**Supplementary Figure X. Performance and Feature Importance of Machine Learning Models Incorporating Proteomics and Metabolomics Data.**

Receiver operating characteristic (ROC) curves and term estimates for a Lasso regression model trained on proteomics and metabolomics data. The model was developed using 5-fold cross-validation on a training set that comprised 80% of the total data, with performance evaluated on a separate test set consisting of 20% of the data, which was not previously seen by the model.

**A.** Infection status (Healthy vs. Infected)

**B.** Type of Enterococcal bacteremia (*E. faecalis* vs. E*. faecium*)

**C.** Survivorship (Mortality vs. Survival).

**Supplementary Figure X. Performance and Feature Importance of Machine Learning Models Incorporating Clinical Metadata to Predict EcB Type.**

Receiver operating characteristic (ROC) curves and term estimates for a Lasso regression model trained on clinical metadata to classify type of EcB. The model was developed using 5-fold cross-validation on a training set that comprised 80% of the total data, with performance evaluated on a separate test set consisting of 20% of the data, which was not previously seen by the model.

**A.** All clinical metadata collected.

**B.** All clinical metadata collected available upon patient admission

**C.** All clinical metadata collected available upon patient admission except for organ transplant status.

**Supplementary Figure X. Performance and Feature Importance of Machine Learning Models Incorporating Clinical Metadata to Predict Mortality**

Receiver operating characteristic (ROC) curves and term estimates for a Lasso regression model trained on clinical metadata using mortality to classify mortality. The model was developed using 5-fold cross-validation on a training set that comprised 80% of the total data, with performance evaluated on a separate test set consisting of 20% of the data, which was not previously seen by the model.

**A.** All clinical metadata collected.

**B.** All clinical metadata collected except for ICU admission status.