What is the value of longitudinal observations in return to work prediction?

55 y.o. male postal worker

Baseline → 0.59

Probability @ work next week

Proposed → 0.75

Day: 1 ... 14

Diagnoses: Ankle Sprain ... Tendon Rupture

Worker's Compensation Claims Data

Discriminative Performance

Model: 0.728 (0.723, 0.734)
Baseline: 0.592 (0.586, 0.597)

True Positive Rate / False Positive Rate
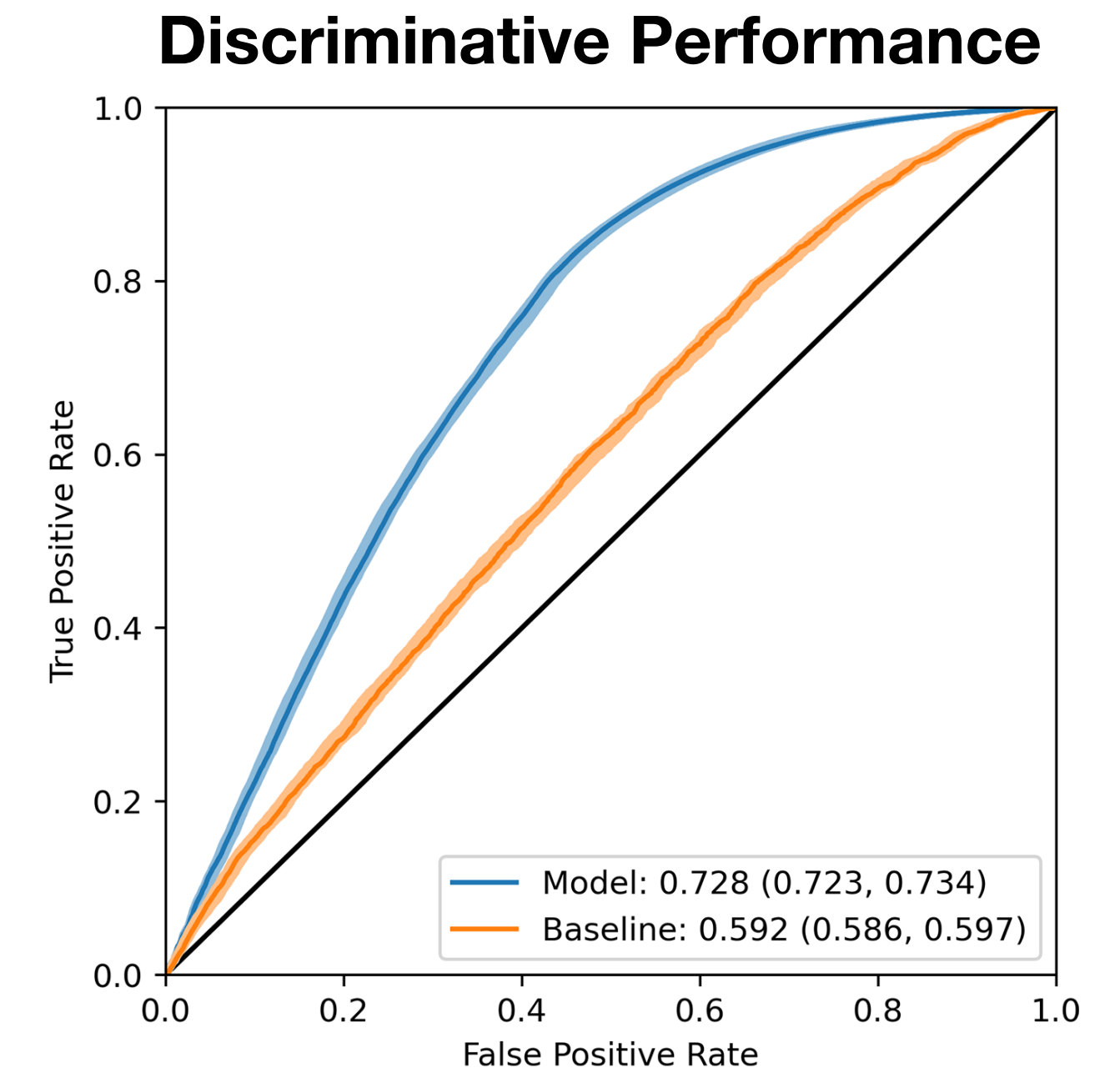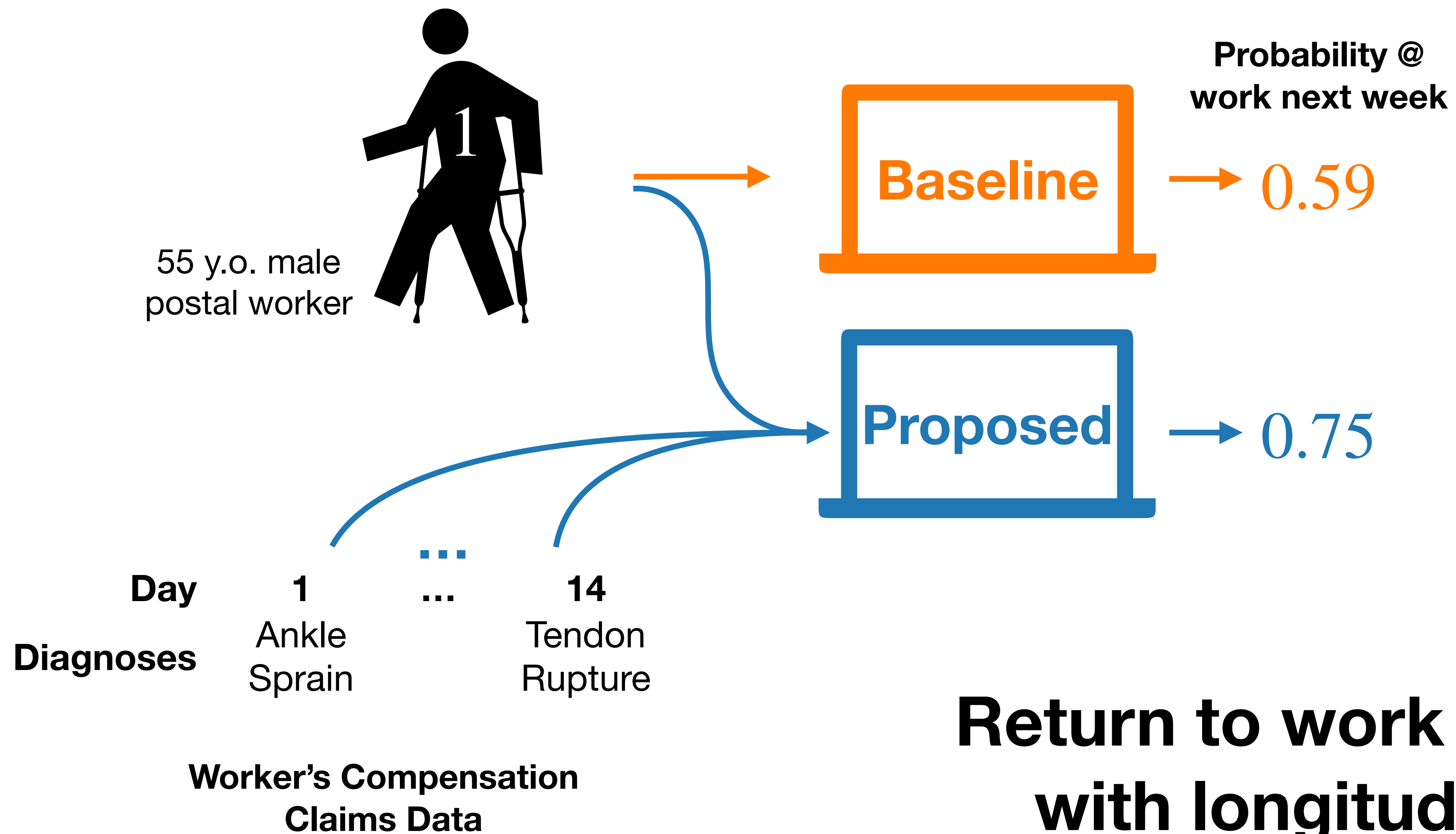
Return to work prediction improves with longitudinal observations.

Ötleş, Seymour, Wang, Denton. Dynamic prediction of work status for workers with occupational injuries: assessing the value of longitudinal observations. *Journal Of the American Medical Informatics Association.* 2022