ICU MORTALITY RATES

For patients aged 70-90 in ICU Type 1, what are the most common variables that contribute to their mortality?

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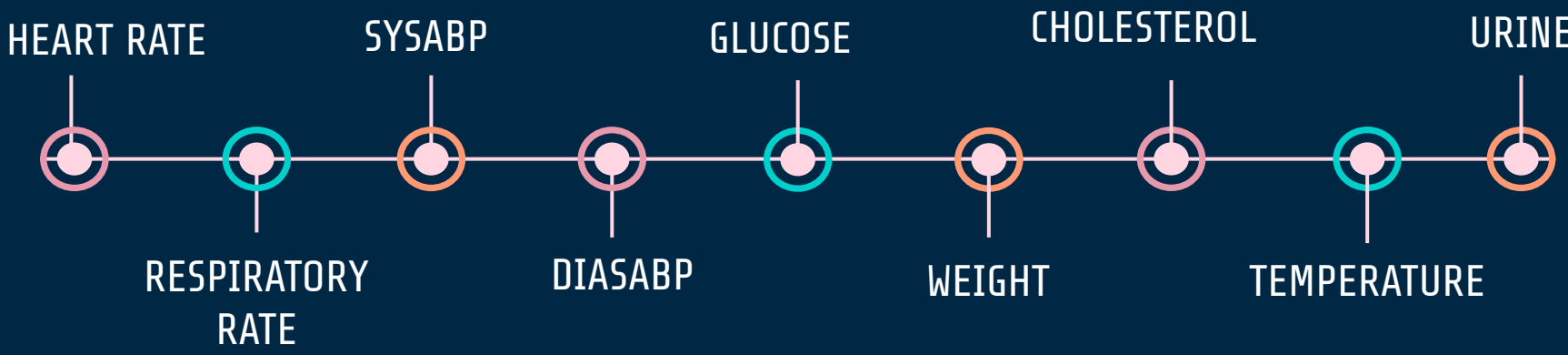
VARIABLES

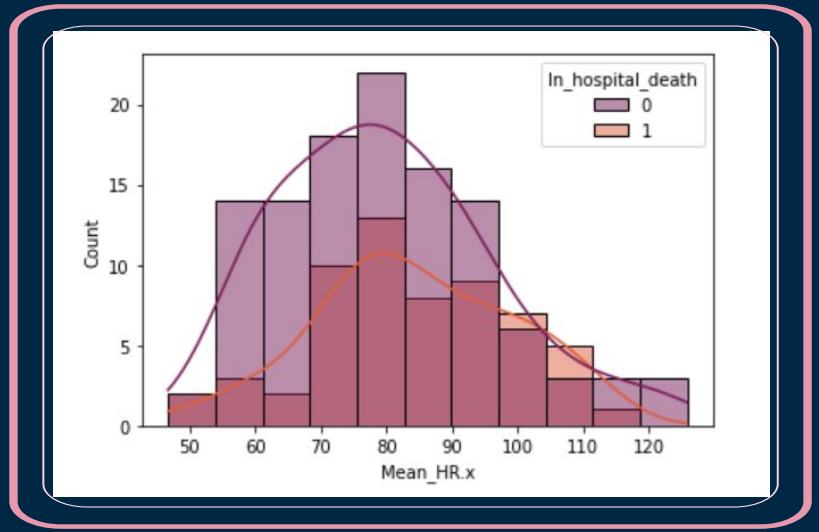

HEART RATE
RESPIRATORY RATE
SYSABP
DIASABP
GLUCOSE
WEIGHT
CHOLESTEROL
TEMPERATURE
URINE

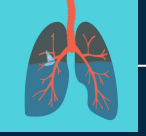
01 | HEART RATE

- Normal rate | 60-100 bpm
- Abnormally low heart rate ⟶ causes bradycardia which can be life threatening
- Abnormally high heart rate ⟶ *indicates severity of disease, increased short-term mortality in critically ill patients*
- Elevated heart rate is a risk factor for mortality and morbidity

