# Reliability of an Automated Echocardiographic Workflow for Evaluation of Pulmonary Hypertension

STUDY DESIGN

- Using 213 healthy controls and 221 patients with pulmonary hypertension (PH), the study evaluated **precision of deep learning vs core laboratory estimation of parameters** including tricuspid regurgitation velocity (TRV), right ventricular basal diameter, tricuspid annular plane systolic excursion (TAPSE), right atrial (RA) area, and right ventricular fractional area change (RVFAC).

- The second portion of the study was to discriminate milder forms of PH (mean pulmonary artery pressure, 20-35 mm Hg) with measurable peak TRV.

RESULTS

Discrimination of PH in the Referral Cohort

n = 177

TRV (clinical) AUC 0.79
TRV (DL) AUC 0.75
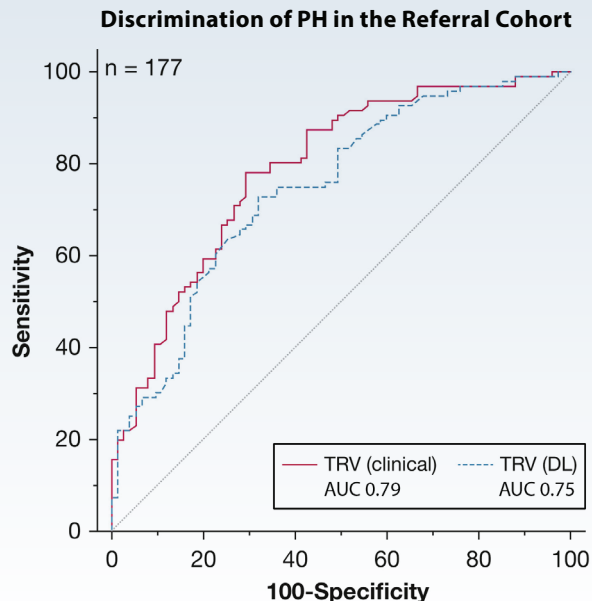
No significant bias was observed in the interpretation of peak TRV, RA area, and TAPSE between clinical lab and deep learning reads; however, RVFAC did demonstrate a significant bias of 11.46% (8.43-14.74).

In this study, a deep learning workflow in echocardiography offered accurate interpretation in several variables pertaining to PH and was also able to detect PH.