.4 – 1.3)*	1.8 (1.1 – 2.5)*	1.3 (0.00 – 2.6)*	0.2 (-0.9 – 1.2)	0.2 (-1.3 – 1.0)
Injury Severity Score, mean difference (95% CI)	2.7 (0.5 – 4.9)*	2.5 (0.0 – 5.0)*	3.1 (-1.4 – 7.8)	-	-
Probability of trauma survival, mean difference (95% CI), %	-19 (-25 – -13)*	-19 (-26 – -12)*	-20 (-32 – -7.0)*	-	-

DNR status at time of ICU admission, RR (95% CI)	4.5 (3.4 – 5.9)*	6.0 (1.1 – 9.0)*	-	3.6 (2.4 – 5.3)*	3.6 (2.2 – 6.0)*
Blood cell product transfusion, RR (95% CI)	1.5 (1.1 – 1.9)*	1.2 (0.8 – 1.8)	1.3 (0.6 – 2.9)	1.7 (1.0 – 3.0)*	1.7 (1.0 – 2.8)
Required mechanical ventilation, RR (95% CI)	1.2 (0.8 – 1.6)	1.4 (0.7 – 3.1)	1.7 (0.4 – 6.6)	1.2 (0.7 – 2.1)	1.1 (0.6 – 2.0)
Length of stay, mean difference (95% CI), days					
ICU length of stay	3.9 (1.7 – 6.0)*	-1.2 (-3.1 – 0.7)	-2.8 (-5.8 – 0.1)	3.9 (1.2 – 6.7)*	13 (3.7 – 22)*
Hospital length of stay	0.3 (-3.3 – 3.9)	-9.0 (-14 – -3.7)*	-9.8 (-15 – -4.4)*	1.8 (-5.5 – 9.2)	10 (-1.3 – 21)
Infection, RR (95% CI)					
Patients with infections acquired in the ICU	1.3 (1.1 – 1.6)*	1.0 (0.7 – 1.3)	0.7 (0.4 – 1.3)	1.8 (1.3 – 2.6)*	2.0 (1.3 – 2.9)*
Patients treated for pneumonia acquired in the ICU	1.1 (0.9 – 1.3)	0.7 (0.5 – 1.0)*	0.8 (0.4 – 1.7)	1.8 (1.3 – 2.5)*	1.8 (1.2 – 2.6)*
Abbreviations: ICU, intensive care unit; SD, standard deviation; CI, confidence interval; RR, relative risk or risk ratio; BMI, body mass index; MOD, Marshall or multiple organ dysfunction; WHO, World Health Organization; APACHE, acute physiology and chronic health evaluation; DNR, do not resuscitate; NIH, National Institutes of Health					

* Significant differences between non-survivors and survivors

Risk ratios are not calculated if all events occurred in one group

† Referent group

Supplemental Table E. Proportion of cytokine levels above the lowest measured concentration (2.7pg/ml) for male and female for both trauma and non-trauma populations

	Trauma			Non-Trauma		
	Male (n=746)	Female (n=276)	p value	Male (n=335)	Female (n=298)	p value
IL-1	275 (36.8)	94 (34.1)	0.41	99 (29.6)	75 (25.2)	0.22
IL-2	405 (54.3)	128 (46.4)	0.025	177 (52.8)	147 (49.3)	0.38
IL-4	625 (83.8)	224 (81.2)	0.32	268 (80.0)	245 (82.2)	0.49
IL-6	715 (95.8)	268 (97.1)	0.35	315 (94.0)	281 (94.3)	0.89
IL-8	670 (89.8)	245 (88.8)	0.63	298 (89.0)	261 (87.6)	0.59
IL-10	722 (96.7)	265 (96.0)	0.55	326 (97.3)	291 (97.7)	0.79
IL-12	363 (48.6)	112 (40.6)	0.022	151 (45.1)	134 (45.0)	0.98
IFN- γ	417 (55.9)	132 (47.8)	0.022	143 (42.7)	127 (42.6)	0.99
GM-CSF	454 (60.9)	153 (55.4)	0.12	177 (52.8)	141 (47.3)	0.17
TNF- α	525 (70.6)	188 (68.6)	0.53	259 (77.3)	222 (74.5)	0.75

Abbreviations: IL, interleukin; IFN, interferon; GM-CSF, granulocyte macrophage-colony stimulating factor; TNF, tumor necrosis factor
Values reported as N (%)

Supplemental Table F. Mean initial ICU cytokine levels for patients who lived and died for both trauma and non-trauma populations

	Trauma			Non-Trauma		
	Lived (n=913)	Died (n=109)	p value	Lived (n=492)	Died (n=141)	p value
IL-1	8.5 ± 14.3	25.4 ± 55.1	0.23	8.0 ± 19.9	7.9 ± 12.6	0.91
IL-2	15.7 ± 48.3	25.4 ± 102	0.33	17.8 ± 95.7	15.1 ± 27.2	0.59
IL-4	229 ± 565	340 ± 575	0.52	192 ± 439	311 ± 630	0.036
IL-6	355 ± 765	770 ± 1457	0.0042	410 ± 876	448 ± 1215	0.030
IL-8	77.9 ± 303	132 ± 316	0.079	92.5 ± 258	229 ± 740	0.032
IL-10	183 ± 553	201 ± 619	0.76	347 ± 1007	340 ± 761	0.93
IL-12	15.8 ± 59.4	12.6 ± 29.6	0.34	62.7 ± 461	15.0 ± 30.9	0.023
IFN-γ	19.5 ± 84.5	20.9 ± 57.9	0.82	18.8 ± 122	78.0 ± 529	0.19
GM-CSF	12.0 ± 36.5	10.8 ± 19.6	0.60	9.5 ± 30.8	17.9 ± 55.5	0.086
TNF-α	15.8 ± 196	10.1 ± 9.8	0.38	14.1 ± 25.3	24.2 ± 64.6	0.070

Abbreviations: IL, interleukin; IFN, interferon; GM-CSF, granulocyte macrophage-colony stimulating factor; TNF, tumor necrosis factor

Values reported as Mean ± SD.