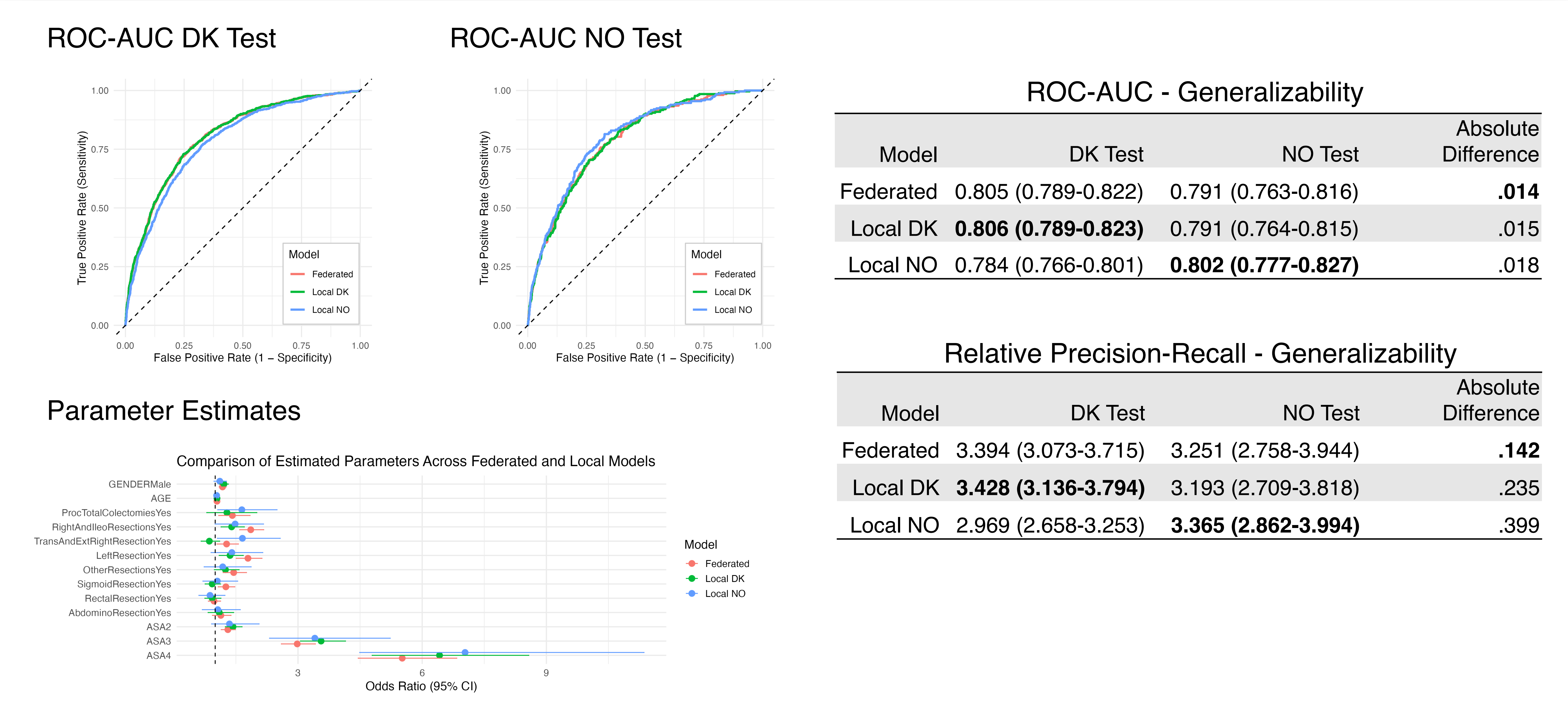


Applying federated learning for prediction of 1-year mortality in colorectal cancer improves generalizability

Title: *Insights on Developing a Federated Machine Learning Prediction Model on Danish and Norwegian Colorectal Cancer Data*

Background: Colorectal cancer is the 3rd most common cancer worldwide, making it a substantial global health burden. Machine learning based prediction models for risk stratification of patients can support clinical decision-making and personalized medicine. The aim of this study was to investigate the feasibility and performance of a federated machine learning model for predicting 1-year mortality following colorectal cancer surgery using Danish (DK) and Norwegian (NO) registry data.

