



# Outcome of an intervention on compliance with recommended breast and cervical cancer screenings among patients and their visitors in the emergency department utilizing research associates

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## Introduction

- Breast cancer is the most common cancer in women, regardless of racial or ethnic background.
  - 224,147 women were diagnosed with the disease in 2012
  - 41,150 instances resulted in mortality that same year
  - Regular biennial mammograms reduce the incidence of death from the disease. Early detection through mammography and rapid treatment are effective in mitigating mortality.
- Cervical cancer is one of the more preventable diseases impacting women.
  - With early detection, it is highly treatable and associated with long-term survival rates and good quality of life.
  - Screening tests and vaccinations to prevent human papillomavirus (HPV) infections are crucial.

## Objective

- To investigate the outcome of using Research Associates (RAs) to assess prior compliance with breast and cervical cancer screening and provide information on obtaining overdue screening(s).

## Methods

**Overview** – The current study evaluates the cervical and breast cancer screening statuses of emergency department patients and/or their visitors.

**Setting** - Five urban and rural hospital emergency departments.

**Inclusion Criteria** - All eligible participants were female, between the ages of 21 and 65 for cervical cancer screening, and/or between the ages of 50 and 74 for breast cancer screening.

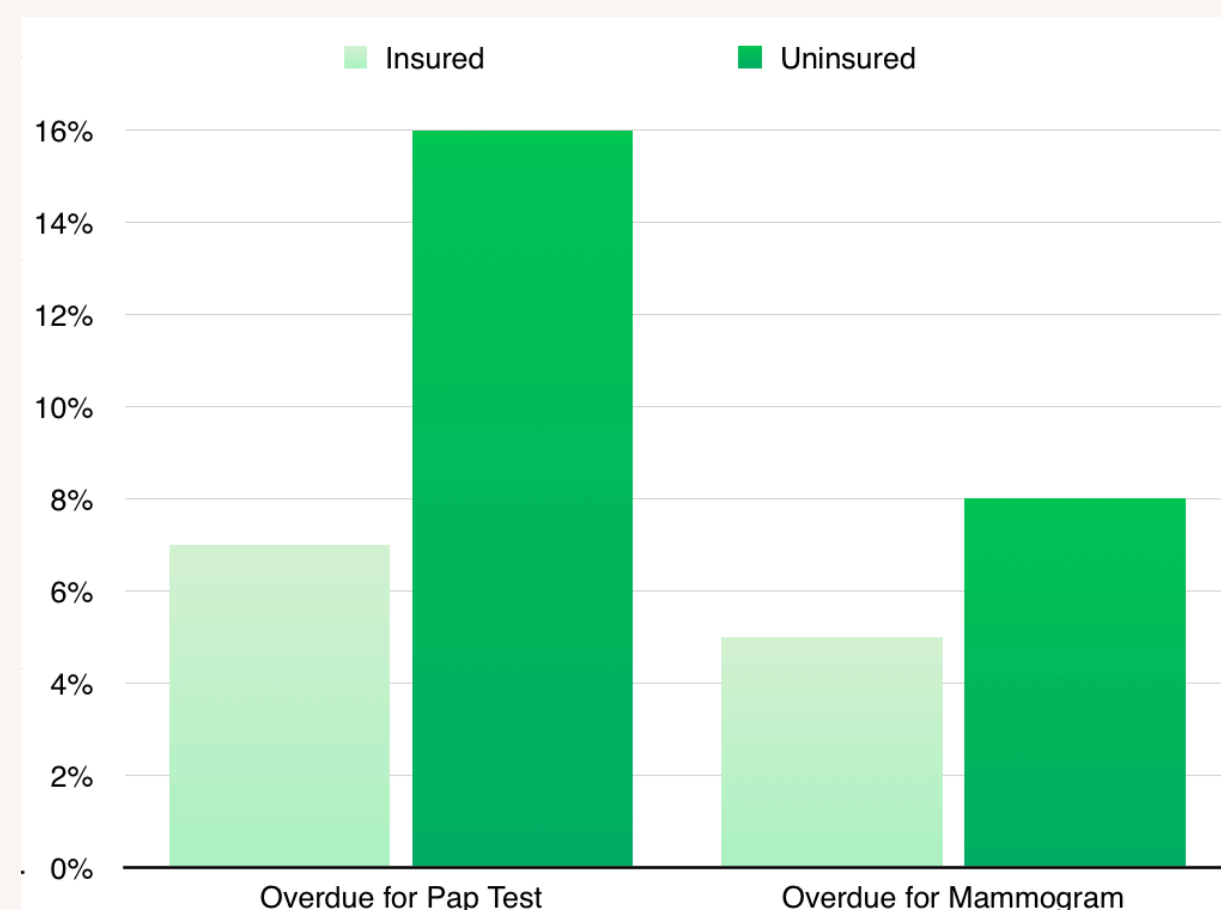
**Design** – Compliance with USPSTF recommendations for breast and cervical cancer screening was assessed.

