Mini-Review



# Developing a culture of quality, safety, and trust through continuous performance improvement within a state trauma system

**Theresa M. Snavely**

Pennsylvania Trauma Systems Foundation, Camp Hill, Pennsylvania, USA

*Correspondence to:* Theresa M. Snavely, MSN, RN, TCRN. Pennsylvania Trauma Systems Foundation, Camp Hill, Pennsylvania, USA. Email: tsnavely@ptsf.org.

**Abstract:** Although significant deficits have been well documented in the performance of health care facilities, corrective actions to safeguard patients and optimize outcomes have not been as robust as expected. Traditionally evaluation of facilities' performance has been limited to internal review and frequently in isolation due to perceived vulnerabilities. These activities have been reactionary to patient events that occur, rather than proactive system evaluation or identification of opportunities for prevention of future issues or obtaining care excellence. Comprehensive patient care evaluations are an area that an established Trauma System review process can drive improvement by sharing of success and pitfalls, to reduce repetitive undesired patient care outcomes and achieve equitable regional trauma care. Why should we continue to provide inadequate care, when other respected colleagues have found answers or a best practice resulting in desired results or improved outcomes? Are these perceived vulnerabilities real? Do they trump patient care outcomes? How can do we safely proceed to establish a safe, just culture of trust to accomplish our goal? The primary goal of benchmarking patient outcomes is more than a metric submission or dashboard. Ideally, it is the identification of high performers that share their strategies for improving patient care with low performing entities. This obtained knowledge can be analyzed, and appropriate components used to promote the best practice of the weaker performers for desired improved results. This strategy of openness will require significant shifts in attitude, teamwork, accountability and a high degree of trust in all of these areas. Ultimately, newer strategies founded on these principles will accelerate learning, knowledge and impact patient care safety. Pennsylvania has one of the most extended established trauma systems in the United States, this documents steps taken to develop a statewide collaborative network of just culture to benefit all injured.

**Keywords:** Performance improvement (PI); American College of Surgeons (ACS); Trauma Quality Improvement Program (TQIP); Pennsylvania Trauma Systems Foundation (PTSF); Pennsylvania Trauma Quality Improvement Program Collaborative group (PA TQIP Collaborative)

Received: 07 November 2018; Accepted: 05 December 2018; Published: 12 December 2018.
doi: 10.21037/jeccm.2018.12.01
**View this article at:** http://dx.doi.org/10.21037/jeccm.2018.12.01

## Is there a relationship between delivering quality trauma care and trust?

Many sources cite an association between the faith of the patient and receiving positive results from their health care providers as building confidence and ultimately improving overall health relationships. Can the same association be made with healthcare systems, reaching beyond their protective walls, benchmarking outcomes, sharing lessons learned and best practice examples? The state of Pennsylvania's Trauma system believes that taking the risk of sharing opportunities for improvement identified through trauma performance improvement (PI) activities and seeking solutions together can make trauma care equitable for a higher number of injured (1).

## What is trauma PI?

PI is the systematic evaluation of care for each trauma patient. PI for the injured patient has remained a core element of standards of practice in the Pennsylvania Trauma System. Historically the PI process and activities have been conducted locally at the trauma center facility level to identify opportunities and improve care within their programs. Refinement of these concepts are the hallmark of maturation and commitment of trauma care excellence and should be evident during the accreditation review for trauma center designation. This comprehensive PI model has two major fundamental concepts—"systems" measures and "human" measures that impact patient outcomes. This broader understanding of performance and quality review requires an awareness that the system also contributes to error. The overall goal of building robust, resilient systems that support the delivery of safe, quality care, and prevents errors from occurring will favorably impact patient outcomes (2). Healthcare is an emotional topic, with a deeply embedded set of personal values and expectations, whether the patient or the provider—it evokes commitment and hope of delivering excellent results without errors. It is why providers return to this demanding work environment pace to reduce suffering, symptoms of illness and return people to their families and lives. With this level of passion and energy, why is it so difficult to move the needle to immediate, measurable improvement? An honest answer: Humans are imperfect, and in reality, health care is multifaceted and fundamentally interdependent on systems. No matter the brilliance, brawn or determination of any one or several trained clinicians, it cannot be improved without improving the supportive systems (3).

