

Patterns and recent trends in mastectomy and breast conserving surgery for women with early-stage breast tumors in Missouri: An update and further investigation CL Schmaltz, PhD^{1,2}; J Jackson-Thompson, MSPH, PhD^{1,2,3}; J Du, PhD^{1,4}; B Francis, MEd, CTR^{1,2}

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1. Background

- Most females age 18–64 diagnosed with an early-stage breast tumor in Missouri, 2008–2015, were surgically treated with either total (simple) mastectomy (TM), modified radical mastectomy (MRM), or breast conserving surgery (BCS).
- Last year, the Missouri Cancer Registry examined demographic differences between females receiving these treatments and noted a slight decrease in the % of cases getting BCS since 2008 with an increase in TM (& TM+MRM).

2. Purpose

To continue monitoring trends in the surgical treatment of early-stage breast cancer in Missouri and describe the patterns by demographics & tumor characteristics.

3a. Methods: selection

- The "BCS" measure from the NCDB CP3R was adapted to central cancer registry data (consolidated records) along with corresponding measures for mastectomy.
 - Derived AJCC
 - RX Summ--Surg Prim Site" (item 1290) rather than the facility-specific "RX Hosp--Surg Prim Site" (item 670)
 - Some conditions ignored: Clinical vs pathological stage Surgery "at this facility"
- Of those meeting eligibility selection & received surgical treatment:
 - Who received surgery other than BCS (codes 20–24)?
 - Different numerator criteria, categorized into:
 - Total mastectomy (codes 40–49, 75)
 - ✤ Modified Radical Mastectomy (codes 50–59, 63) ✤ (other)

✤ Age <65 (since primary payer was of interest).</p> White & black only (due to small numbers for other races).

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- Logistic regression was used among females with early-stag 0, I or II) while controlling for
- BCS more likely among (Odds) **Blacks** vs whites:
 - Earlier stages:
 - Stage **0** vs II:
 - Stage I vs II:
 - 💠 PR+ tumors vs PR-(& borde (ER status insig.)
 - Private insurance vs Medie
 - Earlier years of diagnosis
 - Older females (see right ple



Logistic model also adjusted for geographical region & his Cox PH regression model also adjusted for geographical

These data provide quantitativ the surgical treatment for fema stage breast tumors in Missou

Trends and sociodemographic patients & health professionals broad information on treatment options being utilized.

	3b. Method	ls: analysis		
on was used to analyze surgical trends vith early-stage breast tumors (AJCC stage ontrolling for selected demographics.		 These surgical treatments were compared in terms of: Survival (all-cause), controlling for selected demographics Days between diagnosis & treatment. 		
	4. Re	sults		
among (Odds ratio [95% CI]): tes: 1.5 (1.3, 1.7) :		 Survival higher among (Hazard ratio [95% CI]): (smaller hazard is better) BCS vs MRM: 0.75 (0.61, 0.93) 		
I: PR-(& borderline): nsig.) Ince vs Medicaid: of diagnosis (see left pl	2.4 (2.2, 2.7) 2.4 (2.2, 2.5) 1.3 (1.2, 1.4) 1.2 (1.1, 1.4) ot below)	 (BCS vs TM & BCS vs TM+ Earlier stages: Stage 0 vs II: Stage I vs II: ER+/PR+ tumors (borderline (vs ER+/PR-: vs ER-/PR+: 	MRM had similar survival) 0.31 (0.23, 0.43) 0.47 (0.39, 0.57) grouped with negative): 0.54 (0.42, 0.69) 0.43 (0.25, 0.74)	
ds ratio of receiving BCS, TM, or MRM by age		 • vs ER-/PR-: 0.44 (0.37, 0.53) • Shorter time to surgery : • HR for a 30-day decrease: 0.96 (0.92, 0.998) • Females with private insurance: 	0.44 (0.37, 0.53) 0.96 (0.92, 0.998) ice:	
		 • vs uninsured: • vs Medicaid: • vs other insurance: • vs insured, no specifics: • Older females generally had 	0.4 (0.26, 0.61) 0.4 (0.32, 0.49) 0.36 (0.27, 0.47) 0.58 (0.43, 0.77) higher survival (but survival	
s reference) eographical region & histologic group; usted for geographical region, histologic g	ge at diagnosis (60–64 is reference) roup, & year of diagnosis.	was very high among all seled stage tumors). The treatment delay was shorter than TM or MRM.	cted patients who have early- r for patients receiving BCS	
5. Discussion		6. Cont	act	
de quantitative population-based data on ment for females diagnosed with early- ors in Missouri. demographic patterns may help inform		For more information about this project, contact: Chester Lee Schmaltz, PhD Senior Statistician, MCR-ARC, Health Management & Informatics SchmaltzC@Missouri.edu		
professionals in Missouri by providing		573_882_7775 http://mcr.um	573_882_7775 http://mcr.umh_adu	



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Corrected the horizontal axes on the plots, had been mislabeled as 1, 2, 3,