Can a screening mammography teaching file with AI improve trainees' interpretation skills?

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Disclosure

P.F. is founder and employee of Therapixel

Purpose

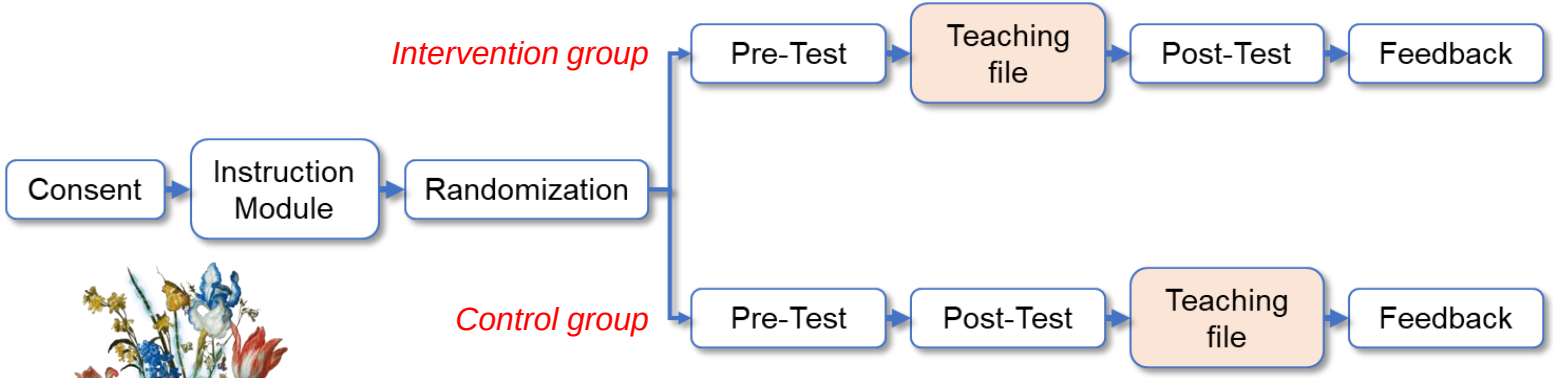
1. Evaluate the **feasibility** of creating a screening mammography **teaching file with AI predictions**

2. Determine if **completion** of a screening mammography **teaching file with AI** predictions can improve radiology **trainees' ability** to identify lesions suspicious for malignancy.

3. Assess the **trainees' perception of AI** for breast cancer screening.

Methods: Study Protocol

- **Pre-Test** = **20 cases** (10 positives, 10 negatives) to be assigned with a forced BI-RADS (1-5) and Level of Suspicion (LOS) on a 1 to 100 scale.
- **Teaching file** = **100 cases** (50 positives, 50 negatives) showing AI predictions and lesions localization.
- **Post-Test** = **20 cases** (10 positives, 10 negatives) to be assigned with a forced BI-RADS and LOS.



