

Performance of the protein-based INTEGRAL-Risk score among screen-detected lung cancers in Gdańsk, Poland

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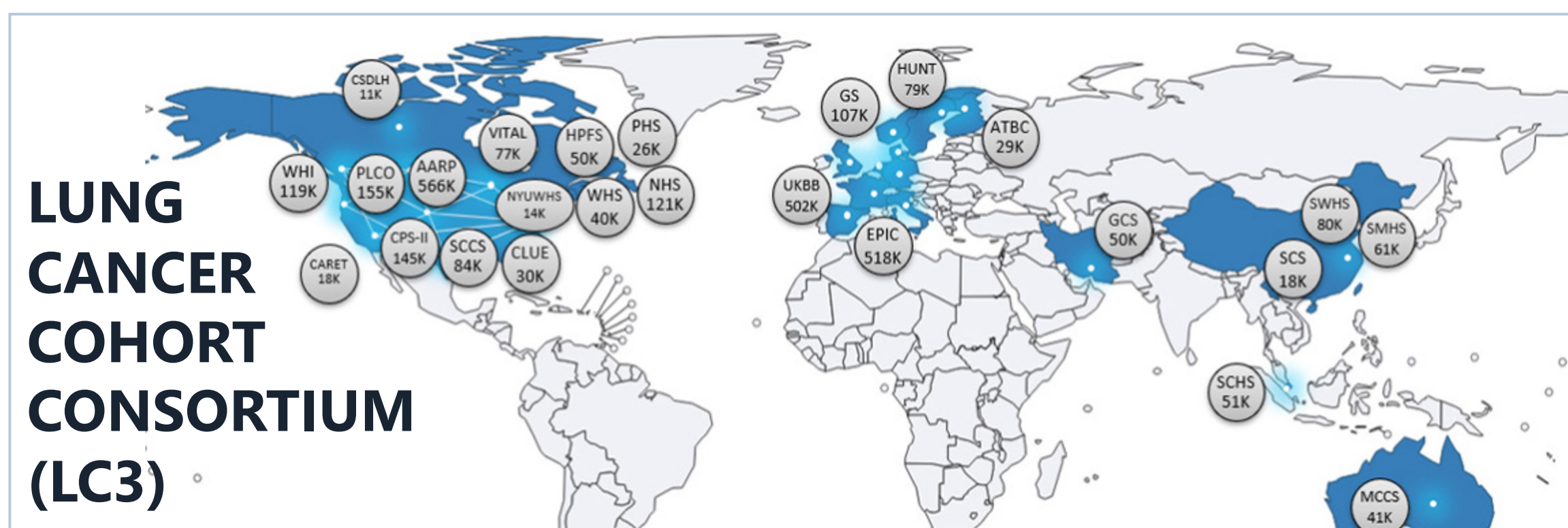


Dr Hilary A Robbins



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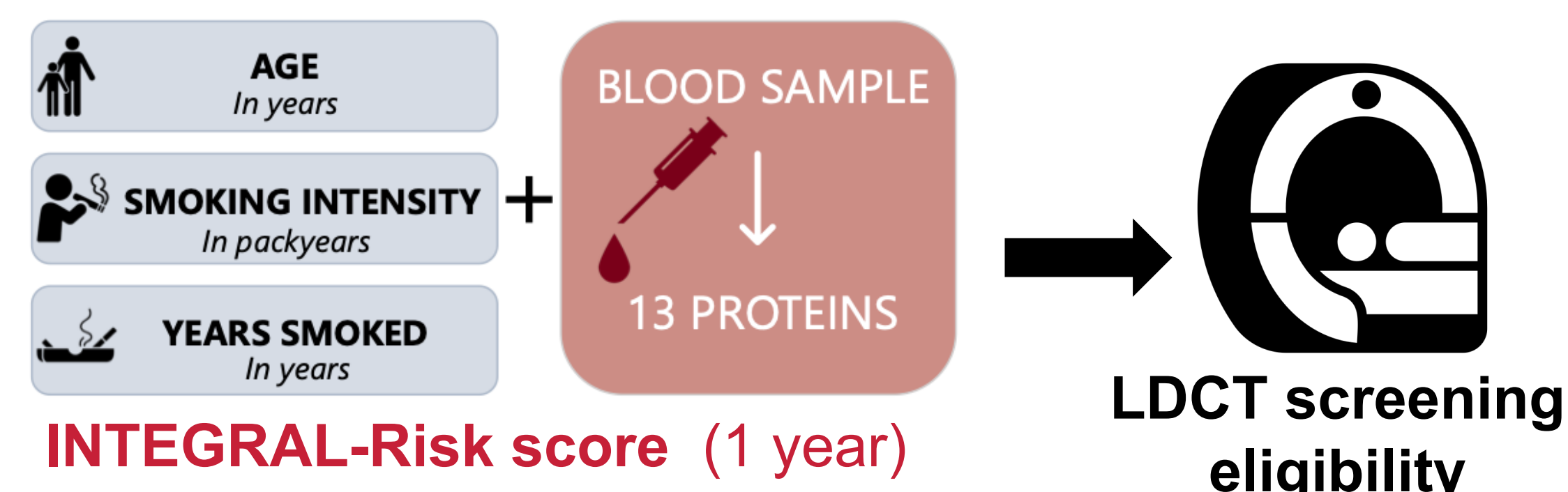
INTRODUCTION



