

## Patient Survival Prediction

### Description:

Getting a rapid understanding of the context of a patient's overall health has been particularly important during the COVID-19 pandemic as healthcare workers around the world struggle with hospitals overloaded by patients in critical condition. Intensive Care Units (ICUs) often lack verified medical histories for incoming patients. A patient in distress or a patient who is brought in confused or unresponsive may not be able to provide information about chronic conditions such as heart disease, injuries, or diabetes. Medical records may take days to transfer, especially for a patient from another medical provider or system. Knowledge about chronic conditions can inform clinical decisions about patient care and ultimately improve patient's survival outcomes.

### Problem Statement:

The target feature is `hospital_death` which is a binary variable. The task is to classify this variable based on the other independent features step-by-step by going through each day's task.

### Source of dataset:

[https://journals.lww.com/ccmjournal/Citation/2019/01001/33\\_\\_THE\\_GLOBAL\\_OPEN\\_SOURCCE\\_SEVERITY\\_OF\\_ILLNESS.36.aspx](https://journals.lww.com/ccmjournal/Citation/2019/01001/33__THE_GLOBAL_OPEN_SOURCCE_SEVERITY_OF_ILLNESS.36.aspx)

### Scoring metric:

Recall score will be used as the scoring metric for this problem. Here, we need to lower the false negative rate, or the forecast that a person will not die when they actually are.

$$\text{Recall} = \text{TruePositives} / (\text{TruePositives} + \text{FalseNegatives})$$