1.1. Table 1. Overall Characteristics of the ICU Cohort

Table 1. Overall Characteristics of the ICU Cohort

Characteristic	Overall[1]
Age (years)	63.41 ± 17.07
Gender	
F	28,646 (44%)
M	36,720 (56%)
Insurance Type	
Medicaid	9,381 (15%)
Medicare	35,137 (55%)
No charge	8 (<0.1%)
Other	1,712 (2.7%)
Private	17,828 (28%)
Unknown	1,300
White Blood Cell Count (×10⁹/L)	10.50 ± 1.56
Hemoglobin (g/dL)	24.44 ± 3.84
Platelet Count (×10⁹/L)	217.03 ± 101.91
Creatinine (mg/dL)	1.28 ± 1.23
Blood Urea Nitrogen (mg/dL)	24.30 ± 18.39
Sodium (mmol/L)	131.35 ± 42.22
Potassium (mmol/L)	4.12 ± 0.41
Lactate (mmol/L)	4.85 ± 16.11
Albumin (g/dL)	3.28 ± 0.56
Mechanical Ventilation	
0	65,366 (100%)
Renal Replacement Therapy	
0	65,366 (100%)
Vasopressor Use	
0	65,366 (100%)
Polypharmacy (≥5 medications)	65,024 (99%)
Hypertension	0.57 ± 0.50
Diabetes Mellitus	0.29 ± 0.45

Characteristic	Overall[1]
Congestive Heart Failure	0.24 ± 0.43
Chronic Kidney Disease	0.19 ± 0.39
Chronic Obstructive Pulmonary Disease	0.11 ± 0.31
Cancer (Malignancy)	0.08 ± 0.27
Liver Disease	0.11 ± 0.31
Immunosuppression	0.01 ± 0.11
ICU Length of Stay (days)	3.50 ± 5.13
Hospital Length of Stay (days)	9.29 ± 11.50
prolonged_icu_los	
≤7 days	58,019 (89%)
>7 days	7,347 (11%)
outcome_30d	
Alive	48,747 (75%)
Readmitted	7,153 (11%)
Dead	9,466 (14%)

[1]Mean ± SD; n (%)

1.1. Table 2. ICU Cohort Characteristics Stratified by 30-Day Outcome

Table 2. ICU Cohort Characteristics Stratified by 30-Day Outcome

Characteristic	Overall[1]	Alive[1]	Readmitted[1]	Dead[1]	p-value[2]
Age (years)	63.41 ± 17.07	62.67 ± 17.20	61.38 ± 17.17	68.80 ± 15.20	**<0.001**
Gender					**<0.001**
F	28,646 (44%)	21,122 (43%)	3,251 (45%)	4,273 (45%)	
M	36,720 (56%)	27,625 (57%)	3,902 (55%)	5,193 (55%)	
Insurance Type					**<0.001**
Medicaid	9,381 (15%)	7,033 (15%)	1,224 (17%)	1,124 (12%)	
Medicare	35,137 (55%)	25,222 (53%)	3,755 (53%)	6,160 (67%)	
No charge	8 (<0.1%)	7 (<0.1%)	0 (0%)	1 (<0.1%)	
Other	1,712 (2.7%)	1,309 (2.7%)	201 (2.8%)	202 (2.2%)	
Private	17,828 (28%)	14,275 (30%)	1,909 (27%)	1,644 (18%)	
Unknown	1,300	901	64	335	
White Blood Cell Count (×10⁹/L)	10.50 ± 1.56	10.63 ± 1.39	10.39 ± 1.89	9.91 ± 1.90	**<0.001**
Hemoglobin (g/dL)	24.44 ± 3.84	24.90 ± 3.33	24.78 ± 3.28	21.83 ± 5.34	**<0.001**
Platelet Count (×10⁹/L)	217.03 ± 101.91	221.58 ± 97.82	224.50 ± 110.76	187.99 ± 110.37	**<0.001**
Creatinine (mg/dL)	1.28 ± 1.23	1.17 ± 1.14	1.30 ± 1.31	1.87 ± 1.41	**<0.001**
Blood Urea Nitrogen (mg/dL)	24.30 ± 18.39	21.57 ± 15.56	23.46 ± 16.80	39.00 ± 24.92	**<0.001**
Sodium (mmol/L)	131.35 ± 42.22	127.14 ± 36.00	128.77 ± 36.00	155.00 ± 63.26	**<0.001**
Potassium (mmol/L)	4.12 ± 0.41	4.09 ± 0.36	4.10 ± 0.38	4.29 ± 0.59	**<0.001**
Lactate (mmol/L)	4.85 ± 16.11	4.90 ± 15.68	4.71 ± 24.19	4.72 ± 9.19	**<0.001**
Albumin (g/dL)	3.28 ± 0.56	3.37 ± 0.52	3.24 ± 0.61	2.85 ± 0.54	**<0.001**
Mechanical Ventilation					
0	65,366 (100%)	48,747 (100%)	7,153 (100%)	9,466 (100%)	
Renal Replacement Therapy					
0	65,366 (100%)	48,747 (100%)	7,153 (100%)	9,466 (100%)	
Vasopressor Use					
0	65,366 (100%)	48,747 (100%)	7,153 (100%)	9,466 (100%)	
Polypharmacy (≥5 medications)	65,024 (99%)	48,552 (100%)	7,128 (100%)	9,344 (99%)	**<0.001**
Hypertension	0.57 ± 0.50	0.57 ± 0.50	0.54 ± 0.50	0.56 ± 0.50	**<0.001**
Diabetes Mellitus	0.29 ± 0.45	0.28 ± 0.45	0.29 ± 0.46	0.34 ± 0.47	**<0.001**
Congestive Heart Failure	0.24 ± 0.43	0.22 ± 0.42	0.24 ± 0.43	0.35 ± 0.48	**<0.001**

