

**Commission on Cancer Hospital Accreditation Status is Associated with
Increased Delivery of Guideline-Concordant Care for Highly Vulnerable Patients
with Breast Cancer**

Kelley Chan MD, MS^{1,2}; Bryan E Palis MA²; Lauren M Janczewski MD, MS^{2,3}; Joseph H Cotler PhD²; Ronald J Weigel MD, PhD, MBA^{2,4}; Clifford Y Ko MD, MS, MSHS⁵; David J Bentrem MD, MS³; Katharine Yao MD⁶

Affiliations

¹ Department of Surgery, Stritch School of Medicine Loyola University Chicago, Maywood, IL

² American College of Surgeons Cancer Programs, Chicago, IL

³ Department of Surgery, Feinberg School of Medicine Northwestern University, Chicago, IL

⁴ Department of Surgery, University of Iowa Carver College of Medicine Carver College of Medicine, Iowa City, IA

⁵ Department of Surgery, University of California Los Angeles David Geffen School of Medicine, Los Angeles, CA

⁶ Department of Surgery, NorthShore University Health System, Evanston, IL

Word Count: 250/250

Tables/Figures: 1/1

Background

Social vulnerability has been associated with cancer outcome disparities. This study aimed to evaluate the association of social vulnerability and Commission on Cancer (CoC) accreditation status with receipt of guideline-concordant care (GCC) among patients with breast cancer.

Methods

This retrospective study queried the National Program of Cancer Registries Database for patients with stage I-III breast cancer between 2018 and 2021. Data were merged at the county level with the Centers for Disease Control and Prevention Social Vulnerability Index (SVI) and its subthemes: socioeconomic status (SES), household characteristics, racial and ethnic minority status, and housing type and transportation. GCC was defined as stage-appropriate surgery, radiation therapy, or systemic therapy. Multivariable logistic regression models investigated associations of SVI, as a continuous and categorical variable stratified into quartiles, with GCC.

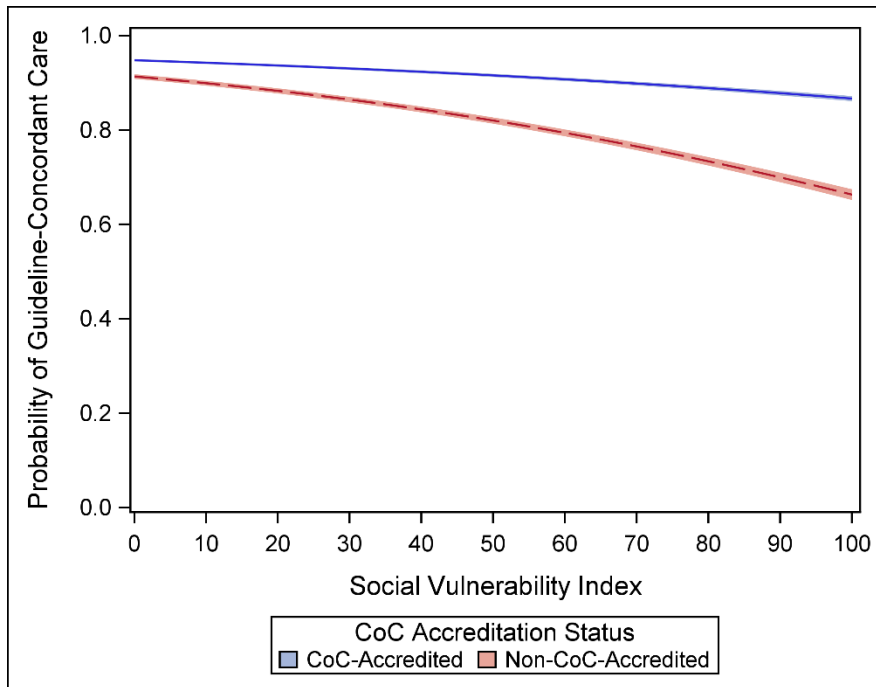
Results

Among 448,104 patients with breast cancer, median SVI was 58.0 (IQR 32.3 to 78.3). SVI subtheme analysis revealed GCC disparities were highest in communities with vulnerability related to SES and racial and ethnic minority status. At SVI=0, all patients had above 90% probability of GCC; however, at SVI=100, patients had 86.7% probability of GCC at CoC-accredited hospitals compared to 66.3% at non-CoC-accredited hospitals ($p < 0.05$) (**Figure**). For patients in the highest SVI quartile, treatment at CoC-accredited hospitals was associated with 197% increase in odds of GCC (95% CI 2.87 – 3.08).

Conclusion

For highly vulnerable patients, treatment at CoC-accredited hospitals was associated with increased GCC. Efforts to support CoC-accreditation in communities with vulnerability related to SES or racial and minority status may reduce disparities in cancer outcomes.

Figure. Association between Social Vulnerability Index and adjusted* probability of receiving guideline-concordant care stratified by Commission on Cancer hospital accreditation status.



Abbreviations: CoC = Commission on Cancer.

*Adjusted for Social Vulnerability Index, age, race and ethnicity, insurance status, rural/urban location, disease stage, and hospital accreditation status.