

Characteristics of women who fail to receive follow-up after an abnormal screening or diagnostic mammogram



GroupHealth

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Background

- Abnormal mammograms occur in:
 - 9.2% of diagnostic
 - 10.6% of screening
- Positive predictive value of abnormalities is:
 - 30.1% for diagnostic
 - 4.6% for screening
- #1 reason for medical malpractice in the US is failure to diagnose breast cancer
- Prompt follow-up of abnormal mammograms decreases delays in breast cancer diagnoses

Purpose

To evaluate characteristics of women who received no follow-up within 180 days of receiving an abnormal mammogram among women with access to health care

Subjects

- Women enrolled in Group Health's breast cancer screening program (Seattle, WA)
- Cohort started with ≥1 Diagnostic or Screening mammogram between 1996-2003.
 - Limited to women with **abnormal mammogram** = recommendation for biopsy, fine needle aspiration, surgical evaluation or ultrasound at the baseline mammogram:
 - n=7,341 diagnostic (15.6%)
 - n = 674 (9.2%) had no follow-up
 - n=28,816 screening (11.9%)
 - n = 781 (2.7%) had no follow-up

Exposures

Data collected from self-administered questionnaire completed at time of mammogram

- Demographics
- Breast cancer risk factors
- Breast concerns at time of mammogram

Outcome

Failure to receive follow-up = No breast procedure within 180 days of abnormal mammogram. Identified from automated utilization data

Analysis

- Multivariable logistic regression using generalized estimating equations
 - Odds of not receiving any follow-up by:
 - Age, education, body mass index (BMI), family history, patient self-reported breast symptom at mammogram, previous breast biopsy

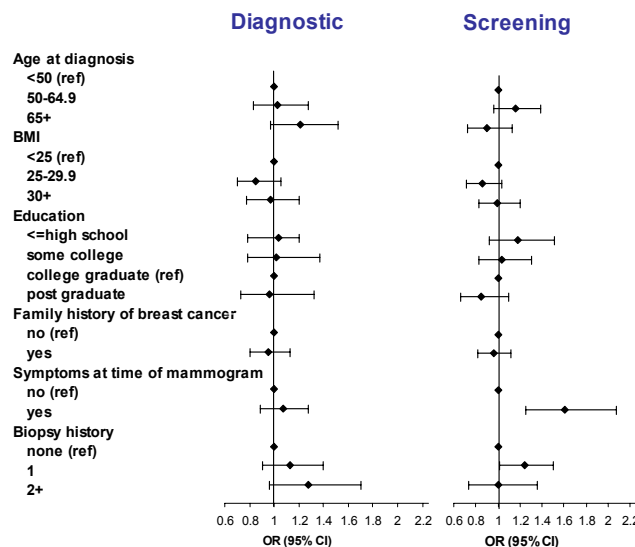
Results

Table 1. Characteristics of women who received no follow-up

	Row %* for no follow-up within 180 days of abnormal diagnostic or screening mammogram	
	Diagnostic n (%)	Screening n (%)
All	674 (9.2)	781 (2.7)
Age		
<50	230 (9.2)	212 (2.6)
50-64.9	231 (8.8)	347 (2.9)
65+	213 (9.7)	222 (2.6)
BMI		
<25	278 (10.3)	297 (2.9)
25-29.9	166 (8.9)	202 (2.5)
30+	161 (9.4)	205 (2.8)
Education		
≤high school	186 (10.2)	230 (3.2)
Some college	230 (9.2)	268 (2.7)
College grad	110 (8.7)	121 (2.5)
Post grad	131 (8.9)	146 (2.4)
Any family history		
No	379 (9.1)	440 (2.6)
Yes	289 (9.6)	334 (2.8)
Any breast symptoms		
No	440 (8.6)	700 (2.6)
Yes	234 (10.4)	81 (4.5)
Previous breast biopsy		
0	449 (9.0)	556 (2.6)
1	138 (9.6)	164 (3.2)
≥2	73 (10.7)	48 (2.5)

*Row % based on total number of women receiving an abnormal diagnostic mammogram (N = 7,341) and abnormal screening mammogram (N = 28,816)

Figure 1. The multivariable adjusted odds of receiving no additional follow-up within 180 days of an abnormal mammogram



Diagnostic Mammograms:

- No characteristics identified women without follow-up. Suggestion of increasing odds of no follow-up with increasing age and biopsy history after covariate adjustment

Screening Mammograms:

- 2 important breast cancer risk factors (breast symptoms & previous biopsy) were associated with not receiving follow-up

Conclusions

- Systems for ensuring follow-up after abnormal mammograms are important, particularly for women with abnormal diagnostic mammograms. The positive predictive value of abnormal diagnostic mammograms is higher than for screening mammograms, yet failure to return after an abnormal mammogram was more common following a diagnostic mammogram & no woman-level characteristics predicted failure to receive follow-up.
- These results may have limited generalizability for populations without access to health care