Fundamental concepts of a just culture, required to embrace a brisk useful PI model impacting system change have been described as: (I) placing the patient safety above all by empowering all members of the entire health care delivery process to identify potential harm and stop it from occurring and/or bring the issue for further investigation whichever is appropriate; (II) reducing unwarranted variation, adhering to established standardized practice and focused attention on safe practices such as timeouts without a simultaneous distracting task; (III) standardizing best practices, when the practice has been researched and validated as evidence-based, variations should be based on differences of patient's presentation or needs; (IV) cohesive teamwork, groups that work as a team with shared goals, methods and awareness achieve shared success; (V) effective communication had to be clear, concise and conveyed throughout the patient care continuum. Once these guiding tenant concepts are established, the shared goal of patient quality care and safety becomes part of the culture (4).

## The need and actions

The hallmark 1999 report, "To Err is Human", published by the *Institute of Medicine* (*IOM*) highlighting our nations "epidemic of medical errors", estimated potentially 98,000 patients die in U.S. hospitals each year because of preventable events. The report also predicted that the Healthcare industry was at least a decade behind other high-risk industries in providing basic safety (5) (*IOM*, 1999). Healthcare industry and leaders have responded by establishing numerous safety-improvement initiatives and programs. One of the most progressive and accelerating efforts was the 2010 Patient Protection and Affordable Care Act, introducing financial penalties for poor quality performance. The Act also endorsed the partnership for patients, public and private learning collaborative to enhance safety (6). As leaders of establishing trauma care standards, The American College of Surgeons (ACS) released "Resources for the Optimal Care of the Injured Patient 2014" Edition in April 2014. The new focus of this latest release was the abiding principle that Trauma Systems are centric to patient safety and optimal measurable outcomes. The new requirements became effective in Pennsylvania Trauma Centers in October 2016. In alignment with the ACS vision, this round of trauma standard updates focused on addressing the need for a more integrated and "inclusive" system. This inclusive theme has made the PI process a core component to promote optimal, equitable trauma care throughout the state of Pennsylvania. Simultaneously occurring in health care management is the merging of health facilities into larger systems, driving regionalization of many PI processes and activities (7).

## Why form a statewide trauma quality improvement collaborative?

Quality improvement processes require focus, patience, hours of commitment, skills of data management and project planning—the value and benefits of improving internal processes such as significantly reducing imaging in pediatric trauma patients by researching evidence and creating a best practice management guideline. Improves efficiency, reduces unwarranted variation, saves cost and ultimately improves pediatric patient exposure to radiation (8).

These process improvements can be measured for internal analysis and evaluation of effectiveness. However, there are many processes and identification of issues/opportunities that benefit from a more substantial aggregate data set. Such as major complications, variation in surgery practices, unexpected deaths, and the networking of sharing best practice, lessons learned, "this is how we did it" presentations. The aggregation of several center's data enables granular review of these infrequent occurrences and cultural biases of recognizing patterns of practice impacting patient outcomes (9).

## Our collaborative building journey begins

One of the many hurdles our statewide PA Trauma Quality Improvement Program (TQIP) Collaborative Committee had to address and embrace is the establishment of trust. Sharing sensitive data and identification of opportunities for improvement in larger forums required thoughtful strategies and patience. One idea that is fundamental to improving care is that the identification of opportunities should not equal poor care nor result in blame or lack of respect. To synthesize failures as informative, collectively search for alternatives and share successes challenge the status quo and embody excellence. This takes time, effort, learning new skills, focus and a great deal of trust, not only in familiar peer roles but the entire health care workforces. Initial steps to identify our mission, philosophy, and processes were undertaken and completed. This process took approximately eight months, employing different methods of communication to elicit input from all accredited Pennsylvania Trauma Center's trauma program members. Additionally, each step required careful legal vetting to ensure patient health information confidentiality and peer protection maintained.

## Official steps

In March 2016, the PA Trauma Systems Foundation (PTSF) Board of Directors voted to require that all PA Trauma Center's participate in ACS TQIP risk-adjusted data submission for both trauma center facility and PA Collaborative analysis. Three initial organizational meetings consisting of in-person, and web-based options, resulted in collective attendance participation of 250 members. Communication tools such as email, survey, and direct feedback supplied a consensus of results to write our mission statement, data use and publication guidelines and the following PA Statewide Collaborative Committee "Rules of Engagement" or logistics/structure.