Methods: Teaching file with AI[1] predictions

- Reports outstanding **findings**
- Characterizes them on a **1-10 scale**

[1]MammoScreen v1.2, Therapixel

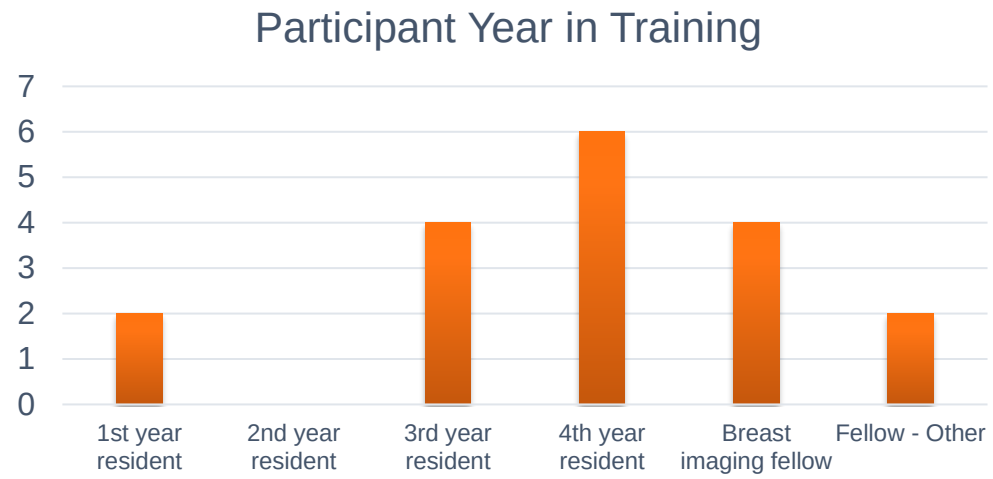
Methods: End-points

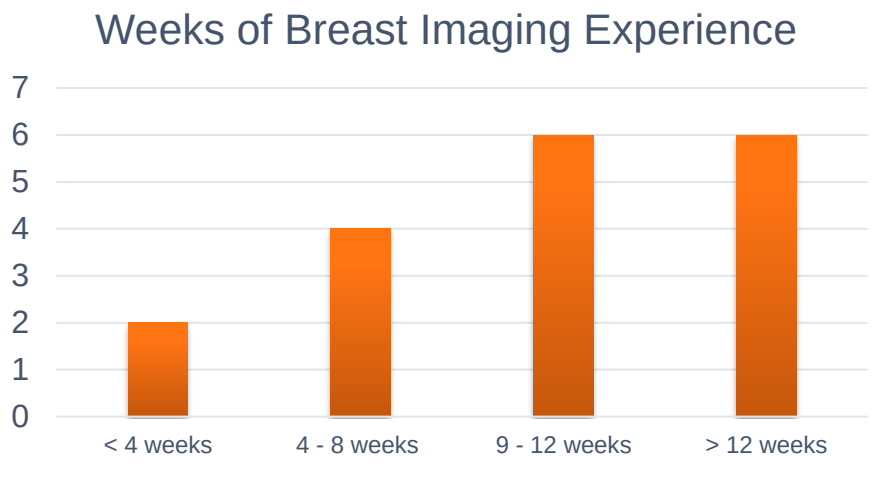
- Area under the ROC curve (AUC)

- Feedback via an anonymous web-based survey

Results: Study population

- Control group ***n* = 9**
- Intervention group ***n* = 9**
- **14/18** participants did some or all of the teaching file cases

