Trends and Determinants of Non-Treatment in Early-Stage Breast Cancer (ESBC)

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Abstract #573

BACKGROUND

- Despite established guidelines recommending multimodality, curative-intent treatment for patients with ESBC, a subset of patients receives no form of cancer-directed therapy.
- We evaluated contemporary, nationwide trends among patients with ESBC and identified factors associated with non-treatment.

METHODS

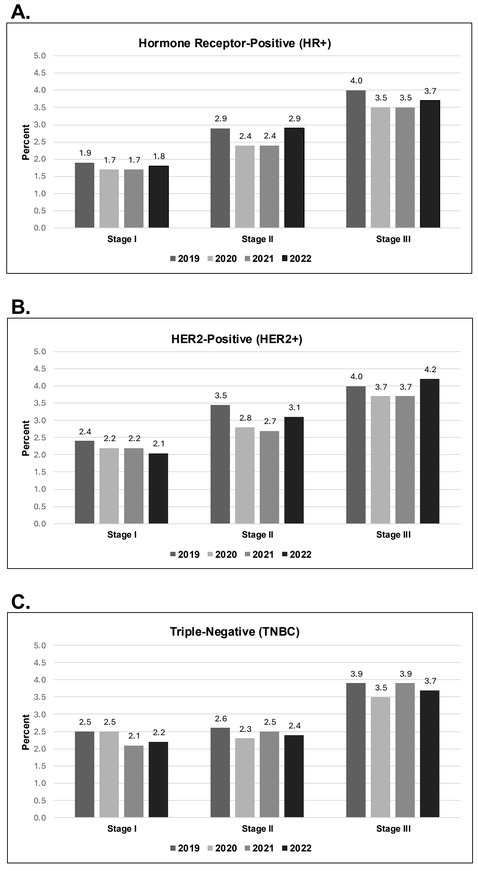
- Patients ≥18 years with clinical stage I-III BC, diagnosed between 2019-2022, were identified in the National Cancer Database (NCDB).
- Temporal trends were assessed, and multivariable logistic regression was used to identify factors associated with non-treatment.
- The association of non-treatment with overall survival (OS) was evaluated using Kaplan-Meier estimates and a multivariable Cox proportional hazards model with propensity score (PS) adjustment and PS matching.

	Total cohort (N=579,005) %	Yes treatment (N=565,374) %	No treatment (N=13,631) %
Age at Diagnosis (Mean)	61.2	61	64
Race and Ethnicity			
Black non-Hispanic	11.9	11.7	16.9
Hispanic	7.3	7.3	8.5
White non-Hispanic	73.8	74.0	64.1
Other	7.0	7.0	10.5
Subtype			
HR+	74.8	75.0	67.5
HER2+	12.6	12.5	15.0
TNBC	11.1	11.0	13.9

Of 579,005 patients with ESBC identified in the NCDB between 2019 and 2022, **13,631 (2.4%)** received no cancer treatment.

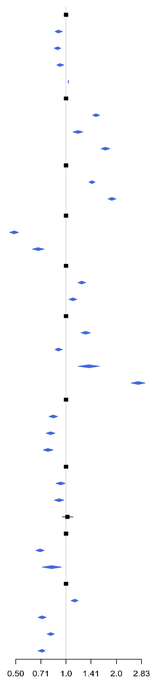
RESULTS

Percent of Patients without Treatment by Year and Stage Across Breast Cancer Subtypes

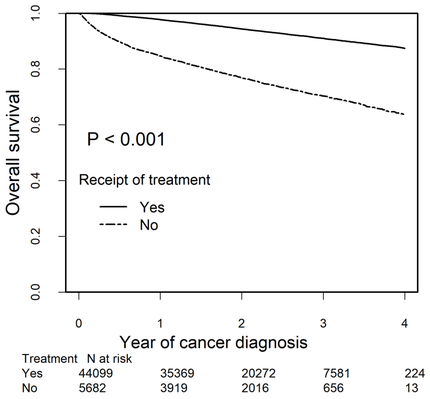


Multivariable Logistic Regression for Non-Treatment

Variables	Level	Odds Ratio (95% CI)
Year of diagnosis	2019	1
	2020	**0.9 (0.86 - 0.95)**
	2021	**0.89 (0.85 - 0.93)**
	2022	**0.92 (0.88 - 0.97)**
Age of diagnosis	**Continuous**	**1.033 (1.031 - 1.035)**
Race and ethnicity	White non-Hispanic	1
	Black non-Hispanic	**1.51 (1.44 - 1.59)**
	Hispanic	**1.18 (1.10 - 1.26)**
	Other	**1.72 (1.62 - 1.83)**
Clinical stage	I	1
	II	**1.43 (1.37 - 1.49)**
	III	**1.88 (1.78 - 1.99)**
Comorbidity score	0	1
	1	**0.49 (0.46 - 0.52)**
	>=2	**0.68 (0.63 - 0.74)**
Subtype	Hormone receptor positive	1
	HER2 positive	**1.24 (1.18 - 1.31)**
	Triple negative	**1.1 (1.04 - 1.16)**
Insurance type	Private	1
	Medicaid	**1.31 (1.23 - 1.4)**
	Medicare	**0.9 (0.86 - 0.95)**
	Other government	**1.37 (1.18 - 1.58)**
	No insurance	**2.7 (2.45 - 2.97)**
Education quartile	Q1 least	1
	Q2	**0.84 (0.79 - 0.89)**
	Q3	**0.81 (0.76 - 0.86)**
	Q4 most educated	**0.78 (0.73 - 0.84)**
Income quartile	Q1 poorest	1
	Q2	**0.93 (0.87 - 0.99)**
	Q3	**0.91 (0.85 - 0.97)**
	Q4 richest	1.02 (0.95 - 1.10)
Area of residence	Metro	1
	Urban	**0.7 (0.66 - 0.74)**
	Rural	**0.82 (0.72 - 0.94)**
Region	South	1
	Northeast	**1.13 (1.07 - 1.18)**
	Midwest	**0.72 (0.68 - 0.76)**
	West	**0.81 (0.77 - 0.85)**
Facility type	**Academic vs CCP**	**0.72 (0.68 - 0.75)**



Kaplan-Meier Curve of Overall Survival by Treatment Status



Treatment	N at risk				
Yes	44099	35369	20272	7581	224
No	5682	3919	2016	656	13

Association of Non-Treatment and Overall Survival using Multivariable Cox Proportional Hazards Model*

Receipt of treatment no vs yes	Hazard Ratio	95% CI	p-value
	4.49	**4.26-4.74**	**<0.001**

*Model was additionally adjusted for year of diagnosis, age, comorbidity score, clinical stage and breast cancer subtype.

CONCLUSIONS

- Despite overall low rates of non-treatment in ESBC, over 13,000 patients in our cohort did not receive any cancer-directed therapy, highlighting a significant opportunity to improve outcomes in patients with curable disease.
- Older age, Black and Hispanic race and ethnicity, lack of insurance, and evaluation in non-academic centers were associated with higher odds of not receiving any cancer treatment.
- After multivariable adjustment, non-treatment was associated with worse OS.
- Further research is needed to better understand the extent to which non-treatment is driven by informed patient choice, clinical factors, or systemic barriers to accessing cancer care.