

AI in Population Breast Screening Cuts Radiologist Workload by 63%



Danish and Dutch researchers recently demonstrated that using artificial intelligence (AI) as an aid in population-based breast screening can cut radiologist workload by 63% and false positive finding by 25%.

Examining the mammograms produced by population-based breast cancer screening program produces a significant workload for radiologists. Researchers have increasingly looked at AI because of its potential to distinguish between benign and malignant lesions on mammograms. While AI cannot replace a radiologist's judgement, the capability to support radiologists and relieve some burden has grown.

The study, published in *Radiology*, compared the performance of a commercially available AI system (Transpara from ScreenPoint Medical) to that of radiologists in a non-inferiority study. Breast density is a common risk factor for breast cancer because it reduces the sensitivity of mammography screening. Thus, the study also evaluated the screening's quality of the across breast density levels commonly reported using the Breast Imaging Reporting and Data System (BI-RADS) scale.

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About 114,421 mammographic screenings for breast cancer were collected from January 2014 to December 2015 in the Danish Capital Region breast cancer screening program. Among these, there were 791 screen-detected, 327 interval, and 1473 long-term cancers and 2107 false-positive screenings.

Total screening sensitivity for the AI and radiologists were 69.7% and 70.8%. Total screening specificity for the AI and radiologists were 98.6% and 98.1%. The AI reduced the radiologist workload by 62.6% so that 25.1% of false-positive screenings were avoided. AI and radiologist performance remained similar to each other across BI-RADS density levels.

Thus AI-based screening could detect normal, moderate-risk, and suspicious mammograms in a breast cancer screening program. In turn, this may reduce the radiologist workload.

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