THE UNIVERSITY OF CHICAGO
DATA SCIENCE INSTITUTE

The International Rescue Committee (IRC) is a non-profit organization focused on providing humanitarian aid to individuals in regions affected by conflict. As a part of the organization's Mali childhood malnutrition treatment program, the IRC asked the University of Chicago's Data Science Clinic to develop a model to predict whether a patient will default from treatment. With the model, the IRC can provide focused help to patients at risk of defaulting. This boosts the chance of patients completing their treatment.

In continuing this project, we hoped to determine if including public data about Mali could increase model success. Data such as rainfall, conflict, and vegetation, however, did not improve model performance. On the other hand, optimizing the model and using newer training data greatly boosted its performance.

Predictive factors such as specific health centers were identified through the efforts of the team. After testing various methods, the best model developed was a logistic regression model. This final logistic model used patient admission data to correctly identify 76% of defaulters.