DUHS
Inpatient
General De-
compensation
Prediction

Ziyuan Shen,
Mengxuan Cui

Background &
Significance

Data
Preparation

Feature
Engineering &
Modeling

Experimental
Results

Conclusion

Feature Engineering

Table: Date elements used for prediction.

Data Type	Data Element Name	# Data Element
Demographics	sex, age, race	3
Vitals	pulse, systolic&diastolic bp, respiration rate, level of consciousness, supplemental oxygen, temperature, etc	8
Labs	white blood cell count, platelets, glucose, sodium, albumin, creatinine, potassium, hematocrit, megnesium, blood urea nitrogen, etc	11
Medications	antibiotics, fluids, insulin, immunosuppresent, vasopressors	5
Diagnose	diabetes, chronic kidney disease, malignancy, myocardial infarction, HIV, chronic obstructive pulmonary disease	6

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Feature Engineering

Table: Feature generation and transformation summary.

Data Type	Data Element Name	Coding	# Features
Demographics	sex, age, race	Indicator, numeric	5
Vitals	pulse, blood pressure, etc	max, min, average	20
Vital Miss Flag		Indicator	8
Labs	platelets, glucose, etc	average	11
Lab Miss Flag		Indicator	11
Medications	antibiotics, fluids, etc	Indicator	5
Diagnose	diabetes, chronic kidney disease, etc	Indicator	6
Days to admission		numeric	1
Total			67