

Association of University Cardiologists

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Impact of Health Equity Intervention Measures on Outcomes in Heart Failure Management.

Background: Disparities in clinical outcomes for cardiovascular diseases, including heart failure are well documented. African Americans and other socioeconomically disadvantaged groups have a higher burden of morbidity and mortality compared to Whites. Social determinants of health (SDOH) have been identified as important contributors to the gap in outcomes. Consequently, identifying key domains of SDOH and health equity interventions to reduce or eliminate the gap is critically needed.

Methods: This study was performed in a safety net hospital with an electronic medical records system (EPIC) that has a population health tool (Healthy Planet), allowing for the collection of comprehensive social and behavioral details of patients. After identifying the key SDOH variables, using a quasi-experimental mixed methods analysis we evaluated how specific interventions in addition to guideline directed medical therapy impacted clinical outcomes. Qualitative data was obtained from patient and staff interviews.

Statistical Analysis: All statistical analyses were performed in Stata (version 13; Stata Corp LLC, College station, Texas). Categorical and continuous variables were summarized using frequency distributions and means with standard deviations (SD) respectively. Wilcoxon sign-rank test was used for the group comparison. $P < 0.05$ was considered statistically significant difference. Each patient was used as its own control for analysis on readmission and hospital length of stay.

Results: Study cohort was 92% African American with majority male (60.2%) and mean age of 60 years, range 23-99 years. Majority of patients were in NYHA class III. 23.5% of our study cohort reported being homeless in the past year. The financial barrier represented by the inability to purchase medication was the most frequent SDOH (33.3%). Among all health equity interventions to mitigate identified social barriers provision of 30-day supply of medications at discharge incurred the highest cost. Participants receiving health equity interventions were less likely to be readmitted in 30 days and had shorter stay in hospital.

Conclusion: Strategies to alleviate or resolve SDOH barriers were effective in improving clinical outcomes for heart failure patients. Large prospective studies with rigorous financial evaluation are needed to validate our findings.

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