

Patterns and Predictors of Plastic Surgery Referral in Breast-Conserving Surgery: A Single Institution Review of 291 Cases

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INTRODUCTION

- Oncoplastic surgery improves aesthetic and functional outcomes at lumpectomy
- Referral practices are without standardized guidelines; predictors unclear
- Referral often depends on provider discretion
- Prior work focuses on outcomes, not referral decision-making
- Objective:** Identify [predictors of referral](#) for plastic surgery consultation prior to lumpectomy and subsequent [completion of primary oncoplastic surgery](#) (breast reduction or mastopexy).

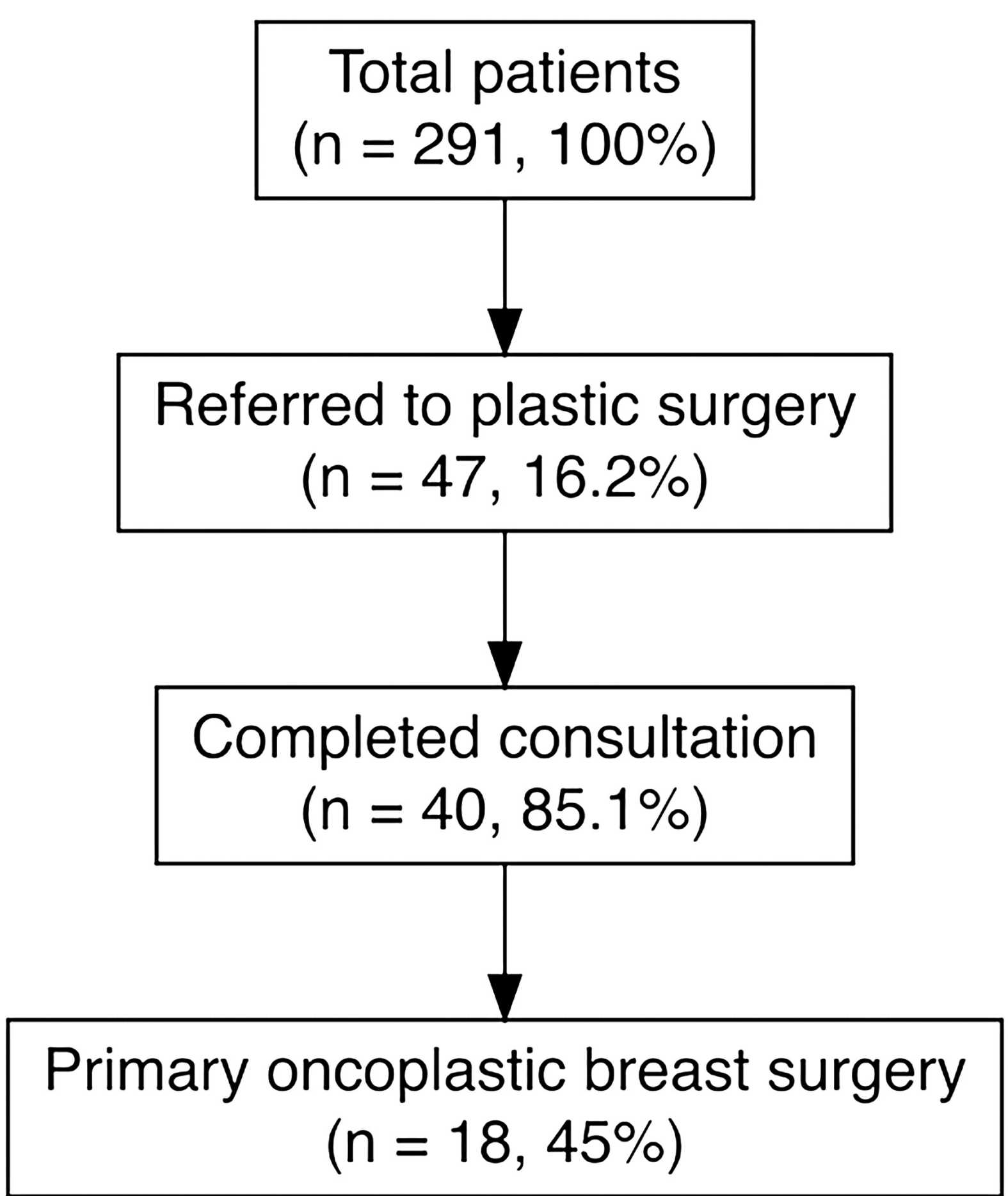
METHODS

- A retrospective cohort study was conducted at a tertiary academic referral center, adhering to STROBE guidelines.
- Inclusion criteria:** Lumpectomy, from November 30, 2022 through November 30, 2023, identified via CPT codes 19301 & 19302; age ≥ 18 years.