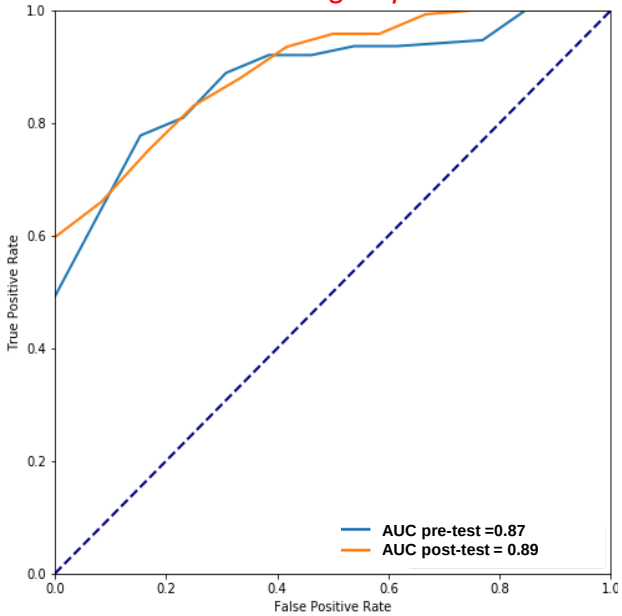




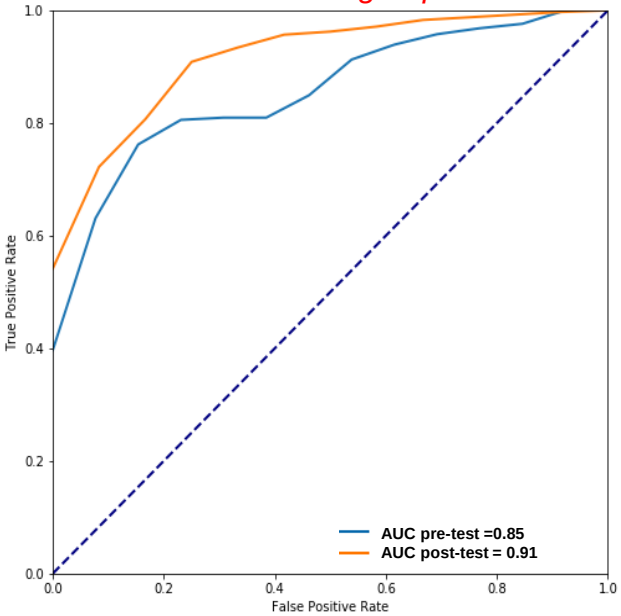
Results: AUC

- AUC Control group **+0.018**
- AUC Intervention group **+0.062**

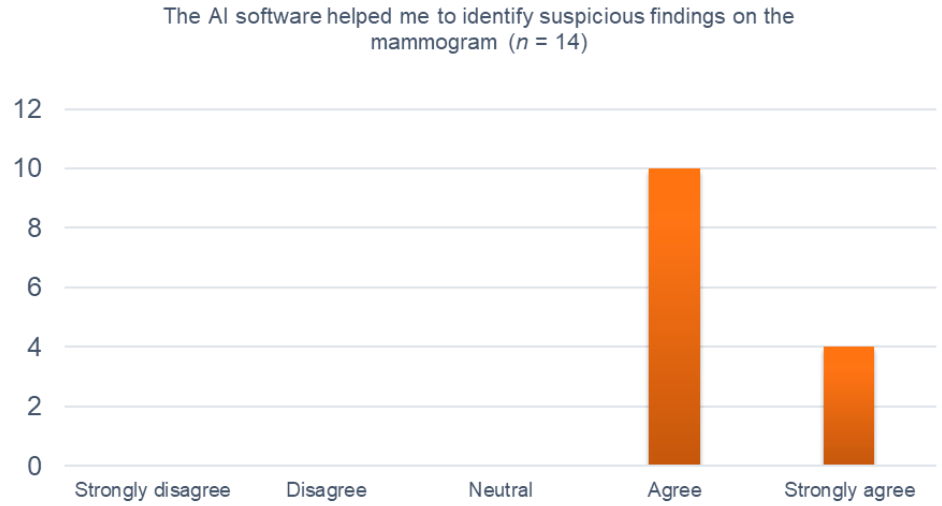
Control group

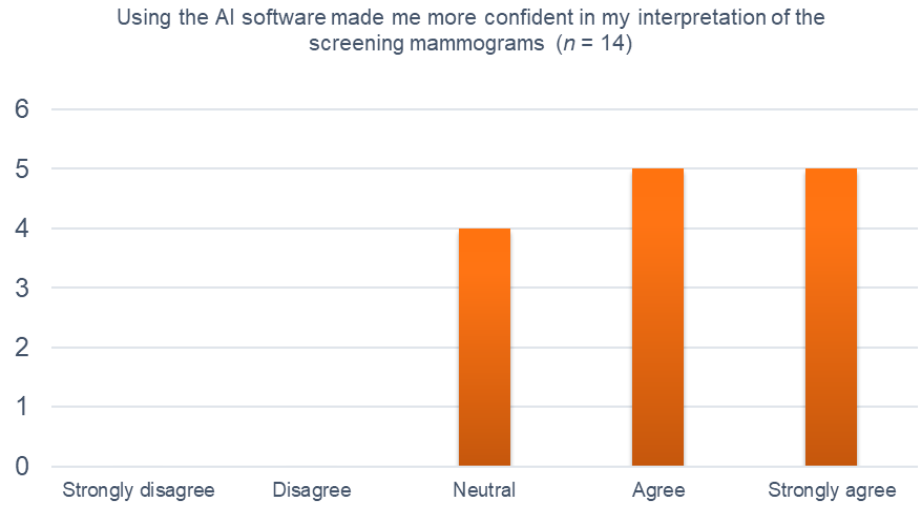


Intervention group



Results: Feedback survey





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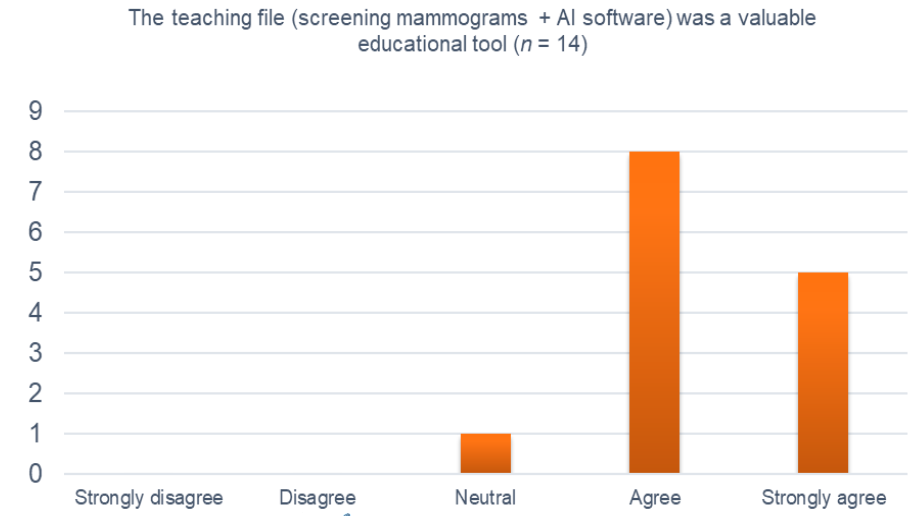

