According to TQIP-provided statistical analyses, the elderly trauma population at Carolinas Medical Center has a higher than expected mortality. Specific factors needed to be identified for targeted performance improvement (PI) projects. Specifically, the subpopulation of elderly trauma patients who were not at high risk of mortality, yet experienced death. Researchers were interested in finding common themes and relationships that may have existed within this specific population.

A TQIP data query was performed with the following parameters: elderly patients seen by the Trauma department between 2014-2015 (n=647). The data were organized and variables coded and prepared for statistical analysis using STATA v.13. The TQIP field “Probability of Death Elderly” was used to code patients with a probability of 25% or less. These are Elderly patients who shouldn’t experience mortality (n=573). Of these, 40 patients died (7.0%), and were classified as “Elderly patients who shouldn’t experience mortality but did”. Bivariate analysis using logistic regression was used to identify factors that were predictive of this subgroup.

Patients with ARDS, pneumonia, stroke/CVA, or return to the OR or ICU during their hospitalization were at significantly higher risk of mortality. Patients with bleeding disorders, including anticoagulant use, history of dementia, or those currently receiving chemotherapy had a significant likelihood of mortality. Patients with the most severe comorbidity—currently receiving chemotherapy—were at 6.8 times higher odds of death compared to those who are not. Still notable, patients with dementia or a bleeding disorder were twice as likely to experience mortality.

The PI team created a nursing working group in December of 2016 that consisted of clinical nurse leaders, ICU/floor nurses, respiratory therapy, and managers. The group developed a way of identifying high-risk geriatric patients and placing them on a watch list. High-risk patients were anyone over the age of 65 with a history of dementia, on chemotherapy, or currently on any blood thinners. Those placed on the watch list, were followed by the PI team and nurse champions. Orders were reviewed and consults entered in a timely fashion. Patients with a concern for respiratory distress were referred to a clinical respiratory specialist to follow with the bedside therapist to ensure completion of ordered treatments. In addition, the development of a geriatric trauma education course was developed with geriatric experts to provide education to the bedside nurse. This initiative began in February of 2017 and to date, 15 patients have been placed on the watch list. The plan is to review outcomes data in Q1 of 2017 in this population. We aim to have at least 10% of trauma nursing staff attend the Geriatric Trauma Core in Spring of 2017. Using our known data to focus our PI efforts can help to eliminate wasted resources and make the largest impact on our target population. We hope this will lead to more resources dedicated to data analysis and the PI process.