

Online Supplement

Comparison of Chart Review and Administrative Data in Developing Predictive Models for Readmissions in Chronic Obstructive Pulmonary Disease

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Appendix Table 1: Predictors in Model Training

Predictor Category	Predictors
- Demographics	- Age, sex, race
- Comorbidity Burden	- Elixhauser comorbidity index
- Vitals (at discharge)	- Heart rate, respiratory rate, systolic blood pressure, diastolic blood pressure, oxygen saturation, temperature, Glasgow Coma Scale (GCS), GCS eye sub-score, GCS verbal sub-score, GCS motor sub-score, body mass index, FiO2
- Labs (at discharge)	- Albumin, alkaline phosphate, total bilirubin, blood urea nitrogen, calcium, chloride, carbon dioxide, creatinine, eosinophil percent, serum glucose, hemoglobin, INR, lactate, magnesium, arterial pCO2, venous pCO2, arterial pH, venous pH, phosphate, platelet count, arterial pO2, potassium, PTT, SGOT, SGPT, sodium, total protein, troponin, wbc
- Hospitalization duration	- Length of stay (hours)

Appendix Table 2: Percent (%) Missing Variables

Field	Missing %		
	All (n = 448)	Train (n = 315)	Test (n = 133)
Heart rate	0	0	0
Respiratory rate	0	0	0
Systolic blood pressure	0	0	0
Diastolic blood pressure	0	0	0
Oxygen saturation	0	0	0
Temperature (Celsius)	0	0	0
Glasgow Coma Scale; Eye	8.26	8.25	8.27
Glasgow Coma Scale; Motor	8.26	8.25	8.27
Glasgow Coma Scale; Verbal	8.26	8.25	8.27
Glasgow Coma Scale; Total score	8.26	8.25	8.27
Body mass index	10.27	12.38	5.26
Fraction of Inspired Oxygen (FiO2)	0	0	0
Braden Scale; Activity	0	0	0
Braden Scale; Friction and Shear	0	0	0
Braden Scale; Mobility	0	0	0
Braden Scale; Moisture	0.22	0.32	0.00
Braden Scale; Nutrition	0.00	0.00	0.00
Braden Scale; Sensory perception	0.00	0.00	0.00
Braden Scale; Total score	0.22	0.32	0.00
Urine output (mL)	3.79	4.76	1.50
Albumin	52.68	54.29	48.87
Alkaline phosphatase	53.35	54.92	49.62
Bilirubin, total	53.57	55.24	49.62
Blood urea nitrogen	0	0	0
Calcium	0	0	0
Chloride	0	0	0
Carbon dioxide	0	0	0
Creatinine	0	0	0
Eosinophils (%)	20.09	19.37	21.80
Serum glucose	0	0	0
Hemoglobin	0.22	0.32	0.00
International Normalized Ratio	58.26	62.86	47.37
Lactate	56.25	57.14	54.14
Magnesium	9.15	9.52	8.27
Arterial partial pressure; carbon dioxide	64.73	65.71	62.41
Venous partial pressure; carbon dioxide	63.17	63.17	63.16
Arterial pH	67.63	68.89	64.66
Venous pH	63.17	63.17	63.16

Phosphate	11.16	12.06	9.02
Platelet count	0.22	0.32	0.00
Arterial partial pressure; oxygen	64.73	65.71	62.41
Potassium	0	0	0
Partial Thromboplastin Time	72.32	75.87	63.91
Serum glutamic oxaloacetic transaminase	53.13	54.92	48.87
Serum glutamic-pyruvic transaminase	53.13	54.92	48.87
Sodium	0	0	0
Total protein	53.35	54.92	49.62
Troponin	25.45	24.44	27.82
White blood cells	0.22	0.32	0