

Supplemental Digital Content 1.

Table A. Independent variables.¹

Lab Variables ^{1,3,4}				Vital Signs ^{1,3,4}	Medications ^{2,3}	Other
Albumin	Bilirubin Indirect	Hemoglobin	Platelets	BP-systolic	1113 individual medications	Age Sex
ALT	Bilirubin Total	Hematocrit	Potassium	BP- diastolic	143 medication categories (6)	
Arterial Lactate	BUN	INR	Protime	Heart Rate		
PO2 (arterial)	Calcium	Glucose	Sodium	Respiratory Rate		
AST	Calcium Ionized	PTT	Total Protein	Temperature		
Base Excess	Chloride	PCO2 (5)	Venous Lactate	Coma Score		
Bicarbonate	Creatinine	pH (5)	WBC			
Bilirubin Direct	Fibrinogen					

1. Summarized for modeling with the following statistics for each variable: the count, sample mean, sample standard deviation (0 if the count was <2), maximum, and minimum. There were a total of 934 variables used for modeling: 300 derived from the 30 laboratory variables, 60 from the 6 vital signs, and 572 from the 143 medication categories, sex and age of patient at admission.
2. Summarized for modeling with the following statistics: the 6-hour sum per medication category of the number of medications given each hour; 2) the count of the previous time periods per medication category that the patient received one or more medications; 3) the proportion of the previous time periods per medication category that the patient received one or more medications.
3. Therapeutic intensity is reflected in the number of vital sign and laboratory measurements and medications.
4. If during the first six-hour time period there were missing values, these values were adjusted to the median of the first six hour time periods adjusted to the following age groups: <1week, 1week-<4weeks, 4weeks-<3months, 3months-<1year, 1year-<2years, 2years-<3years, 3years-<8years, 8years-<12years, 12years-<22years.
5. Arterial, venous, capillary.
6. Classified by Multum (Manuscript Reference 10).

Table B. Percentage of initial time periods with imputed values.

Laboratory Variables	Percentage
Albumin	63.55
ALT	66.63
Arterial PO2	82.30
AST	55.41
Base Excess	75.00
Bilirubin Direct	89.44
Bilirubin Indirect	95.82
Bilirubin Total	94.20
BUN	42.49
Calcium	41.30
Calcium Ionized	93.89
Chloride	40.44
Creatinine	41.92
Fibrinogen	94.96
Glucose	40.22
HCO3	33.23
Hematocrit	37.90
Hemoglobin	35.82
INR	98.36
Lactate Arterial	99.04
Lactate Venous	97.57
Partial thromboplastin time	86.28
PCO2	62.07
Ph	75.30
Platelet Count	38.93
Potassium	41.33
Protime	83.19
Sodium	39.97
Total Protein	59.54
White Blood Cell Count	42.61
Vital Signs	
Blood Pressure Systolic	6.18
Blood Pressure Diastolic	5.87
Coma Score	66.41
Hearth Rate	6.91

Respiratory Rate	6.89
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ALT = alanine transaminase; AST = aspartate aminotransferase; BUN = blood urea nitrogen; INR = international normalized ratio.