An Evidence-based Process Change to Improve Mammography Adherence

Tara E. Smalls, MSN, APRN-BC
University of South Carolina
Doctor of Nursing Practice Candidate

DNP Dissertation Committee:
Sue P. Heiney, PhD, RN, FAAN (Chair)
Beverly Baliko, PhD, RN, PMHNP-BC
Abbas S. Tavakoli, Dr. PH, MPH, ME

Background: Breast cancer is a significant disease—affecting 12% of American women in a lifetime. Breast cancer costs $180 billion annually in healthcare expenditures and productivity. Mammography has been identified as the greatest tool to mitigate morbidity, yet in many organizations, mammography compliance rates are decreasing. This process improvement was conducted to address the barriers to patient follow through with mammography and to recommend strategies to improve the current breast-screening process.

Method: Principles of the Six Sigma DMAIC framework were utilized to analyze the breast-screening clinic process. Chart reviews and organization databases were applied to determine mammography adherence. The opportunities to improve current practices were identified by outlining the current practice flow, chart reviews, data mining of mammography adherence, and obtaining a baseline analysis of a sample of clinic patients who did not follow up with mammography. Informal interviews with providers were conducted as well. The structure of the organization was outlined and internal and external resources were identified.

An extensive review of the literature was conducted to identify best practices and barriers to mammography screening to elicit strategies to improve the breast-screening process. The interventions include assessing barriers to mammography during registration of clinic visit, alert staff and providers of participants that meet criteria for mammography by flagging or marking the patients’ charts, then providing a tailored provider message regarding the importance of mammography and relevance of all steps of the screening process, with an emphasis on financial counseling, and streamlining the current process. The usual care will be compared with the process change.

Results: The outcome measure of mammography proportion was calculated using a two-sample proportion test. The mammography proportion for the pre-intervention group was 22% and 51% for the post intervention group. There was a statistically significant difference (p=0.01) in mammography adherence between the pre-intervention group and the post intervention group. Ultimately, as evidenced by the significant increase in mammography utilization, the breast-screening clinic will positively impact the disease burden of breast cancer through early detection.