

Implementation of Breast Tomosynthesis in a Routine Screening Practice: An Observational Study

Rose SL, Tidwell AL, Bujnoch LJ, Kushwaha
AC, Nordmann AS, Sexton R Jr.



AJR Am J Roentgenol. 2013 Jun;200(6):1401-8. doi: 10.2214/AJR.12.9672. [Epub ahead of print]

OBJECTIVE

To assess the changes in performance measures after the introduction of tomosynthesis into clinical practice.

MATERIALS AND METHODS

In an observational screening study, recall rates, biopsy rates, cancer detection rates, and positive predictive values were computed and compared for six radiologists who interpreted screening mammography studies without ($n = 13,856$) and with ($n = 9499$) the use of tomosynthesis. Analyses were performed to account for reader variability, age of participants, and whether the exam was a baseline.

RESULTS

The introduction of tomosynthesis systems in the clinical practice resulted in the following changes in performance measures.

- A significant 37% drop in recall rates – from 8.7% to 5.5% ($p < 0.001$).
- A 35% increase in cancer detection rates - from 4.0 to 5.4 per 1,000 screenings ($p = 0.18$).
- A 53% increase in invasive cancer detection rates - from 2.8 to 4.3 per 1,000 screening examinations ($p = 0.07$).
- A 115% increase in the positive predictive value for recalls - from 4.7% to 10.1% ($p < 0.001$).
- An 11% drop in biopsy rates - from 15.2 to 13.5 per 1,000 screenings ($p = 0.59$)

CONCLUSION

The study results demonstrated a significant reduction in recall rates (~37%) along with an increase in the cancer detection rate (35% overall, 54% for invasive cancers) after the introduction of tomosynthesis in the clinical practice.

HOLOGIC[®]

The Women's Health Company

MISC-02524 © 2013 Hologic, Inc. All rights reserved.

Hologic, Dimensions and Selenia are trademarks or registered trademarks of Hologic and/or Hologic subsidiaries in the United States and/or other countries. Views and opinions expressed herein by third parties are theirs alone and do not necessarily reflect those of Hologic. This information is intended for medical professionals in the U.S. and other markets and is not intended as a product solicitation or promotion where such activities are prohibited. Because Hologic materials are distributed through websites, eBroadcasts and trade shows, it is not always possible to control where such materials appear. For specific information on what products are available for sale in a particular country, please contact your local Hologic representative or write to womenshealth@hologic.com.