What is the problem or challenge you identified? Level III trauma centers serve communities that do not have direct access to a Level I or II trauma center. These facilities are able to provide prompt assessment, resuscitation, emergency operations, stabilization, and arrange for transfer to a higher acuity center for definitive trauma care (American College of Surgeons Committee on Trauma, 2014). Since Ohio is predominantly a rural state with a scattering of a few large urban areas, the presence of Level III trauma centers is imperative for the welfare of our citizens. At the time of this writing, Ohio leads all other states in the number of American College of Surgeons (ACS) verified Level III trauma centers. The American College of Surgeons Committee on Trauma (ACSCOT) updated the manual “Resources for Optimal Care of the Injured Patient” in 2014. One of the criteria deficiencies cited in the revision states that “all trauma centers must use a risk adjusted benchmarking system to measure performance and outcomes, CD 15-5” (American, 2014). The angst this new criterion created was that at the time of the release of the updated manual, there was no risk adjusted benchmarking system available to Level III Trauma Centers. In light of this new requirement and with the goal of setting up a benchmarking tool, the Ohio Society of Trauma Nurse Leaders (OSTNL) Level III Subcommittee took it upon themselves to develop a data reporting system with the intent to eventually use the data for benchmarking throughout the state of Ohio.

Describe the intervention you developed/change you implemented to address the problem: The Ohio Society of Trauma Nurse Leaders (OSTNL) is a state organization whose members consist of Trauma Program Managers from Level I, II, and III verified trauma centers in the state of Ohio. This group serves the purpose of networking, education, collaboration, and serves as a resource for legislative activity related to trauma. Once the updated ACS trauma standards were released, the OSTNL spent several months reviewing the changes and identified many needs. A new criteria deficiency that all trauma centers must risk adjust their data with other trauma centers was identified. A gap was found that no formal risk adjusted benchmarking system existed for level III trauma centers. A level III subcommittee had already been formed for networking and collaboration. This subcommittee felt that there would be great benefit in benchmarking specific data points to improve processes and lesson morbidity and mortality in level III trauma centers throughout the state of Ohio. This served as a starting point. The ACSCOT manual clearly states that a trauma center’s Performance Improvement (PI) program should monitor and continually improve structures, processes, and outcomes (American, 2014). This can be accomplished through the use of risk-adjusted benchmarking to aide in determining what and how well something works. The Level III Trauma Centers in the state of Ohio have shown commitment to upholding the standards set forth by the ACS through the development and use of a data reporting system in hopes of being able to improve the outcomes across the continuum of trauma care. The Level III subcommittee developed a list of metrics that they felt were valuable to patient outcomes, with some
based solely upon ACS requirements. These parameters became the data reporting points. All participating hospitals were assigned a number. The hospitals reported their data to a designated member of the committee who then developed a system report, enabling the data to remain confidential. For future reports, this same process will be used to as the committee continues to collect metrics and expand benchmarking. There are some differences in the composition and requirements for Level III trauma centers and most generally do not have Neurosurgical capabilities. Given the rural setting, trauma surgeon response timeframe is 30 minutes from patient arrival instead of the standard 15 minutes in larger centers. Level III trauma centers also are not required to have 24 hour in house coverage of Anesthesia/Operating room services, but rather, these teams may take call. Patient populations differ in Level III centers as well. Some Level III centers are considered to be a regional resource and provide outreach and education to the community (American, 2014). Therefore, consideration of the criteria for a Level III trauma center was used when selecting metrics for the data reporting system. As of the year 2015, there were 23 ACS verified Level III Trauma Centers in Ohio. For the purpose of the initial data report, there were 19 reporting facilities. The reporting facilities were categorized as Urban, Suburban, or Rural based off of the Ohio Department of Public Safety Population Density report (2013). The data will be reported and updated with a yearly review of the data reporting plan. Based upon the population density report used the reporting hospitals fell into the following categories. Urban: 5 hospitals Suburban: 12 hospitals Rural: 2 hospitals The data reporting system for 2015 included, but was not limited to, the data points listed below. 1. Whether a facility was Urban/Suburban/Rural 2. Total Emergency Department (ED) Volume 3. Total Trauma Activations: to include category 1, category 2, and trauma consult levels 4. Mortality percentage rate: Total Trauma Deaths/Total Trauma Volume = percentage 5. Average ED length of stay for admitted trauma patients: reported in hours 6. Average ED length of stay for transferred trauma patients with an Injury Severity Score (ISS) of 9 or less: reported in hours 7. Average ED length of stay for transferred trauma patients with an ISS of greater than 9: reported in hours 8. Average Trauma Surgeon response time to Category 1 activations: reported in minutes 9. Percentage of Orthopedic fractures to the operating room within 24 hours

**How did you measure the effects of the change?** Once all data had been received from the 19 participating facilities, and calculations were completed, the results were outlined on an Excel sheet, with each hospital identified by number as detailed above. The results of all 19 hospitals were visible for each metric, making the process fairly transparent. Members were able to evaluate how adequately their own hospital performed when compared to all other Level IIIs in the state. They were also able to break down their data and compare it solely to trauma centers of their particular size. This has led the group to take individual metrics and delve a little deeper, sharing best practice protocols to improve care and increase efficiency of their respective programs.

**How did you sustain the change?** Future Plans As of 2017, all trauma centers will be required by the ACSCOT to utilize Trauma Quality Improvement Program (TQIP) to risk adjust their data. Despite that, there will continue to be value in the collaborative nature of the Level III Subcommittee’s benchmarking process. While the benefits of the TQIP data will not be diminished, there are additional pearls of
wisdom to be gained with the continuation of this collaboration these trauma centers share, raising the bar collectively as a unit for the citizens of the state of Ohio.