

The Building Blocks to a Highly Effective Trauma Program

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ABSTRACT

Background: Well-developed trauma programs take years of planning, dedication, and commitment to the trauma population to achieve the desired outcomes and, even more, resilience and persistence to maintain a high-quality standard of care. Despite widespread trauma care systems across the nation and their link to improved outcomes for the trauma patient, there is a paucity of literature outlining the foundational elements required to evolve and grow a successful trauma program.

Objective: The purpose of this article is to outline the key elements for developing and maintaining a successful trauma program that yields high-quality patient outcomes.

Methods: Developing a program requires intense focus and continued efforts. Multiple foundational building blocks can facilitate program success and foster program growth.

Results: Foundational elements include leadership structure and support, building the right team, clinical

expertise, trauma registry, program data, research, outreach and education, injury prevention, and ensuring adequate survey readiness. Building on these foundational elements, engagement of stakeholders at all levels throughout the program and organization can help drive program growth. Using these strategies, a program has been able to grow from 7.6 full-time equivalents to 24.4 in just a few short years while achieving, exceeding, and sustaining top metrics across state and national benchmarks.

Conclusion: A program can achieve sustainable, high-quality outcomes for the trauma patient by following a structured team approach to program development. Using the outlined building blocks for program development and sustainability, a successful trauma program can lead to improved patient and program outcomes.

Key Words

Resources, Teams, Trauma program

Everything starts with a vision and a little heart. The saying “where there’s a will, there’s a way” (anonymous, n.d.) rings true when building a trauma program, and dream teams are not built overnight. Well-developed trauma programs take years of planning, dedication, and commitment to the trauma population to achieve the desired outcomes and, even more, resilience and persistence to maintain a high-quality standard of care. Despite widespread trauma care systems across the nation and their link to improved outcomes for the trauma patient (American College of Surgeons [ACS], n.d.-a), there is a paucity of literature outlining the foundational elements required to evolve and grow a successful trauma program.

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The purpose of this article is to outline the key elements for developing and maintaining a successful trauma program that yields high-quality patient outcomes.

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BACKGROUND

Original trauma systems of care stem back to the Civil War and involved the delivery of care to wounded military members, resulting in the creation of the first trauma manual (American College of Surgeons: The Committee on Trauma, n.d.). In 1976, the American College of Surgeons (ACS) Committee on Trauma (COT) developed the structure to provide verification, review, and consultation for trauma programs. Today through the verification process, the ACS (n.d.-b) continues to set standards and processes of care, provide national benchmarking, promote best practices, and foster an environment to follow performance improvement (PI) principles for the care of the trauma patient. In addition to the ACS, individual state trauma center designation provides a structured process to categorize and establish state-specific standards for trauma care (American Trauma Society, 2020). Although the ACS COT and state trauma systems outline the fundamental program requirements, there is no standardized pathway for fostering program growth.

In 2017, a 750-bed Level II state-designated trauma center in the southeast had a total of 7.6 full-time equivalent (FTE) positions: one trauma program manager (TPM) newly hired, one PI registered nurse (RN), 4.6 registrars, and one administrative assistant with an annual volume of approximately

3,500 trauma patients. The goal at this time was to maintain Level II state designation for the program survey in February 2018. After a successful survey early in 2018, focus shifted to build infrastructure and move toward Level 1 designation and ACS verification. Additional resources began to be allocated to enhance PI processes, outreach and injury prevention activities, registry work, and research. Using the ACS standards as the outline, program leaders began to identify organizational gaps in meeting ACS Level I standards and to develop action plans addressing these gaps in early 2019.

Key Program Components

There are clear requirements delineated for ACS verification or state-level trauma designation; however, no clear steps exist in how to achieve and exceed these minimum standards. Key elements of program success are further detailed later (see Figure 1) and include leadership structure and support, hiring the right team, bedside expertise, trauma registry, program data, PI initiatives, research opportunities, outreach education, injury prevention, and survey readiness.