Characteristic	Overall[1]	Alive[1]	Readmitted[1]	Dead[1]	p-value[2]
Chronic Kidney Disease	0.19 ± 0.39	0.17 ± 0.37	0.21 ± 0.41	0.29 ± 0.45	**<0.001**
Chronic Obstructive Pulmonary Disease	0.11 ± 0.31	0.10 ± 0.30	0.10 ± 0.30	0.14 ± 0.35	**<0.001**
Cancer (Malignancy)	0.08 ± 0.27	0.07 ± 0.25	0.11 ± 0.31	0.13 ± 0.33	**<0.001**
Liver Disease	0.11 ± 0.31	0.08 ± 0.27	0.12 ± 0.33	0.22 ± 0.42	**<0.001**
Immunosuppression	0.01 ± 0.11	0.01 ± 0.10	0.02 ± 0.13	0.02 ± 0.14	**<0.001**
ICU Length of Stay (days)	3.50 ± 5.13	3.19 ± 4.67	3.15 ± 4.18	5.31 ± 7.23	**<0.001**
Hospital Length of Stay (days)	9.29 ± 11.50	8.89 ± 10.66	11.14 ± 12.30	9.95 ± 14.45	**<0.001**
prolonged_icu_los					**<0.001**
≤7 days	58,019 (89%)	44,262 (91%)	6,524 (91%)	7,233 (76%)	
>7 days	7,347 (11%)	4,485 (9.2%)	629 (8.8%)	2,233 (24%)	

[1]Mean ± SD; n (%)

[2]Kruskal-Wallis rank sum test; Pearson's Chi-squared test; NA

1.1. Table 3. ICU Cohort Characteristics Stratified by ICU Length of Stay

Table 3. ICU Cohort Characteristics Stratified by ICU Length of Stay (≤7 vs >7 days)

