

Abstract Title: The Association of Social Vulnerability Index and Travel Distance with Surgical Outcomes in Patients Undergoing Autologous Breast Reconstruction

Presenting Author: Rosevine A. Azap, MD

Authors: Rosevine A. Azap, MD, Archana Babu, MD Rami Elmorsi, MD, Ashleigh M. Francis, MD, Kylie Swiekatowski, BS, J. Bryce Olenczak, MD, Alexander F. Mericli, MD

School/ Training program: The University of Texas Medical Branch

Abstract

Background: Limited data exists on the influence of social determinants of health (SDOH) on plastic surgery outcomes. This study aimed to evaluate the effect of social vulnerability index (SVI) and travel distance from MD Anderson Cancer Center (MDACC) on postoperative outcomes and readmission amongst patients undergoing autologous breast reconstruction.

Methods: A single-institution retrospective study of female patients who underwent autologous breast reconstruction from July 2019 to July 2024. Travel distance from MDACC was calculated utilizing residential zip codes. The Centers for Disease Control and Prevention SVI database was utilized to obtain SVI information for each patient. Multivariable regression analyses were used to evaluate differences in probability of adverse surgical outcomes following autologous breast reconstruction relative to county-level SVI and distance from MDACC.

Results: 679 patients were included in the study. Increased distance from MDACC was associated with lower social vulnerability ($p < 0.05$). Black patients had 138% higher odds of having greater social vulnerability. On multivariable analysis, patients of average SVI had 187% higher odds of returning to the OR within 30 days (OR 2.873 (1.017 – 8.115); $p = 0.046$). Greater distance traveled was associated with 30- and 90-day breast-related readmissions (OR 1.055 (1.019–1.093); $p = 0.003$ and OR 1.044 (1.012–1.077); $p = 0.006$, respectively).

Conclusions: Patients with average social vulnerability experienced a significantly greater rate of returning to the OR compared to patients with low social vulnerability. Patients who lived furthest from MDACC had a significantly higher odds of breast-related readmission, which suggests that geographic barriers may influence postoperative care utilization and complication detection.