JAMA | Original Investigation

Biomarker-Based Eligibility for Lung Cancer Screening Validation of the Protein-Based INTEGRAL-Risk Model

Zahed H, Feng X, Alcala K, et al.



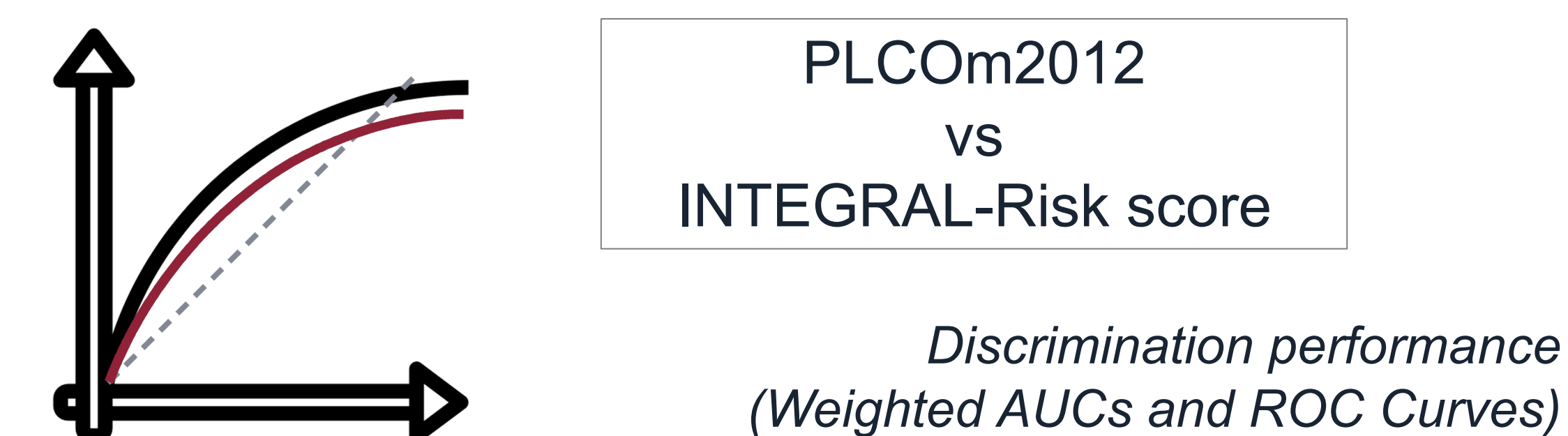
METHODS

- Gdańsk**
- Derived from *Moltest Bis Program*
 - 2016 – 2018
 - Screening participants (50-79 yo)
 - Smoking history: ≥ 30 packyears
 - 2 years follow-up

Lung cancer CT screening

- n = 1,153 participants
reweighted to represent a target population of 6,614
- 143 Lung cancer cases

Validation for identifying screen-detected cases



DISCUSSION AND CONCLUSION

MODEL PERFORMANCE

2-year incident cases (post-screening)

- INTEGRAL-Risk (1-yr): **AUC 0.76**
- PLCom2012 model (6-yr): **AUC 0.71**
- Δ AUC = + 0.05
(95% CI: 0.01-0.10, $p = 0.02^*$)

**Bootstrapped analysis based on weights*

CLINICAL IMPACT

- Successful validation for identifying screen-detected lung cancer cases
- **Potential to refine eligibility for LDCT screening.**