(I) Collaborative leadership composition; a panel of three state-appointed leaders: Pennsylvania Trauma Nurse Advisory Committee (PATNAC) president (nurse)/Pennsylvania Committee on Trauma (PACOT) vice-chairs (2) physicians;
(II) meeting composition: meet three times/year at a minimum. Two in person, one web-ex; maximum Trauma Center participation—three representatives/center, one vote/trauma center;
(III) confidentiality of deliberations incorporated into PTSF Standards of Accreditation;
(IV) PTSF manager of PI and manager of Data Quality staff committed to the effort, PTSF leadership will not be present for collaborative deliberations;
(V) a critical early decision for the building trust was the adoption of self-identification. Trauma Center participants would choose to disclose their data and only high performers would be openly elicited by the committee to share lessons.

## PA Collaborative Committee productivity and progress to date

First PA TQIP Collaborative report: Fall 2016 included 11 PA Trauma Centers and 7,600 patients, Third PA TQIP Collaborative Report: Spring 2017 included 27 Centers, 13,652 patients. Next: fall 2018 report should consist of 30 PA Trauma Centers.

Held eight in-person collaborative meetings with over 688 attendees. Shared 13 best practice presentations:

(I) strategies for minimizing unplanned upgrades to intensive care unit (ICU);
(II) An analysis of ICU bounces back on outcomes in a mature trauma system;
(III) how to interpret data and make care improvements;
(IV) strategies for minimizing upgrade in care, creating a culture of pulmonary hygiene to prevent pneumonia in the traumatically injured patient population at a level II rural Trauma Center;
(V) a tale of two PA Trauma Center's data and investigation process/findings of unplanned ICU admission cohort;
(VI) data details: how to interpret your Pennsylvania trauma outcomes study (PTOS)/ACS definitions;
(VII) plan survey of state centers looking at the impact

 

of protocols on unanticipated admit to ICU, association of unanticipated admit to ICU on other risk-adjusted outcomes;

(VIII) catheter-associated urinary tract infections initiative: nursing leaders at a level I Trauma Center in Colorado recognized a high number of catheter-associated urinary tract infections (CAUTIs) when reviewing the fiscal year 2014 CAUTI data;

(IX) a level I PA Trauma Center's identification, actions, and outcomes related to improving CAUTI rates;

(X) reduction of VTE events using a systematic approach to VTE prophylaxis;

(XI) adoption of failure to rescue to non-elective populations;

(XII) optimizing a massive transfusion protocol in a level II Trauma Center utilizing a multidisciplinary approach;

(XIII) nursing perceptions of cohorting trauma patients to one medical/surgical unit at a level I Trauma Center to enhance interdisciplinary collaboration, documentation, and quality care.

## Overall impact and results

2016–2018 has marked monumental strides for the development of Pennsylvania statewide inclusive trauma PI.

(I) A redistribution and creation of statewide committee structure supporting a Performance Improvement and Patient Safety (PIPS), outcomes and PA TQIP Collaborative Committees involving physicians, nurses, registrars from all Trauma Center levels;

(II) extensive revisions and maturation of software to support the PI review process, and the incorporation of taxonomy classification to further granulate data;

(III) improved accessibility to benchmarking data and core measure reporting;

(IV) publication of a PI primer, designed to support basic trauma facility PI concepts;

(V) a shared, published collection of required Patient Management Guidelines and protocols;

(VI) new PTSF requirements mandating topic course for all TPM, TPMD and PI staff;

(VII) participation in the ACS TQIP risk-adjusted benchmarking data submission processes;

(VIII) required submission to a centralized PI repository of all trauma deaths data and determinations occurring at PA trauma centers.

