Disparities in Breast Cancer Mortality Among Individuals with Mental and Behavioral Disorders: A 25-Year Population-Based Analysis

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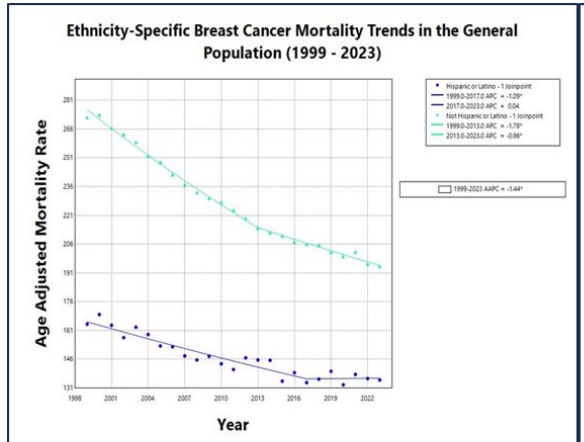
Background

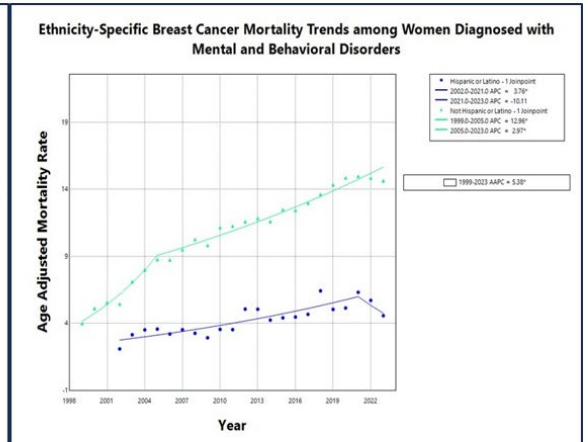
Breast cancer (BC) mortality has declined in the general U.S. population over recent decades. However, individuals with mental and behavioral disorders remain an understudied and potentially high-risk subgroup.
This study aims to assess national trends in BC mortality among women with mental and behavioral disorders, stratified by race and ethnicity

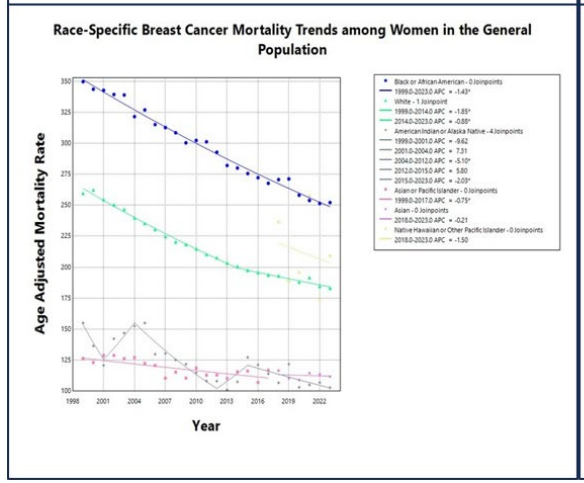
Method and Materials

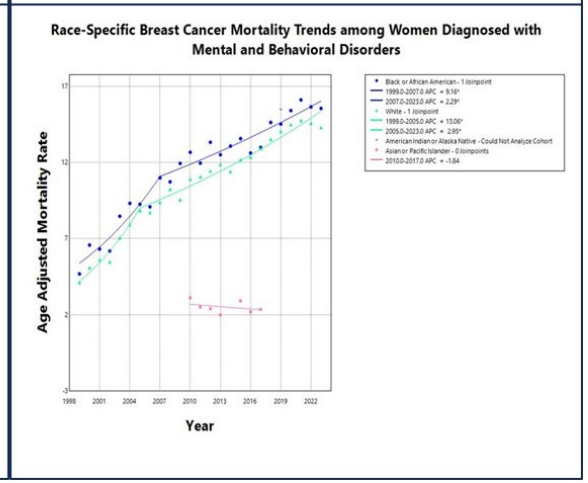
We studied a cumulative population of 9.17 billion by using the CDC Multiple Cause of Death database (ICD, 10th revision) between 1999 and 2023. We identified all women who died of BC, code C50, as underlying cause of death (UCD), regardless of mental and behavioral disorders (MBD). Then we identified the same UCD among women with MBD, code F01-F99, as multiple cause of death. Age-adjusted mortality rates (AAMR) per million persons (PMP) were calculated, standardized to 2000 US census, and stratified by ethnicity and race [Hispanic (H), non-Hispanic (NH), Black (B), White (W), Asian or Pacific Islander (A/PI), and American Indian or Alaska Native (AI/AN)]. Average annual percentage changes were calculated to assess the mortality trends.

Group	MBD: % Change in AAMR (1999–2023)
Black (B)	↑ 222%
White (W)	↑ 230%
Asian or Pacific Islander (A/PI)	Stable (↓ 12.1%, 2010–2023)
American Indian or Alaska Native (AI/AN)	No reliable data
Hispanic (H)	↑ 100% (2002–2023)
Non-Hispanic (NH)	↑ 243%









Results

In the general population (GP):

- A total 2,059,043 deaths from BC, overall AAMR of 188.3 PMP (B: 296.3, W: 219.9, A/PI: 117.1, AI/AN: 123.5, H: 143.9, NH: 229.3).
- AAMR declined from 1999 to 2023 by:
  - 28% among B from 349.8 to 252.2 PMP.
  - 30% among W from 259.7 to 183 PMP.
  - 12% among A/PI from 126.2 to 111.7 PMP.
  - 34% among AI/AN from 154.9 to 102.7 PMP.
  - 18% among H from 164.3 to 135.5 PMP.
  - 27% among NH from 272.1 to 194.4 PMP.

In the population with MBD:

- A total of 175,198 deaths from BC, overall AAMR of 8.7 PMP (B:12.5, W: 11.2, A/PI: 3.4, H: 4.5, NH: 11.86).
- AAMR increased from 1999 to 2023 by:
  - 222% among B from 4.9 to 15.8 PMP.
  - 230% among W from 4.4 to 14.5 PMP.
  - 100% among H from 2.5 in 2002 to 5.0 PMP in 2023, excluding years with unreliable data
  - 243% among NH from 4.4 to 15.1 PMP.
- AAMR was relatively stable among A/PI, declining slightly by 12.1% from 3.3 to 2.9 PMP between 2010 and 2023.
- No reliable data were identified among AI/AN

Conclusions

- This is **one of the largest population-based studies analyzing BC mortality in women with MBD**.
- **Divergent mortality trends over 25 years (1999-2023):**
  - **General Population (GP):** Mortality **declined** across all racial/ethnic groups.
  - **MBD Population:** Mortality **rose** sharply, >200% increase among B, W, NH; doubled among H.
- **Widening mortality gap between MBD and general populations**.
- **Urgent need for targeted interventions** addressing breast cancer disparities in women with MBD.

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