Exercise 2

# Introduction

Having COVID and being in the ICU is not good for you.

In our study, we analyze data from Emory University’s ICU. We predicted whether patients died or were discharged from the ICU after being hospitalized with COVID-19 using sex, BMI, whether they got remdesivir, whether they got epoprostonol, whether they were intubated, pressor days, C-reactive protein concentration, hemodialysis days and continuous renal replacement therapy (CRRT) days.

# Methods

First, we calculated descriptive statistics for the variables of interest in our dataset, stratified by mortality.

# Results

[Table 1](#tbl-demographics) shows the summary statistics for the variables we considered, stratified by whether patients died in the ICU or not.

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| Table 1: Demographics and summary statistics for our sample, stratified by whether the patient survived to discharge.   | **Characteristic** | **No** N = 169*1* | **Yes** N = 79*1* | | --- | --- | --- | | sex |  |  | | Female | 80 (47%) | 35 (44%) | | Male | 89 (53%) | 44 (56%) | | bmi | 31 (27, 37) | 29 (25, 32) | | remdesivir |  |  | | Placebo | 135 (80%) | 71 (90%) | | Remdesivir | 34 (20%) | 8 (10%) | | epoprostenol | 15 (8.9%) | 12 (15%) | | crp | 174 (110, 230) | 169 (113, 246) | | log\_ddimer | 7.29 (6.77, 8.20) | 7.33 (6.89, 8.58) | | *1*n (%); Median (Q1, Q3) | | | |

We fit a simple logistic regression model to get crude odds ratios for each exposure of interest, and then we estimated all of them in a multivariable odds ratio to get adjusted estimates.

[Table 2](#tbl-table2) shows the logistic regression results.

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Table 2: This table shows our crude and adjusted odds ratios.   |  | Crude | | | | Adjusted | | | | --- | --- | --- | --- | --- | --- | --- | --- | | **Characteristic** | **N** | **OR** | **95% CI** | **p-value** | **OR** | **95% CI** | **p-value** | | sex | 248 |  |  |  |  |  |  | | Female |  | — | — |  | — | — |  | | Male |  | 1.13 | 0.66, 1.94 | 0.7 | 1.06 | 0.60, 1.88 | 0.8 | | bmi | 248 | 0.92 | 0.88, 0.96 | <0.001 | 0.92 | 0.88, 0.96 | <0.001 | | remdesivir | 248 |  |  |  |  |  |  | | Placebo |  | — | — |  | — | — |  | | Remdesivir |  | 0.45 | 0.18, 0.97 | 0.055 | 0.40 | 0.16, 0.90 | 0.035 | | epoprostenol | 248 |  |  |  |  |  |  | | No |  | — | — |  | — | — |  | | Yes |  | 1.84 | 0.80, 4.13 | 0.14 | 2.50 | 1.03, 6.07 | 0.042 | | crp | 248 | 1.00 | 1.00, 1.00 | 0.4 | 1.00 | 1.00, 1.00 | 0.5 | | log\_ddimer | 248 | 1.15 | 0.94, 1.39 | 0.2 | 1.12 | 0.91, 1.39 | 0.3 | | Abbreviations: CI = Confidence Interval, OR = Odds Ratio | | | | | | | | |

# Discussion