Intercept ⟶ 0.14292
Coefficient ⟶ 1.02

$$logit(\hat{y}) = 0.14292 + 1.02\,x$$



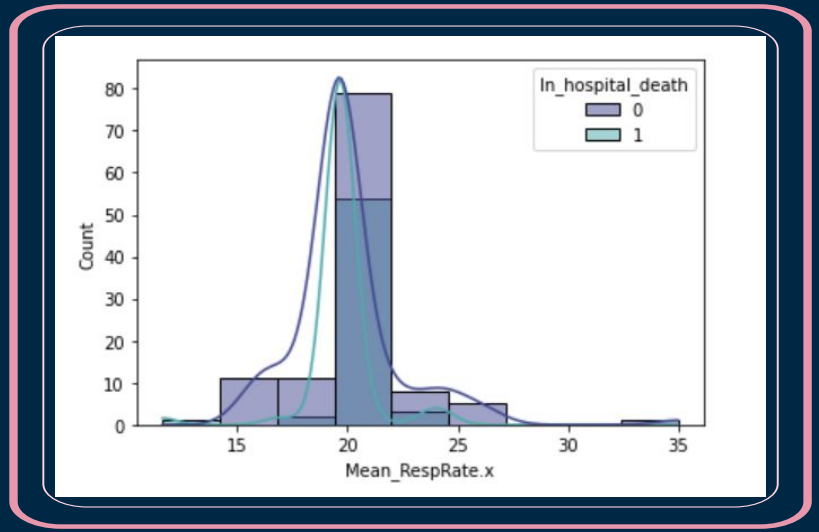


02 | RESPIRATORY RATE

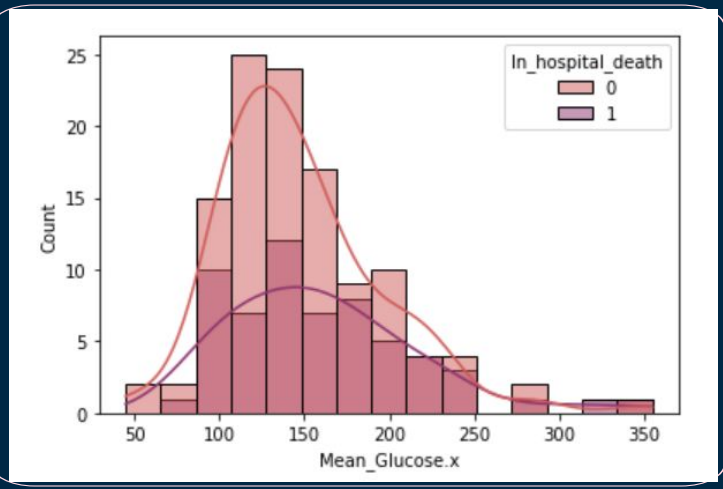
- Normal rate | 12-16 bpm
- Changes indicate serious complications such as respiratory tract infections, respiratory depression, and failure
- High respiratory rate → observed in patients specifically with heart failure, known to predict the majority of in-hospital cardiac arrests and admission to ICU

Intercept → 0.5165
Coefficient → 1.0

$$logit(\hat{y}) = 0.5165 + 1.0\,x$$



03 | GLUCOSE

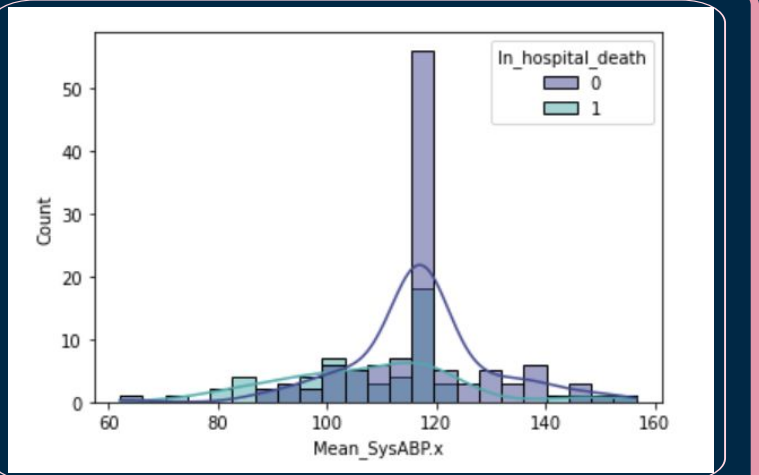


- Normal levels are between 70 and 130 mg/dL
- Very high levels have typically been connected to deaths from cardiovascular diseases
- Glucose levels are known to increase with age