Characteristic	Overall[1]	≤7 days[1]	>7 days[1]	p-value[2]
Age (years)	63.41 ± 17.07	63.49 ± 17.18	62.80 ± 16.14	**<0.001**
Gender				**<0.001**
F	28,646 (44%)	25,616 (44%)	3,030 (41%)	
M	36,720 (56%)	32,403 (56%)	4,317 (59%)	
Insurance Type				**<0.001**
Medicaid	9,381 (15%)	8,210 (14%)	1,171 (16%)	
Medicare	35,137 (55%)	31,161 (55%)	3,976 (55%)	
No charge	8 (<0.1%)	6 (<0.1%)	2 (<0.1%)	
Other	1,712 (2.7%)	1,537 (2.7%)	175 (2.4%)	
Private	17,828 (28%)	15,948 (28%)	1,880 (26%)	
Unknown	1,300	1,157	143	
White Blood Cell Count (×10⁹/L)	10.50 ± 1.56	10.55 ± 1.56	10.11 ± 1.47	**<0.001**
Hemoglobin (g/dL)	24.44 ± 3.84	24.36 ± 3.83	25.08 ± 3.91	**<0.001**
Platelet Count (×10⁹/L)	217.03 ± 101.91	214.58 ± 99.85	236.38 ± 115.12	**<0.001**
Creatinine (mg/dL)	1.28 ± 1.23	1.26 ± 1.23	1.48 ± 1.24	**<0.001**
Blood Urea Nitrogen (mg/dL)	24.30 ± 18.39	23.27 ± 17.73	32.45 ± 21.24	**<0.001**
Sodium (mmol/L)	131.35 ± 42.22	130.15 ± 43.05	140.88 ± 33.50	**<0.001**
Potassium (mmol/L)	4.12 ± 0.41	4.12 ± 0.42	4.10 ± 0.32	**<0.001**
Lactate (mmol/L)	4.85 ± 16.11	5.07 ± 16.91	3.13 ± 7.02	**<0.001**
Albumin (g/dL)	3.28 ± 0.56	3.32 ± 0.55	2.96 ± 0.54	**<0.001**
Mechanical Ventilation				
0	65,366 (100%)	58,019 (100%)	7,347 (100%)	
Renal Replacement Therapy				
0	65,366 (100%)	58,019 (100%)	7,347 (100%)	
Vasopressor Use				
0	65,366 (100%)	58,019 (100%)	7,347 (100%)	
Polypharmacy (≥5 medications)	65,024 (99%)	57,707 (99%)	7,317 (100%)	0.147
Hypertension	0.57 ± 0.50	0.56 ± 0.50	0.57 ± 0.50	0.447
Diabetes Mellitus	0.29 ± 0.45	0.29 ± 0.45	0.32 ± 0.47	**<0.001**

Characteristic	Overall[1]	≤7 days[1]	>7 days[1]	p-value[2]
Congestive Heart Failure	0.24 ± 0.43	0.23 ± 0.42	0.31 ± 0.46	**<0.001**
Chronic Kidney Disease	0.19 ± 0.39	0.18 ± 0.39	0.23 ± 0.42	**<0.001**
Chronic Obstructive Pulmonary Disease	0.11 ± 0.31	0.10 ± 0.31	0.13 ± 0.33	**<0.001**
Cancer (Malignancy)	0.08 ± 0.27	0.08 ± 0.27	0.08 ± 0.27	0.399
Liver Disease	0.11 ± 0.31	0.10 ± 0.30	0.17 ± 0.38	**<0.001**
Immunosuppression	0.01 ± 0.11	0.01 ± 0.11	0.02 ± 0.14	**<0.001**
ICU Length of Stay (days)	3.50 ± 5.13	2.14 ± 1.50	14.20 ± 9.33	**<0.001**
Hospital Length of Stay (days)	9.29 ± 11.50	7.65 ± 9.32	22.28 ± 17.31	**<0.001**
outcome_30d				**<0.001**
Alive	48,747 (75%)	44,262 (76%)	4,485 (61%)	
Readmitted	7,153 (11%)	6,524 (11%)	629 (8.6%)	
Dead	9,466 (14%)	7,233 (12%)	2,233 (30%)	

[1]Mean ± SD; n (%)

[2]Welch Two Sample t-test; Pearson's Chi-squared test; NA

1.1. Table 4. Univariable Logistic Regression – Prolonged ICU LOS

__Table 4. Univariable Logistic Regression – Prolonged ICU LOS__

Characteristic	N	OR	95% CI	p-value
age	65,366	1.00	1.00, 1.00	<0.001
gender	65,366			
F		—	—	
M		1.13	1.07, 1.18	<0.001
wbc	65,366	0.81	0.79, 0.82	<0.001
hemoglobin	65,366	1.05	1.04, 1.06	<0.001
platelets	65,366	1.00	1.00, 1.00	<0.001
creatinine	65,366	1.12	1.10, 1.14	<0.001
bun	65,366	1.02	1.02, 1.02	<0.001
sodium	65,366	1.00	1.00, 1.01	<0.001
potassium	65,366	0.86	0.81, 0.91	<0.001
lactate	65,366	0.99	0.98, 0.99	<0.001
albumin	65,366	0.30	0.29, 0.32	<0.001
heart_rate	65,366	1.01	1.01, 1.01	<0.001
map	65,366	1.00	1.00, 1.00	0.024
chf	65,366	1.50	1.43, 1.58	<0.001
ckd	65,366	1.36	1.29, 1.44	<0.001
copd	65,366	1.23	1.14, 1.32	<0.001
cancer	65,366	0.96	0.88, 1.05	0.4
liver_disease	65,366	1.98	1.85, 2.12	<0.001
immunosuppression	65,366	1.73	1.43, 2.07	<0.001
polypharmacy	65,366	1.32	0.92, 1.96	0.15