- Participants found overdue for screening were provided information on how to accomplish these screenings.
- 30-days post-enrollment, participant follow-ups were made.
  - Participants reported on whether:
    - they were able to obtain or schedule the screening, or
    - the reasons the screening was not accomplished

**Table 1. Demographic characteristics of the sample.**

Participant Type	Frequency	% of Sample
Patient	7,996	62%
Visitor	4,825	38%
<b>Institution</b>		
St. Vincent's Medical Center (CT)	7,509	58%
St. Louis University Hospital (MO)	2,463	19%
Hackensack University Medical Center (NJ)	1,827	14%
Thomas Jefferson University Hospitals (PA)	602	5%
Pullman Regional Hospital (WA)	430	3%
<b>Race</b>		
Caucasian	6,646	52%
African American	3,965	31%
Asian	247	2%
Other/Multi-racial	1,690	13%
American Indian/Native Alaskan	83	1%
Native Hawaiian / Pacific Islander	17	<1%
<b>Insurance status</b>		
Has private insurance	6,736	52%
Has Medicare	3,040	24%
Has Medicaid	3,054	24%
No reported insurance	2,017	16%
<b>Educational attainment</b>		
Lower than 9th grade	281	2%
Grade 9-11, no HS degree	1,241	10%
GED	368	3%
High school diploma	3,634	28%
Some college or university	2,930	23%
College or University Degree	3,526	27%

**Figure 1. Insured and Uninsured Percentages by Overdue Status**



## Results

### Enrollment and Screening

- 12,858 participants were enrolled.
- 5,390 participants were between 50-74 years old and required breast cancer screening, with 695 (13%) found overdue for a mammogram.
- 11,605 participants were 21-65 years old, with 1124 participants (10%) found overdue for Pap tests.
- Screening compliance rates correlate with educational attainment. Non-compliance rates double for those without college degrees:
  - No high school diploma or GED, and overdue:*
    - Mammography: 8%, Pap Test: 12%
  - High school diploma or GED, and overdue:*
    - Mammography: 7%, Pap Test: 10 – 13%
  - College degree, and overdue:*
    - Mammography: 4%, Pap Test: 6%

### Follow-up

- 811 participants consented for a follow-up call, with 571 overdue for a Pap test and 364 for a mammogram.
- Contact was made with 108 participants overdue for Pap tests (19%) and 73 overdue for mammogram (20%).
- Of those contacted, 28 (26%) had Pap tests done or scheduled and 8 (11%) had mammograms done or scheduled.

## Limitations

- Difficulties reaching participants at follow-up
- Self-reporting, social desirability and recollection biases

## Conclusion

- RAs can identify large numbers of women in need of breast and cervical cancer screening.
- Substantial disparities observed in screening compliance across insurance and educational statuses.
- However, low follow-up rates may limit the strength of conclusions that can be drawn with regard to public health impact.