Intercept → 0.16869
Coefficient → 1.01

$$logit(\hat{y}) = 0.16869 + 1.01\,x$$

04 | Invasive systolic arterial blood pressure

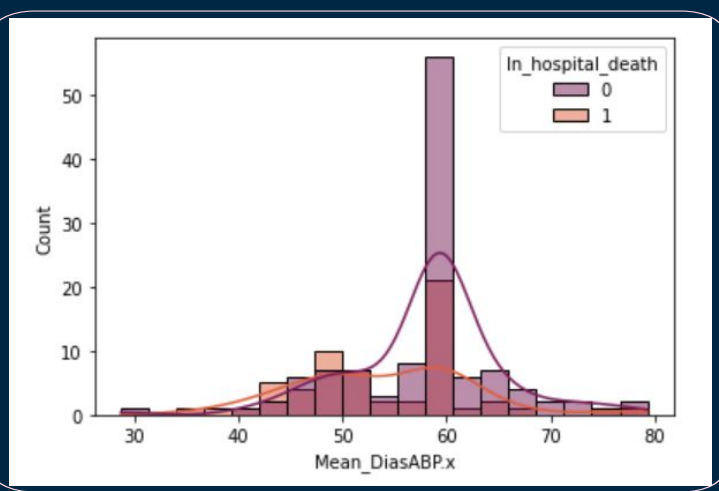


- High levels: increased risk of strokes, heart disease and chronic kidney disease
- important that medications to control isolated systolic hypertension doesn't cause levels to drop too low
- Low: causes systolic hypotension which can create lightheadedness, dizziness, syncope or organ failure

Intercept ⟶ 37.04566
Coefficient ⟶ 0.96

$$logit(\hat{y}) = 37.04566 + 0.96\,x$$

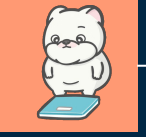
05 | Invasive diastolic arterial blood pressure



- Normal rate | 60-80 mm Hg
- Diastolic blood pressure is the minimum arterial pressure during the relaxation of the left ventricle of the heart
- High diastolic pressure ⟶ caused by hypertension
- Low diastolic pressure ⟶ caused by medications, causes ischemia

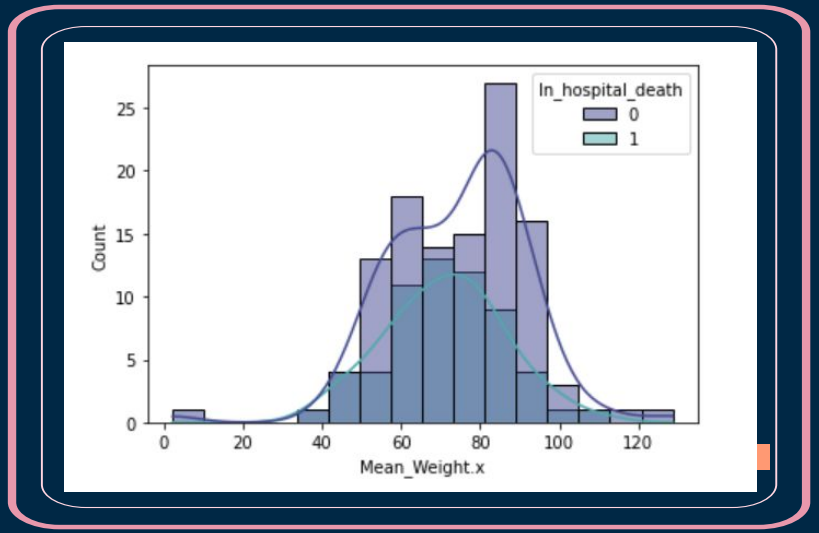
Intercept ⟶ 8.67267
Coefficient ⟶ 0.95

$$logit(\hat{y}) = 8.67267 + 0.95\,x$$



06 | WEIGHT

- A general description of the body
- Can be an early signal for other problems in the body

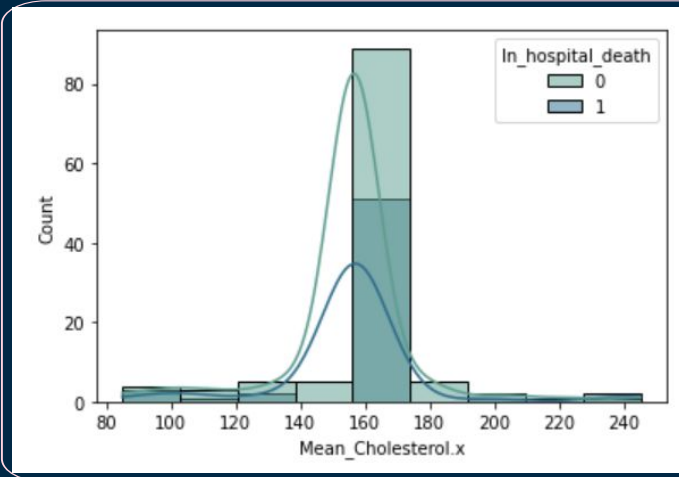


Intercept ⟶ 1.56939
Coefficient ⟶ 0.99

$$logit(\hat{y}) = 1.56939 + 0.99\,x$$

07 | CHOLESTEROL

- A fat like substance found in the body which is necessary for normal body function
- Excess amounts of it will leak into the bloodstream and stick to the walls of arteries blocking blood flow
- Recommended levels of cholesterol levels is below 200mg/dL