NEXT STEP

- ⇒ **Prospective evaluation in real-world clinical practice.**

REFERENCES & ACKNOWLEDGEMENTS

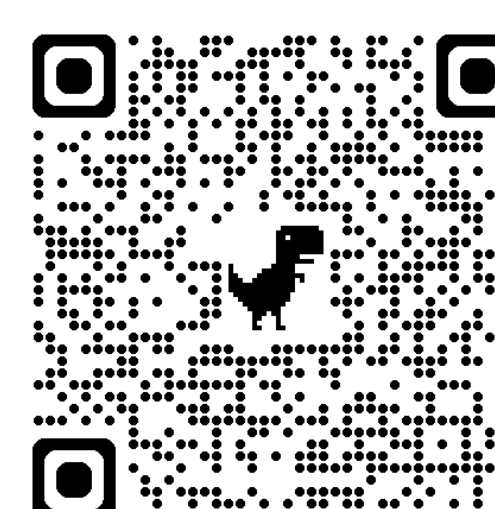
Zahed H, Feng X, et al.

Biomarker-Based Eligibility for Lung Cancer Screening : Validation of the Protein-Based INTEGRAL-Risk Model. *JAMA*. 2026;336(4):323–333.
doi:10.1001/jama.2026.8044

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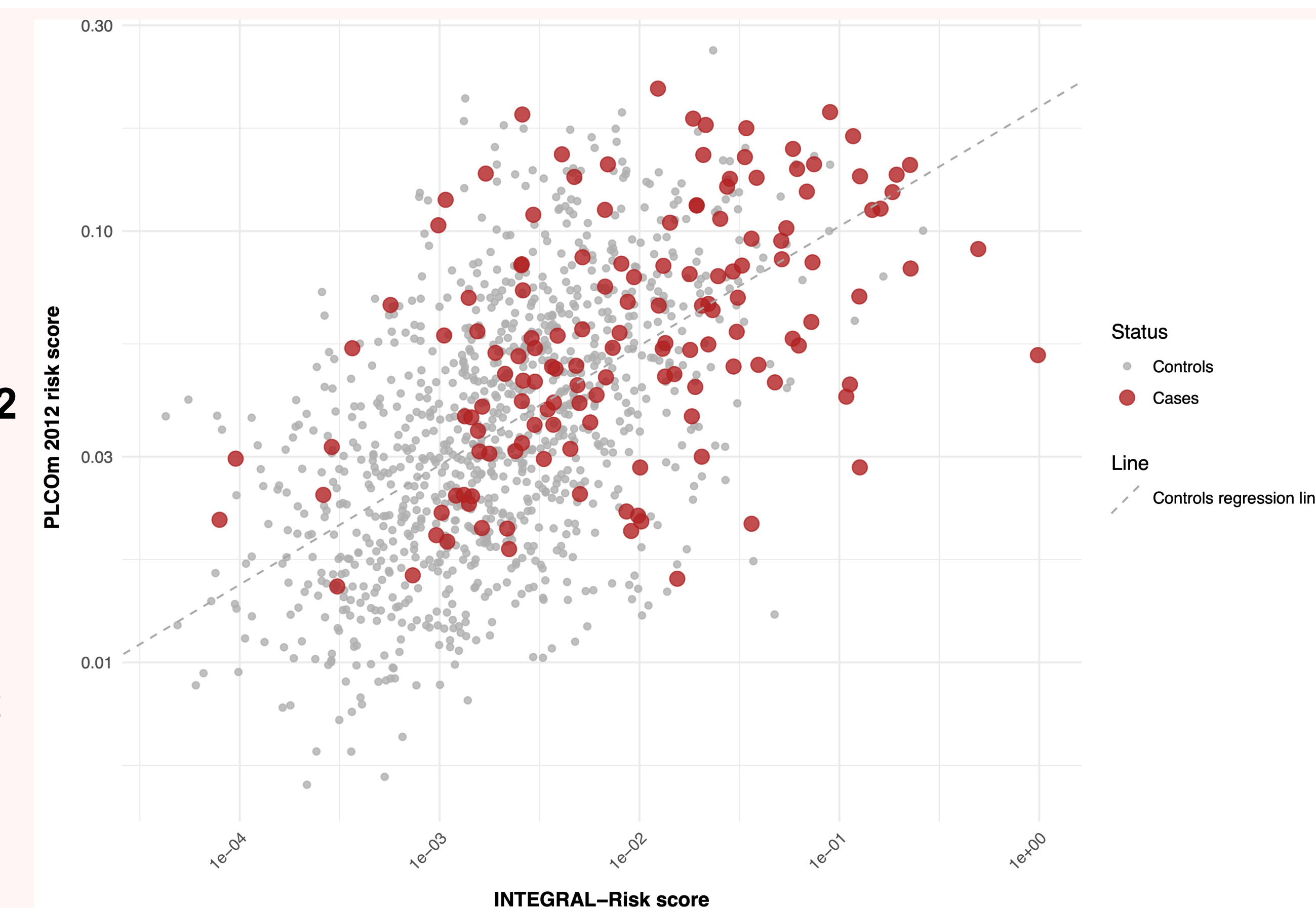
RESULTS

