# Impact of artificial intelligence support on accuracy and reading time in breast tomosynthesis image interpretation: a multi-reader multi-case study

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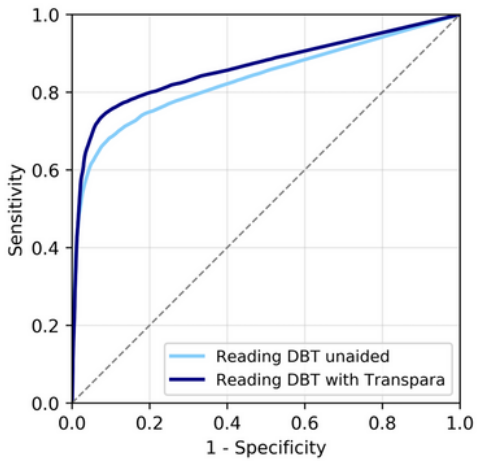
## Purpose

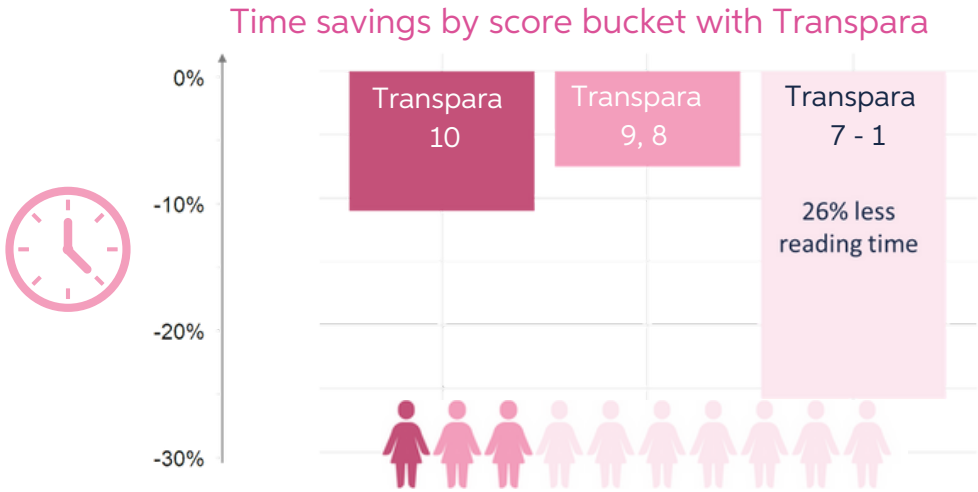
Digital breast tomosynthesis (DBT) increases sensitivity of mammography and is increasingly implemented in breast cancer screening. However, the large volume of images increases the risk of reading errors and reading time. This study aimed to investigate whether the accuracy of breast radiologists reading wide-angle DBT increases with the aid of Transpara. Also, the impact on reading time was assessed and the stand-alone performance of Transpara in the detection of malignancies was compared to the average radiologist.

## Study design

A multi-reader multi-case study was performed with 240 bilateral DBT exams (71 breasts with cancer lesions, 70 breasts with benign findings, 339 normal breasts). Exams were interpreted by 18 radiologists, with and without support of Transpara, providing cancer suspicion scores per breast. Using Transpara, radiologists were shown examination-based and region-based cancer likelihood scores. Area under the receiver operating characteristic curve (AUC) and reading time per exam were compared between reading conditions using mixed-models analysis of variance.

## Results




## Conclusion

Radiologists improved their cancer detection and reduced reading time when evaluating DBT examinations using Transpara for support

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