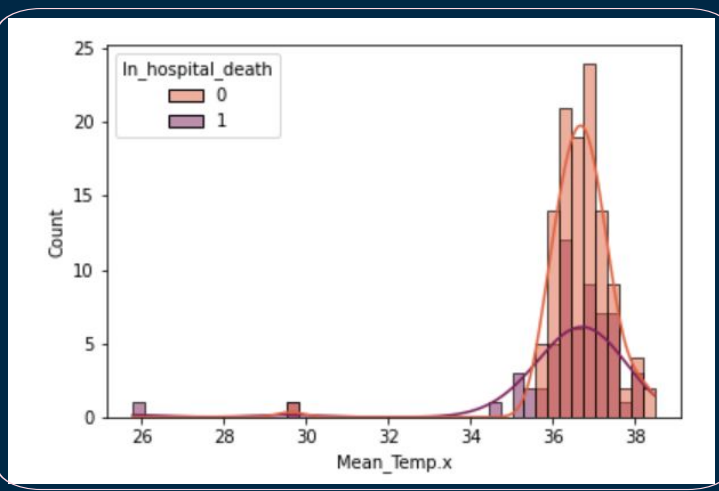


Intercept ⟶ 0.99997

Coefficient ⟶ 1

$$logit(\hat{y}) = 0.99997 + x$$

08 | TEMPERATURE

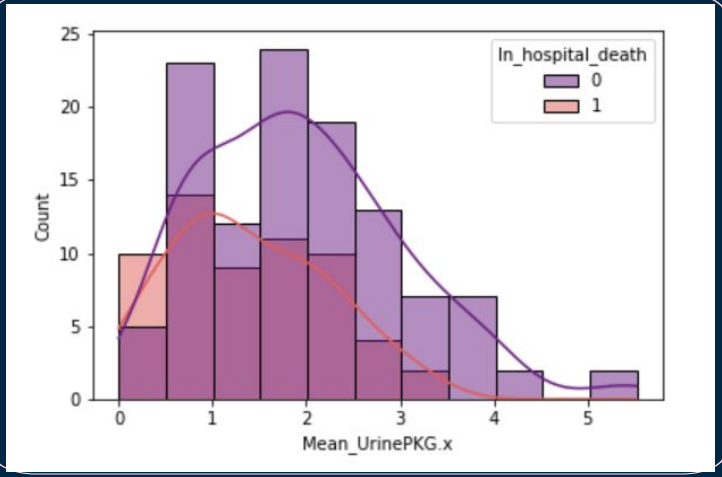


- Dysregulation of temperature is very common
- Patients with hypothermia tend to have an increase in mortality
- Hyperthermia is also common in patients who have survived

Intercept ⟶ 618344.92715
Coefficient ⟶ 0.68

$$logit(\hat{y}) = 618344.92715 + 0.68\,x$$

09 | URINE



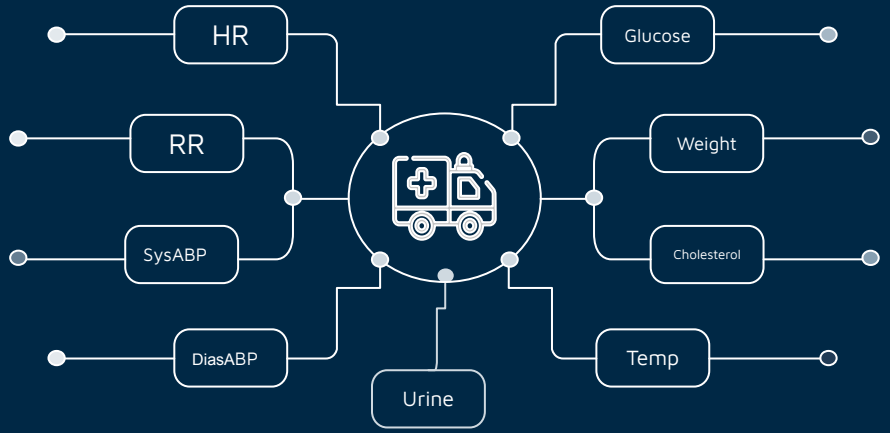
- Normal levels are between 0.5 to 1.5 mL/kg/hr
- Low urine output levels are known to be common symptoms of acute kidney injury

Intercept → 1.37541

Coefficient → 0.56

$$logit(\hat{y}) = 1.37541 + 0.56\,x$$

CONCLUSION



Heart rate

Glucose

THANKS FOR LISTENING :)