Analyzing Mortality Trends and Disparities in Pulmoanry Embolism and Breast Cancer among U.S. Patients: A Deacde Long Population-Based Retrospective Study, 2010–2020

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Introduction

Patients with breast cancer are particularly vulnerable to developing Pulmonary Embolism (PE) due to factors like cancer-induced hypercoagulability, treatment with chemotherpay, and frequent hospital stays.

- This study aimed to evaluate national mortality trends and disparities in PE-related mortality in U.S. breast cancer patients from 2010-2020.

Methods

Data source: CDC WONDER database (2010–2020), adults ≥25 years.

ICD-10 codes:

- PE: I26
- Breast cancers: C50

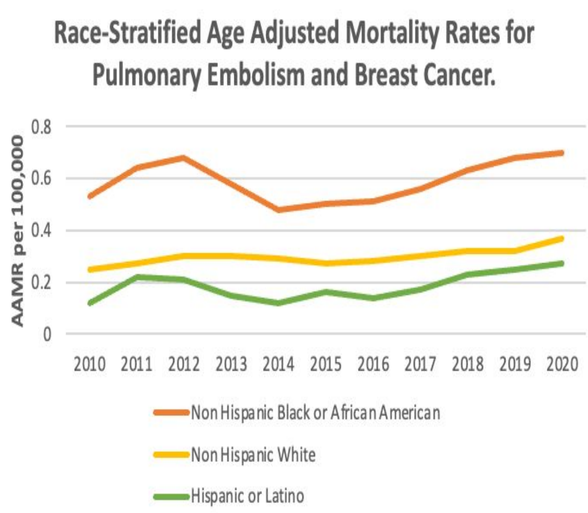
Analysis:

- Age-adjusted mortality rates (AAMR) per 100,000 population were extracted.
- Joinpoint regression was used to calculate annual percent changes (APC) in AAMR with 95% CI.
- Stratified by race/ethnicity and U.S. census region.

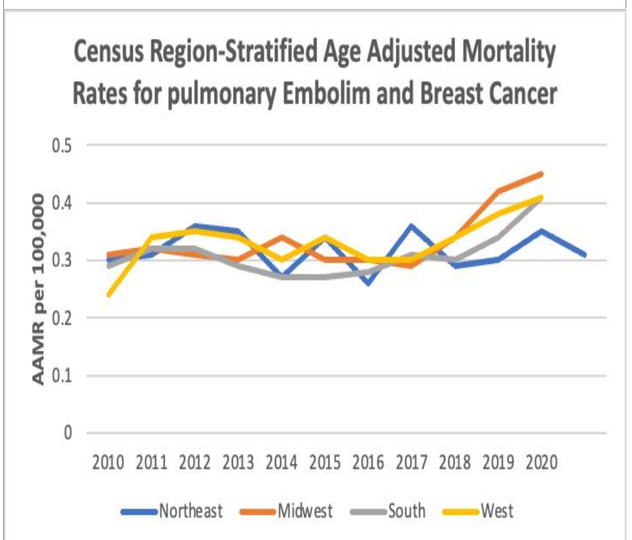
Results

Between 2010 and 2020, a total of 488 deaths attributed to pulmonary embolism and breast cancer were seen in Hispanic or Latino Population (AAMR 0.19), and a total of 8020 deaths were noted among the Non Hispanic Population in the U.S (AAMR 0.34).

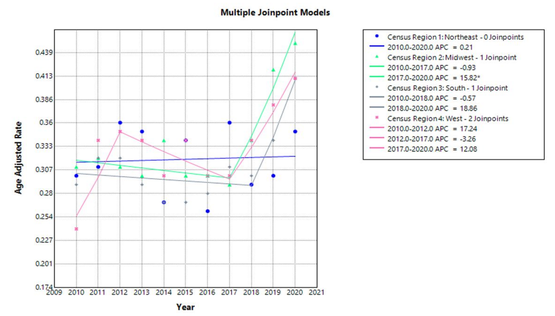
- Non-Hisapnic Black: Early rise in APCs, followed by decline, and recent sharp increase.
- Non-Hispanic White: Similar with a notable recent rise.



- Hispanic/ Latino: APCs were downtrending initially with an untrending noticed in recent years.



- AAMRs were highest in the Midwest (0.36) followed by the West (0.32), Northeast (0.32,) and South (0.31).



- For Northeast, trends appeared to be increasing, while for the Midwest, South, and West; a similar pattern of initial decline and a recent incline was noted in the recent years.

Conclusion

Our study revealed rising mortality trends due to pulmonary embolism and breast cancer in the recent years in the U.S. (2010-2020), with notable racial and regioanal disparities.

These patterns highlight an urgent need for targeted research and tailored preventive efforts to close the gaps, and improve survival and patient outcomes.