## Tips for success in a forming a collaborative

Establish a culture of trust, this will take time but is imperative for success. Establish the participation expectations and behaviors. Do not get discouraged with lower performance results, early set back of change. Continued PI, no matter how small is the best predictor of sustainability. A consensus of performance is necessary; what the data definitions and goals of the group are essential. When setting a target goal, start with fundamental patient safety metric, then move to quality and ultimately the appropriateness of care metrics. Truly collaborate! Don't depend on one institution/person to run the spirit of the collaborative in isolation. Collaborative support and leadership are difficult to obtain and sustain. With the many competing projects, roles and responsibilities of these high performing individuals, finding a reliable source of a central organization for communication, data management, and clerical duties can make or break your efforts. Finally demonstrating the benefit of a collaborative quickly to members, such as benchmarking comparison in performance can give leverage necessary to make a change of practice at their facilities. A research topic, or identification of a regional issue to address as a collaborative. The quicker the members realize the benefit, the more involved this already thinly stretched group will commit (10).

Trust is defined as the "firm belief in the reliability, truth, ability or strength of someone or something". Quality is defined as "the general excellence of standard or level excellence, superiority, merit, worth, value, virtue, caliber, eminence, distinction, incomparability; the degree of excellence of something". Trust is a basic quality of every relationship, although some consider it intangible and difficult to quantify (11). Successful leaders eventually realize that a large percentage of those they depend on for success do not directly report to them. They cannot "manage or control their behaviors" but depend on reputation, persuasion, and honor which is built on trust to gain success.

Our PA TQIP Collaborative has employed some of these trust tenants for success:

(I) become trustworthy by displaying trusted behaviors;

(II) don't be afraid to aim past the target;

(III) take risk but don't promise beyond what can be delivered;

(IV) when promised—deliver;

 

(V) over communicate progress or regression and involve everyone.

Together delivering equitable excellent trauma care across Pennsylvania, takes commitment, patience and trust.

## Acknowledgments

The author wishes to thank the inspiring PA TQIP Collaborative Leadership team: Dr. Denise Torres, Trauma Medical Director, Dr. Forrest Fernandez, Trauma Medical Director, Donna Titus, MSN, Trauma Program Manager, and Lyndsey Diehl, RHIA, CHDA, Manager of Trauma Data Quality, for their never-ending passion and patience dedicated to optimal trauma care outcomes.

## Footnote

*Conflicts of Interest*: The author is employed by the Pennsylvania Trauma Systems Foundation, and acts as the administrative contact of the PA TQIP Collaborative Leadership.

## References

1. Berwick DM. Improvement, trust, and healthcare workforce. Qual Saf Health Care 2003;12:i2-6.
2. World Health Organization. Guidelines for trauma quality improvement programmes. Available online: http://apps.who.int/iris/handle/10665/44061?locale-attribute=fr&
3. Chassin MR, Loeb JM. High-reliability health care: getting there from here. Milbank Q 2013;91:459-90.
4. Agency for Healthcare Research and Quality. Patient Safety Organization (PSO) Program-Organizations and Relationships. Network of Patient Safety Databases. Available online: https://www.pso.ahrq.gov/about/org
5. Institute of Medicine Committee on Quality of Health Care in America. To Err is human: building a safer health system. Kohn LT, Corrigan JM, Donaldson MS, editors. Washington (DC): National Academies Press (US); 2000.
6. Rice S. Despite progress on patient safety, still a long way across the chasm. Mod Healthc 2014;44:8-9.
7. The American College of Surgeons. Resources for Optimal Care of the Injured Patient 2014/Resources Repository. Available online: https://www.facs.org/~/media/files/quality%20programs/trauma/vrc%20resources/resources%20for%20optimal%20care.ashx
8. Brinkman AS, Gill KG, Leys CM, et al. Computed tomography-related radiation exposure in children transferred to a Level I pediatric trauma center. J Trauma Acute Care Surg 2015;78:1134-7.
9. Leape LL, Rogers G, Hanna D, et al. Developing and implementing new safe practices: voluntary adoption through statewide collaboratives. Qual Saf Health Care 2006;15:289-95.
10. Cronenwett JL, Likosky DS, Russell MT, et al. A regional registry for quality assurance and improvement: the Vascular Study Group of Northern New England (VSGNNE). J Vasc Surg 2007;46:1093-101; discussion 1101-2.
11. Merriam-Webster. Definition of trust. Available online: https://www.merriam-webster.com/dictionary/trust

doi: 10.21037/jeccm.2018.12.01
**Cite this article as:** Snavely TM. Developing a culture of quality, safety, and trust through continuous performance improvement within a state trauma system. J Emerg Crit Care Med 2018;2:105.

 