Abbreviations: CI = Confidence Interval, OR = Odds Ratio

1.1. Table 5. Multivariable Logistic Regression – Prolonged ICU LOS

Table 5. Multivariable Logistic Regression – Prolonged ICU LOS

Characteristic	OR	95% CI	p-value
age	0.99	0.99, 0.99	<0.001
gender			
F	—	—	
M	1.17	1.11, 1.24	<0.001
wbc	0.97	0.95, 0.98	<0.001
hemoglobin	1.10	1.09, 1.11	<0.001
platelets	1.00	1.00, 1.00	<0.001
creatinine	0.89	0.87, 0.92	<0.001
bun	1.03	1.03, 1.03	<0.001
sodium	1.00	1.00, 1.00	<0.001
potassium	0.66	0.61, 0.70	<0.001
lactate	1.00	0.99, 1.00	0.020
albumin	0.31	0.29, 0.33	<0.001
heart_rate	1.00	1.00, 1.00	0.3
map	1.01	1.01, 1.01	<0.001
chf	1.09	1.03, 1.17	0.006
ckd	0.89	0.83, 0.97	0.005
copd	0.98	0.91, 1.07	0.7
cancer	0.70	0.64, 0.77	<0.001
liver_disease	1.61	1.50, 1.74	<0.001
immunosuppression	1.24	1.02, 1.51	0.031
polypharmacy	1.04	0.71, 1.56	0.9

Abbreviations: CI = Confidence Interval, OR = Odds Ratio

1.1. Table 6. Multinomial Logistic Regression – 30-Day Outcomes

Table 6. Multinomial Logistic Regression – 30-Day Outcomes

Outcome	Characteristic	OR	95% CI	p-value
Readmitted	age	0.99	0.99, 0.99	<0.001
	gender			
	F	—	—	
	M	0.91	0.86, 0.96	<0.001
	creatinine	1.08	1.05, 1.10	<0.001
	sodium	1.00	1.00, 1.00	0.042
	albumin	0.64	0.61, 0.67	<0.001
	chf	1.06	0.99, 1.13	0.10
	ckd	1.18	1.09, 1.28	<0.001
	copd	0.92	0.85, 1.01	0.067
	cancer	1.57	1.44, 1.70	<0.001
	immunosuppression	1.33	1.08, 1.64	0.007
	polypharmacy	1.08	0.71, 1.64	0.7
Dead	age	1.02	1.02, 1.02	<0.001
	gender			
	F	—	—	
	M	0.91	0.87, 0.96	<0.001
	creatinine	1.38	1.36, 1.41	<0.001
	sodium	1.01	1.01, 1.01	<0.001
	albumin	0.18	0.17, 0.18	<0.001
	chf	1.28	1.20, 1.35	<0.001
	ckd	0.73	0.69, 0.79	<0.001
	copd	1.16	1.07, 1.24	<0.001
	cancer	1.33	1.23, 1.44	<0.001
	immunosuppression	1.74	1.44, 2.10	<0.001
	polypharmacy	0.21	0.16, 0.27	<0.001

Abbreviations: CI = Confidence Interval, OR = Odds Ratio

1.1. Table 7. Cox Proportional Hazards – Mortality

Table 7. Cox Proportional Hazards – Mortality

Characteristic	HR	95% CI	p-value
age	1.02	1.02, 1.02	<0.001
gender			
F	—	—	
M	0.88	0.85, 0.92	<0.001
creatinine	1.22	1.20, 1.23	<0.001
sodium	1.01	1.01, 1.01	<0.001
albumin	0.51	0.49, 0.53	<0.001
chf	1.06	1.02, 1.11	0.008
ckd	0.84	0.79, 0.88	<0.001
cancer	1.45	1.37, 1.55	<0.001
immunosuppression	1.15	1.00, 1.33	0.055
polypharmacy	0.23	0.19, 0.27	<0.001

Abbreviations: CI = Confidence Interval, HR = Hazard Ratio