RISK SCORE DISTRIBUTION

Figure 1: INTEGRAL-Risk and PLCom2012 scores scatterplot (logscale)

INTEGRAL-Risk score :

- Identification of cases missed by PLCom2012
- Reclassification of healthy controls



DISCRIMINATIVE PERFORMANCE

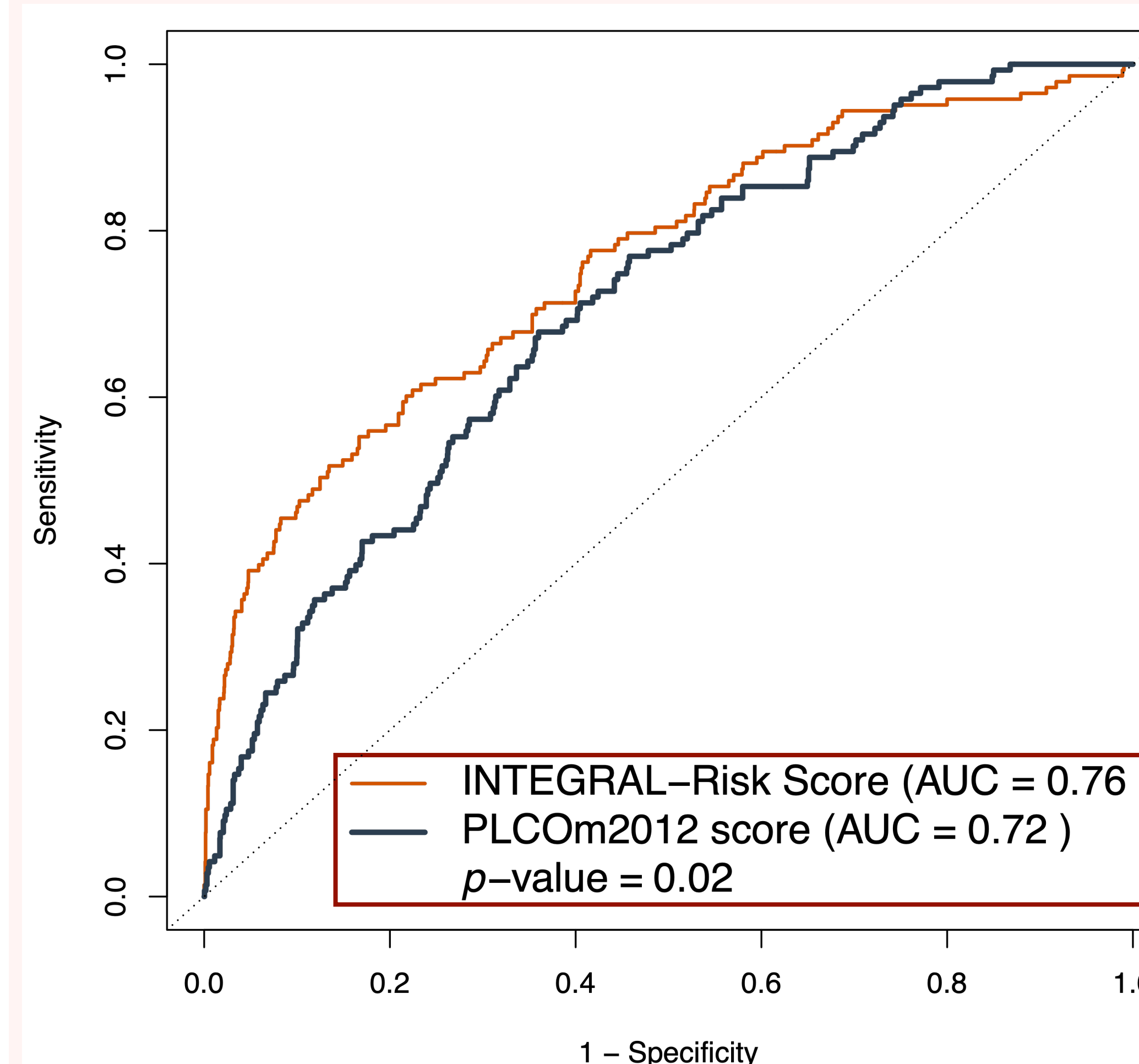


Figure 2: INTEGRAL-Risk and PLCom2012 scores ROC curves (IPW)

