



# **Lung and Breast Screening Practices in Women: Use of a Selection Algorithm to Increase Enrollment in a Lung Screening Program**

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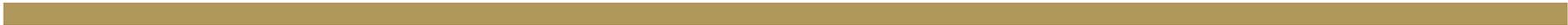
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# FINANCIAL DISCLOSURES



none





# INTRODUCTION



- Lung cancer is the number one cancer killer among women
  - Estimated to have caused over 72,000 deaths in women in 2016
- Official screening guidelines were endorsed by the US Preventive Services Task Force in 2013 based on results from the National Lung Screening Trial
  - Established the efficacy of annual low-dose CT lung screening in high-risk patients
  - Qualification criteria:
    - Age 55-80
    - Smoking history of at least 30 pack-years, currently smoking or quit within past 15 years
- Adoption of these screening guidelines has been slow among many practices



## HYPOTHESIS



- It is known that 75% of women enrolled in the lung screening program at this institution have had breast screening at this institution
- This suggests that women undergoing breast screening at this institution are a target-rich environment for further lung screening program enrollment
- We estimate approximately 7% of women who underwent screening mammography in 2015 at this institution will qualify for lung screening



## METHODS



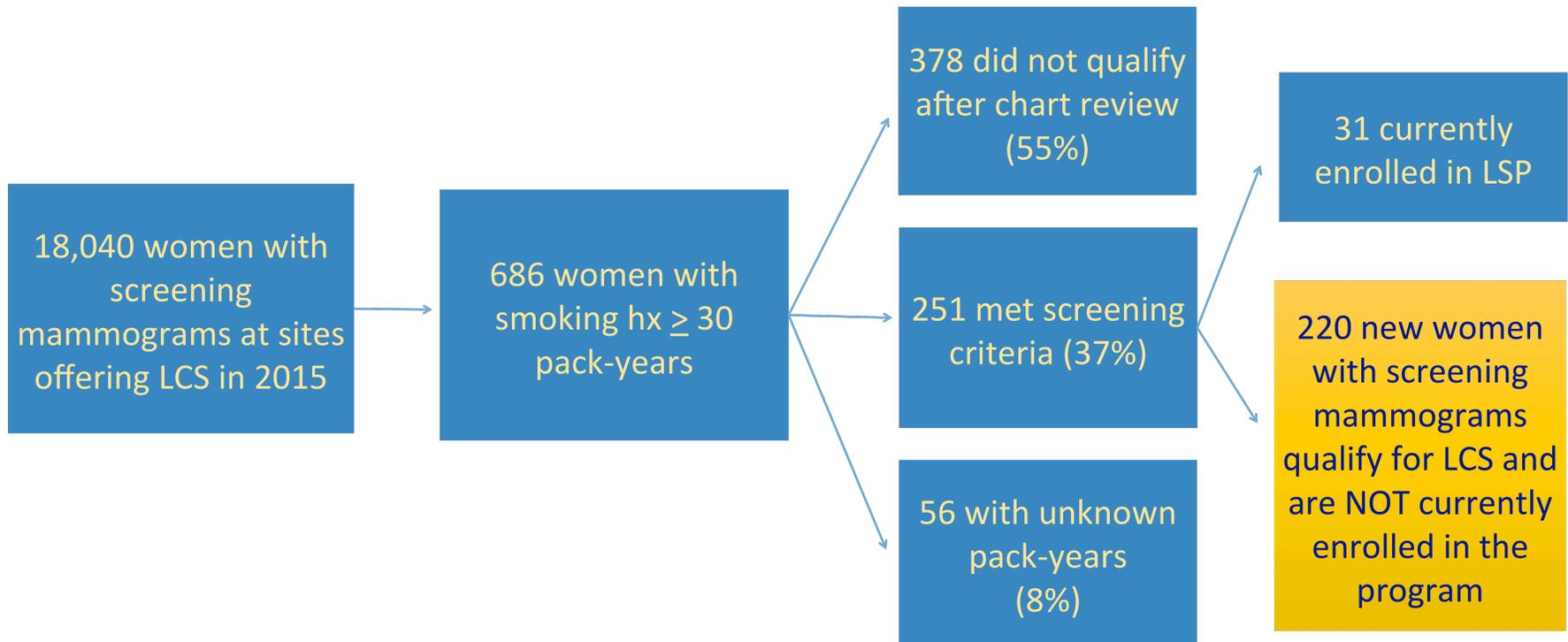
- IRB approved cross-sectional analysis
- Data from 18,040 women who underwent screening mammography in 2015 at two locations affiliated with a large academic medical center was collected
  - These locations were chosen because they offer both lung and breast screening
- Computer-based selection algorithm capable of examining electronic medical records was run on these women to determine smoking history and eligibility for lung screening
- Manual chart review of women identified as qualifying for lung screening by the selection algorithm was performed to quantify smoking history and gather information regarding referring provider for screening mammography and enrollment status in the lung screening program



# RESULTS



## Selection Algorithm      Manual Chart Review





## RESULTS



- Of the 18,040 women who had screening mammograms at the two studied locations of this institution in 2015, the selection algorithm identified 686 as having sufficient smoking histories to qualify for lung screening (3.8%)
- However, after chart review, 251 of these 686 women qualified for screening (1.4% of total)
  - The most common reasons women did not qualify after chart review were age greater than 80 years, insufficient smoking history, or last smoked over 15 years ago
- The selection algorithm identified 31 of the 188 women currently enrolled in the lung screening program



## CONCLUSION



- Although this lung screening program is growing, there are many eligible candidates who receive preventive care at this institution who are not yet enrolled
- This lung screening program could more than double the current number of women enrolled by reaching out to the women identified by the algorithm
- More women may qualify for lung screening from the mammography population than were identified because of underestimation of some smoking histories by the selection algorithm



## FUTURE DIRECTIONS & LIMITATIONS



- A future randomized controlled trial to evaluate strategies to increase lung screening participation in women who are engaged in breast cancer screening
- Survey the 31 women who underwent both lung and breast screening in 2015 to look for common elements which may aid in development of outreach
- Improve functionality of selection algorithm, adaptation to function in other electronic medical records
- Inform the primary care physicians of the 220 identified women that these patients qualify for lung screening
- Limitations: Limited study sample (only studied women who had mammograms in 2015 at two locations), sample may be healthier or less likely to smoke than general population



## REFERENCES



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