Results



Methods

1

Norwegian and Danish registry data were harmonized into OMOP-CDM.

2

Set-up federated learning system via Vantage6 on a local network segment.

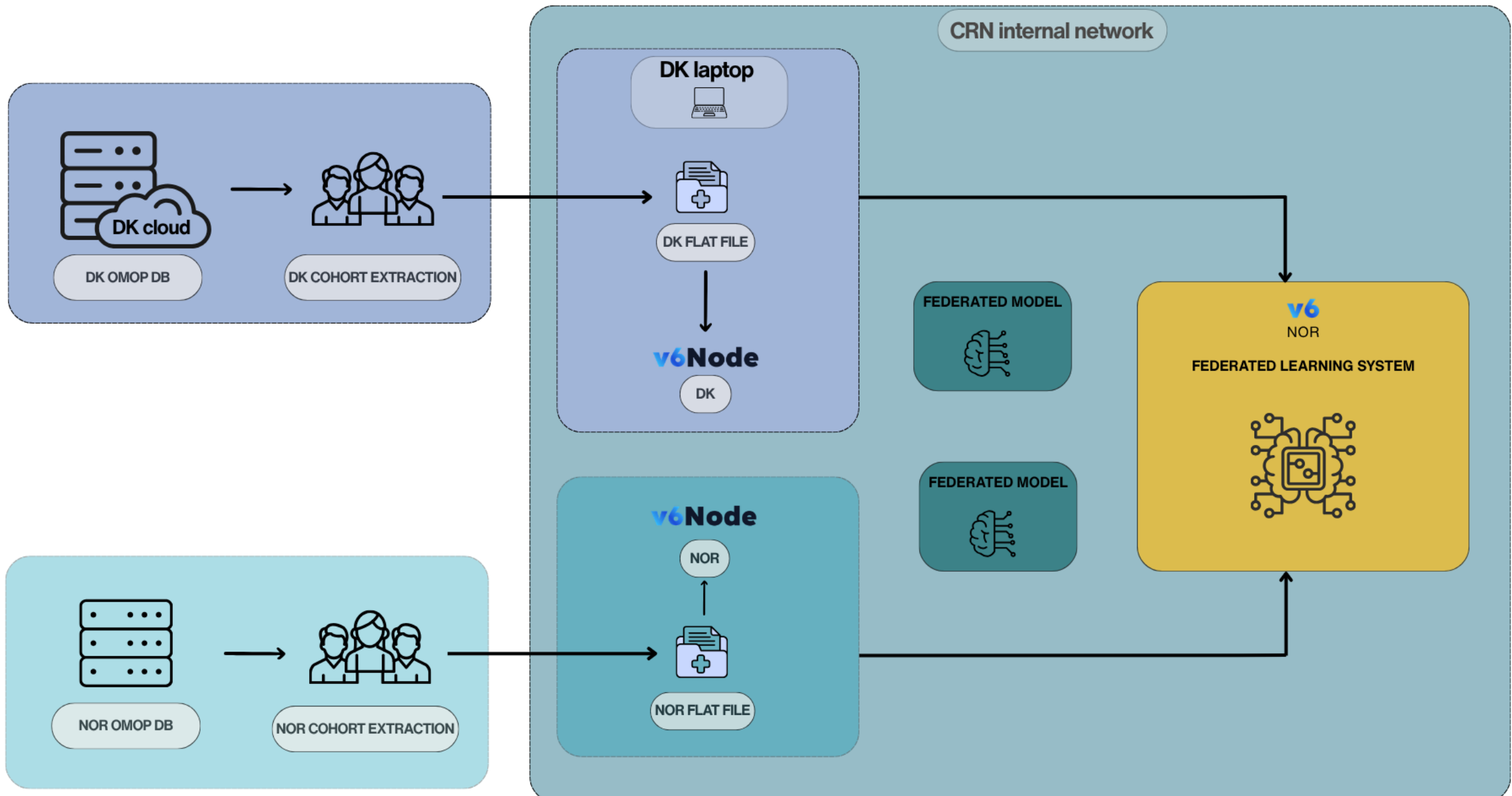
3

Train federated Logistic regression model.

4

Run experiments for comparing federated and cohort specific (local) models.

Federated training system



Limitation: Key limitations are the lack of external validation and clinical implementation.



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