Inequities in Breast Cancer Diagnosis and Treatment in a Safety Net Hospital in the Bronx: Insights from an Underserved Urban Population

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Introduction

Breast Cancer remains the most commonly diagnoses malignancy among women in the United States, yet significant disparities persist in screening, stage at diagnosis, and treatment outcomes for racial/ethnic minorities and socio-economically disadvantaged populations [1]. Safety-net hospitals which disproportionately serve uninsured, Medicaid, and limited English proficient patients face structural barriers that may exacerbate delays in diagnosis and treatment [2]. Hispanic and Black women, particularly those living in urban and resource limited settings such as the Bronx, have been shown to experience lower rates of timely screening, and barriers to access to treatment [3]. This study aims to characterize patient profiles and identify diagnostic and treatment inequities within a safety-net hospital in the Bronx

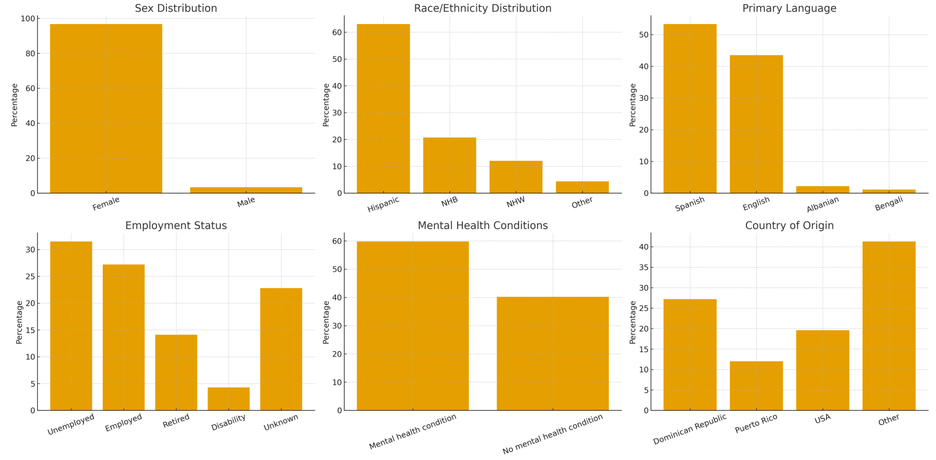
To characterize the demographic, clinical, and treatment profiles of breast cancer patients in a safety net hospital in the Bronx and evaluate disparities in diagnosis and treatment by insurance type, race, ethnicity, and language.

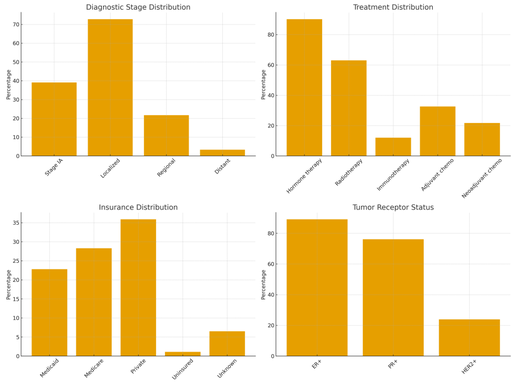
Methods and Materials

We conducted a retrospective observational study on 92 breast cancer patients actively followed at the SBH Oncology Clinic between
November 2023 to November 2024. Demographic, clinical, and treatment data were collected from electronic medical records. Statistical analysis was performed using SPSS v29, with Kruskal-Wallis or the Chi-square tests as appropriate. A two-tailed p-value < 0.05 was considered statistically significant

Results

Among the 92 patients, 96.7% were female, 63% identified as Hispanic, 20.7% as non-Hispanic Black (NHB), and 12% non-Hispanic White (NHW). Most were unmarried (54.2%), lived within 3 miles of the hospital (69.6%), and spoke Spanish as their primary language (53.3%). Unemployment was reported by 31.5%. Common comorbidities included hypertension (55.4%) and diabetes (37%), and mental health conditions were present (59.8%). The Dominican Republic (27%) and the U.S. (19.6%) were the most frequent countries of origin. Most diagnoses were at an early stage (39.1% at Stage IA and 72.8% localized), with tumors predominantly being hormone receptor-positive (ER+ 89.1%, PR+ 76.1%), and HER2-positive in 23.9%. The majority of diagnostic mammograms revealed BIRADS 4 or 5 lesions (66.3%). Partial mastectomy was the most common surgery (53.3%), with 90.2% receiving hormone therapy, 63% radiotherapy, and 12% immunotherapy. Insurance type correlated with age at diagnosis (Medicare prevalent in older patients, P < 0.001). Spanish speakers were more likely to be diagnosed at earlier stages (Stage I: 47.8% vs 28.2%) and had less regional spread (13.0% vs 28.2%) than English speakers. There were no significant differences between insurance groups in time from diagnosis to surgical intervention and chemotherapy, or frequency of prior breast cancer screening. However, Medicaid patients had faster hormone therapy initiation than Medicare patients (P = 0.018), while uninsured and Medicare patients had shorter times to radiotherapy compared to Medicaid patients (P = 0.007 and P = 0.036, respectively). NHW patients had higher rates of progesterone and estrogen-positive tumors compared to NHB and Hispanic patients (P < 0.001 and P = 0.075, respectively). Compared to national benchmarks, our cohort had higher reliance on public insurance (51.1% vs. ~36%), lower reliance on private insurance (35.9% vs. ~53%), and higher rates of mental health comorbidities (59.8% vs. ~25%) [SEER, 2024; CDC, 2023].





Conclusions

This study highlights disparities in a Bronx safety-net hospital. Medicaid patients faced delays in radiotherapy but had faster initiation of hormone therapy and comparable timing for chemotherapy, indicating improved overall access. Uninsured patients received radiotherapy sooner, likely due to New York State programs that fund cancer care for the uninsured. These gains may be vulnerable to fluctuations in Medicaid policy, with potential implications for underserved patient groups. Hispanic patients had lower rates of hormone receptor positivity compared to non-Hispanic White patients. Higher public insurance use and increased mental health burden underscore the unique challenges faced by this population.

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