Improving TQIP Data Integrity: One Center’s Position on Quality
Amanda Truelove, Connor Fairfax, Dr. Martin Keller, and Michele Herndon
St. Louis Children’s Hospital

Purpose: Significant turnover created an inexperienced workforce at our facility, causing incorrect and incomplete data inclusion in critical reports including TQIP. The data included in these reports would be cleaned and corrected but the underlying causes weren’t identified or resolved. The need for accurate, consistent, high quality data, recommendations from the ACS review, and our existing team’s strengths drove our decision to integrate a formalized QI data validation process. A formalized QI data validation process and registry-specific training provided by a designated TQIP Data Coordinator-certified CSTR can promote data integrity and consistency in the registry. This specific role can be beneficial at all centers to improve quality and benchmarking results.

Resources: An FTE was needed for the position of CSTR-TQIP Coordinator. Educational requirements included a B.S. in Health Informatics, CSTR, and coding certifications. At our facility, one of our current registrars met this criteria and was uniquely suited for the role. Primary responsibilities included: data validation, cleaning corrupt data, training registry personnel, analyzing data for routine multi-level review, review of data for report requests, and serving as a bridge for better communication between the clinical team (TPM, TMD, PI, and Nurse Coordinators) and the registry professionals. A hybrid role of CSTR-TQIP Coordinator would possess the knowledge to bridge the gaps between clinical teams and the registry. Building this bridge was the key to our success, and helped us achieve our goals. The CSTR-TQIP Coordinator is an ideal example of moving registry professionals out of traditional silos and integrating them into the overall trauma department workflow.

Description: Initially, the TQIP Coordinator’s comprehensive review of the report analysis and validation process identified root causes of corrupt data the facility had previously reported to TQIP, impacting benchmark reports. The new process included a monthly multi-level comprehensive review, which enabled fully monitoring data consistency, uniformity, and overall proficiency based on data validity for both individual registrars and the group, per registry field and section. The multi-level review included test-retest, single patient IRR, multi-logic, and single variable data analysis. Registry training on findings was implemented based on findings from the review. Score progress was monitored in a spreadsheet. Multi-directional communication between TQIP Coordinator, TPM, PI, and Registry staff was crucial to the success of our model. The TQIP role forces the entire team out of silos and into a collaborative cohesive unit.
Communication flowed freely in the new team-based system, and new processes allowed the team to resolve inconsistencies within 30 days, and often times concurrent with care. Quality data is most powerful when leveraged for the focus of the trauma program: PIPS and injury prevention initiatives.

Effectiveness: The QI data validation process monitors progress, improvement, areas of opportunity, and overall effectiveness to the program. Uniformity and consistency are measured by single patient inter-rater reliability validation, multi-logic, and single variable analysis. Analysis of the previous month’s closed charts directly guides the creation of corrective training for the registry staff based on identified data validity issues. Our facility scores reveal significant improvement, supporting value in implementing this role. We noted scores for IRR Proficiency at 99%, Consistency at 98%, Uniformity near 99%, SBIRT compliance near 50% improvement, error rates dropping from near 40% to 1%, over 50% increase in ED specific documentation compliance. In addition, requests for data increased dramatically due to increased confidence in the data quality, spiking from 4 to 62 for internal research and IRB studies. This specific role can benefit all centers to improve quality and benchmarking results.

Lessons Learned: TQIP benchmarking changed the focus of data review. With data being integral to our ACS COT Quality Initiatives and PIPS, it became obvious that the need for formal acknowledgement of data integrity processes via QI data validation is imperative to continued success. A challenge, but we restructured our program to include a CSTR-TQIP Coordinator. A role crucial to using data analytics and QI to improve our data integrity, allowing us to leverage the data confidently for studies, benchmarking, and outreach initiatives. This is verified in many ways ranging from increased request for reports, improved IRR, proficiency, and error rates. Long hours were spent building the role, but major improvements for data quality made this change essential to the team. The role’s complex duties require full dedication,
limiting abstraction to crises only. Thus, it requires budgeting for an FTE and a commitment from leadership to ensure the role has the time and tools needed to maintain high standards.

**Conclusions:** A formalized QI data validation process and registry-specific training provided by a designated CSTR-TQIP Coordinator can promote data integrity and consistency in the registry. This role created astonishing improvement to scores at our institution. Proficiency scores error percentage improved from 6.6% 4th QTR 2017 to 1.28% 1st QTR 2018, and 0.74% to 0.27% YTD 2018 vs. 2019. Uniformity error scores decreased from 0.65% to 0.15% and consistency scores decreased from 6.3% to 1.63% in 2019. Proficiency scores improved from as low as 39% YTD 2018 to near 99% by 2019 YTD. ED specific documentation compliance from 40% YTD 2018 to 82% YTD 2019. SBIRT compliance improved from 35% to 62% YTD 2018 to 2019. Trusted data created increased internal research and IRB study report requests from 4 to 62, 2017 to 2019 YTD.