Bootstrapping (R= 2,000)

INTEGRAL-Risk score: Staging-Specific Analysis

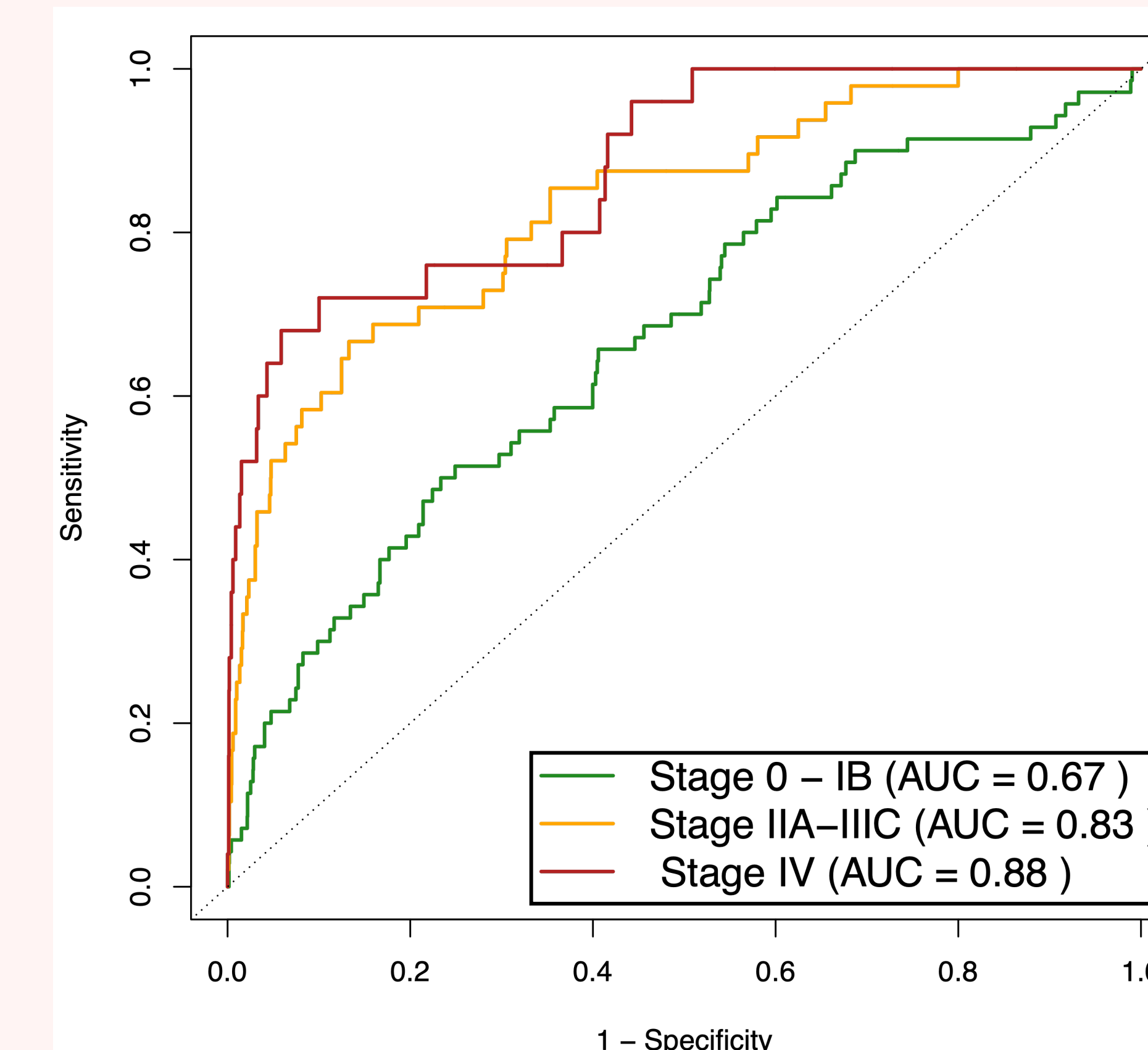


Figure 3: ROC curves of the INTEGRAL-Risk score across staging groups

🔍 Gradient across staging groups

🚫 Not found in PLCom2012