**Problem Overview**

You have been asked to help a health network better predict patient mortality after being admitted into the ICU. Numerous measurements and biomarkers are taken within each patient’s first 24 hours in the ICU, and through the collaboration of many hospitals, a dataset of over 90K ICU visits have been aggregated for modeling. You will be provided a data dictionary and two sets of data - one labeled set to develop your model, an unlabeled one that will serve as an external dataset for validation. This unlabeled set will have the same data schema but include visits from a different set of hospitals.

**Your Task**

Demonstrate your mastery of analytics and machine learning by building a model that predicts ICU mortality. Please spend ***no more than 6 hours***completing this assessment. The analysis can be performed using your preferred language and tools (e.g. Python in Jupyter notebooks), and if there are additional methods that you did not have time to explore, please detail these in your preferred medium (e.g. markdown in your notebook or a separate document). Once you have completed your task, please run your final model on the unlabeled dataset and return predictions in the format shown in *sample\_submission.csv*. In summary, we expect to receive the following files:

* Code and results used for all steps of your typical data science process (.ipynb or related file type)
* Predictions for the unlabeled dataset (.csv)
* [If applicable] summary of additional analyses that you did not have time to complete

You should plan to submit the files to us within seven days of receiving this assignment and at least one day prior to the day of your second round interview.

\* Before the interview, please prepare a 10 minute presentation. Imagine that you will be speaking to both laymen (e.g. clinicians) and a technical audience (e.g. biostatisticians). Formal slides are not required, but please consider effective ways to communicate your results (for example, talking over a well-organized notebook). To help with direction, think about how the results can be interpreted and used in the context of a clinical tool.

Good luck, and please email us with any clarifying questions!