- Data collected:** Age, race and ethnicity, insurance status, primary language, comorbidities, and tumor characteristics.
- Outcomes:**
 - Referral to plastic surgery prior to lumpectomy
 - Completion of oncoplastic breast surgery (CPT 19316, 19318)
- Bivariate analyses assessed associations between predictors and outcomes ($p < 0.05$).
- Multivariate logistic regression with backwards stepwise AIC selection was used to identify independent predictors of referral to plastic surgery and reduction completion, reported as odds ratios and 95% CIs.
- All analyses performed in R (v4.3.1).

Cohort Summary

Variable	Cases (n=291)
Age (years)	61.55
BMI (kg/m2)	27.80
Tumor size (mm)	21.3
Private insurance	93
Non-Hispanic White	98
English primary language	203
Invasive disease	168
Multifocal disease	117
Diabetes	50
Hypertension	143
Smoking	6

Referral & Completion Diagram



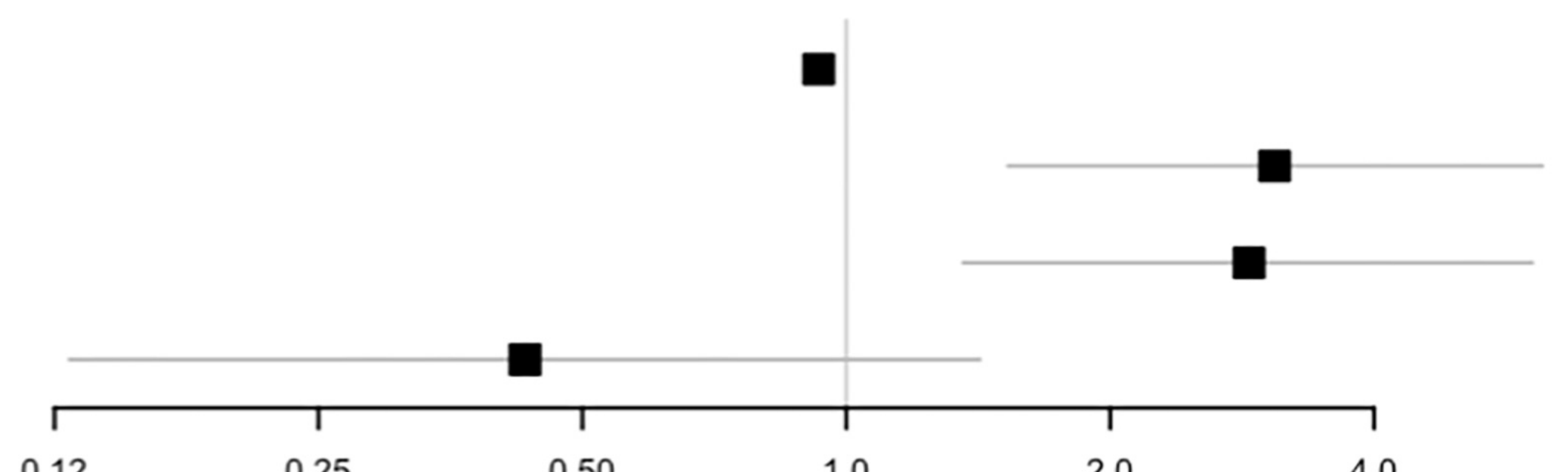
Referral for Plastic Surgery Consultation