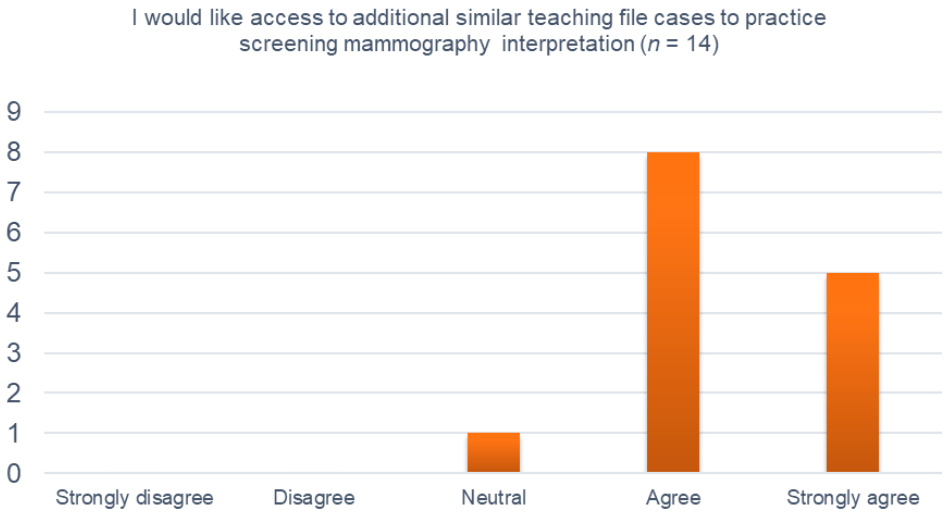

Conclusions

1. Existing **AI results** may be used to create screening mammography **teaching files**.

2. Reviewing a screening mammography teaching file with AI may **improve trainees' ability** to detect lesions suspicious for malignancy.

3. Trainees felt that the **AI system** served as a **valuable educational tool**.

Thank you for your attention.


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