

Title

How new readers perform as compared to more experienced readers on the PERFORMS scheme.

Introduction

Breast screening in the UK is undergoing many workforce changes as more experienced radiologists retire and new readers become engaged. With such major changes it is important to monitor mammographic interpretation skills for national quality assurance purposes. A detailed analysis has been carried out to compare the performance of 'newcomers' to the national performance measures on the PERFORMS scheme of more experienced readers.

Methods

All UK screening readers take part annually in the PERFORMS educational scheme. 59 new participants read a recent set of PERFORMS cases. Nationally, 726 more experienced readers also read the difficult same cases.

Results

A two-tailed t-test indicated that the mean of cancer detection of new participants was significantly lower as compared to the national average of more experienced participants ($p < 0.0001$, $M_{\text{new}} = 72.35\%$, $M_{\text{national}} = 85.82\%$). The correct recall (sensitivity) of the new participants was also significantly lower than the national average ($p < .000001$, $M_{\text{new}} = 72.88\%$, $M_{\text{national}} = 85.92\%$). Additionally, the correct return to screening (specificity) of the new participants was significantly lower than the national average ($p < .000001$, $M_{\text{new}} = 85.86\%$, $M_{\text{national}} = 83.55\%$).

Conclusions

On several performance measures, new breast screening readers performed significantly worse than more

experienced readers. This may partly be due to them being new to taking part in the PERFORMS scheme but that cannot fully explain the very significant differences found. The purpose for the PERFORMS scheme is to highlight such performance differences and to then help new, and poor performers, improve and maintain their performance so that the quality of the National Screening Programme remains high despite workforce changes.