Referral associated with:

- Younger age ($p < 0.001$)
- Private insurance ($p < 0.001$)
- Larger tumor size ($p = 0.01$)

Independent predictors:

Variable	OR (95% CI)
Age	0.93 (0.91–0.96)
Chemotherapy	3.08 (1.53–6.22)
Multifocal disease	2.88 (1.36–6.06)
Diabetes	0.43 (0.13–1.42)



Not associated with: Non-Hispanic White race and ethnicity, English primary language ($p > 0.05$)

RESULTS

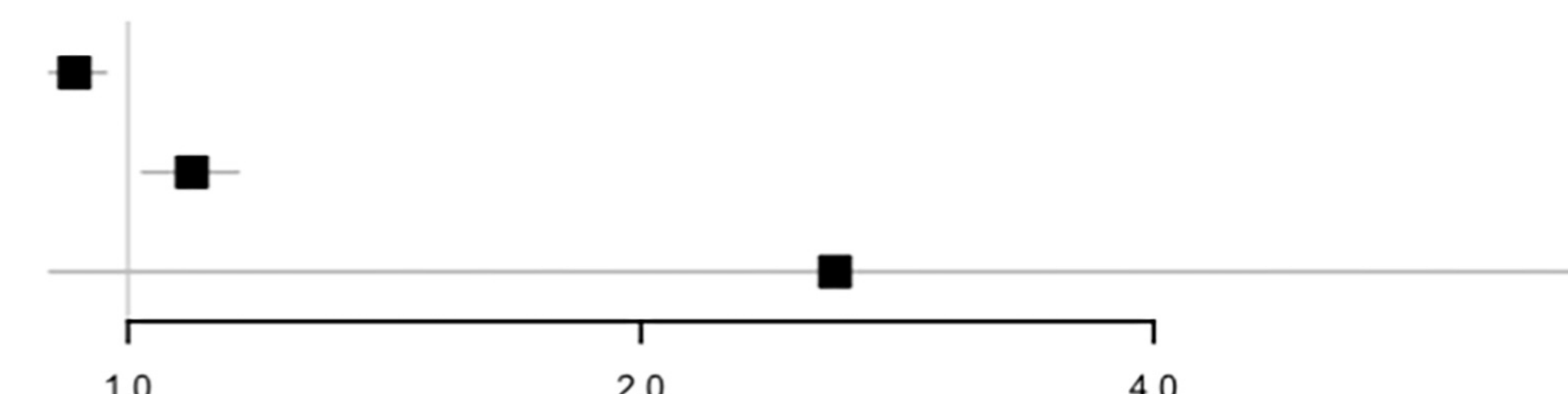
Reduction Completion

Completion associated with:

- Younger age ($p = 0.0015$)
- Higher BMI ($p = 0.02$)
- Larger bra size ($p = 0.02$)
- Larger tumor size ($p = 0.03$)

Independent predictors:

Variable	OR (95% CI)
Age	0.93 (0.90–0.97)
BMI	1.09 (1.02–1.16)
Invasive disease	2.60 (0.90–7.49)



CONCLUSIONS

- The overall completion rate of primary oncoplastic breast surgery was 6.9%.
- Clinical factors were the primary determinants of both plastic surgery referral and primary oncoplastic reduction.
- After consultation, nearly half underwent oncoplastic breast surgery, highlighting the role of decision-making at the referral stage.
- Although socioeconomic measures were not independent predictors, crude differences by insurance and age suggest pathway-level barriers.
- Standardized referral practices and greater integration of reconstructive options into multidisciplinary breast care can support consistent, evidence-based decision pathways.
- Communicating with referring providers about reconstructive options may further optimize surgical planning and ensure that patients are appropriately considered for immediate oncoplastic breast surgery.
- Future work will expand cohort size and capture additional clinical variables.