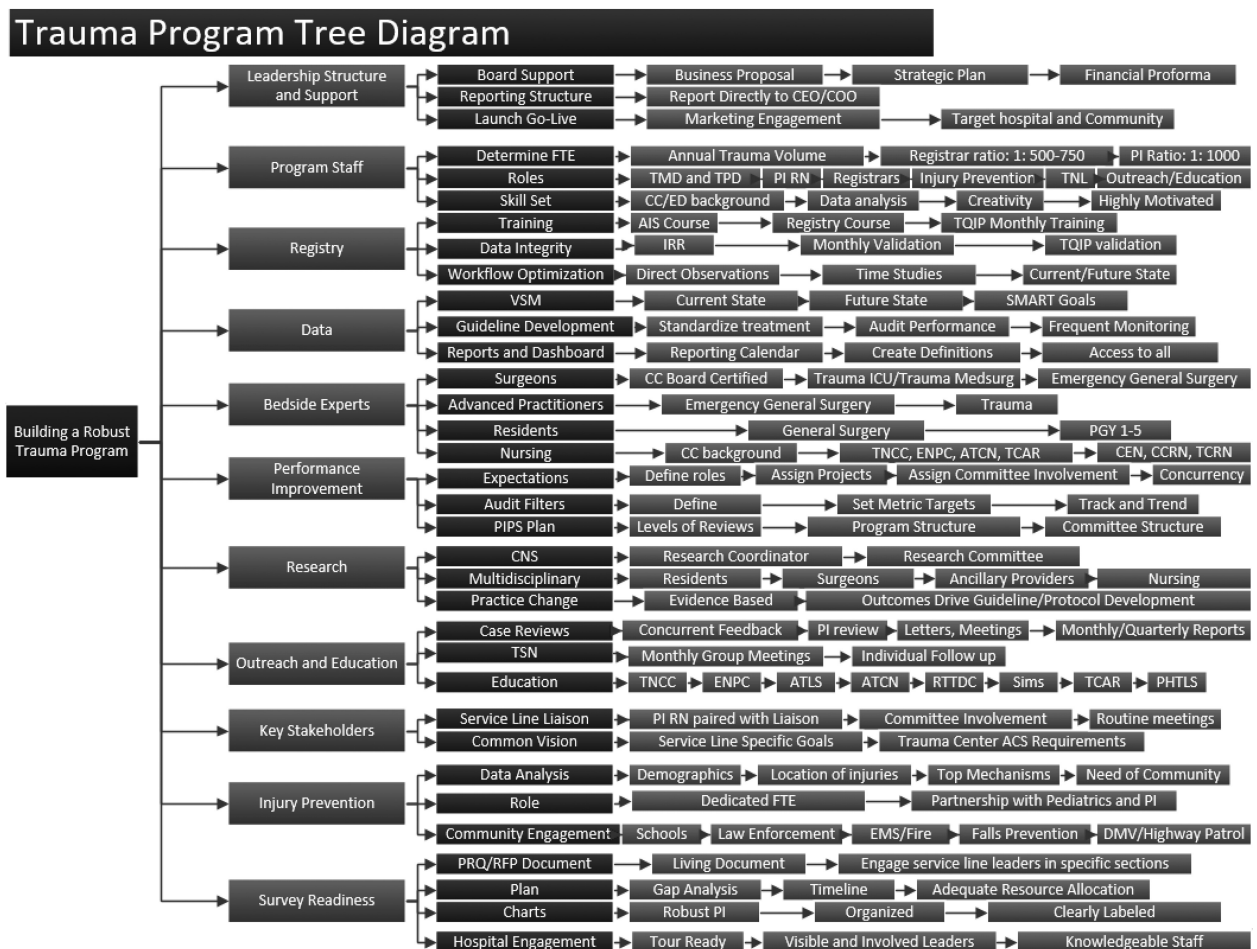


Figure 1. Tree diagram of key aims with primary, secondary, and tertiary outcomes. This is an example of a tree diagram when outlining key program components. This diagram depicts the foundational elements and subelements needed to build a successful program. Template from “Quality Tools” with permission, by American Society for Quality, n.d., from Learn about quality: <https://asq.org/quality-resources/quality-tools>. ACS = American College of Surgeons; AIS = abbreviated injury severity; ATCN = advanced trauma care for nurses; ATLS = advanced trauma life support; CC = critical care; CCRN = critical care certified nurse; CEN = certified emergency nurse; CEO = chief executive officer; CNS = clinical nurse specialist; COO = chief operating officer; DMV = division of motor vehicles; ED = emergency department; EMS = emergency medical services; ENPC = emergency nursing pediatric course; FTE = full-time equivalent; ICU = intensive care unit; PGY = postgraduate year; PHTLS = prehospital trauma life support; PI = performance improvement; PIPS = performance improvement and patient safety; PRQ = prereview questionnaire; RFP = request for proposal; RTTDC = rural trauma team development course; SMART = smart, measurable, actionable, reasonable, timely; TCAR = Trauma care after resuscitation; TCRN = trauma certified registered nurse; TMD = trauma medical director; TNCC = trauma nursing core course; TNL = trauma nurse lead; TPD = trauma program director; TQIP = trauma quality improvement; TSN = trauma survivor network; VSM = value stream mapping.

Leadership Structure and Support

The first step in building a successful trauma program is finding an engaged, passionate, and dedicated trauma medical director (TMD) as well as a trauma program director (TPD) willing to lead by example and set the bar high for others to follow. These two roles must have a shared vision and passion to improve trauma patient outcomes in order to sustain the journey. The TPD should have a critical care or emergency services background, leadership experience, and extensive knowledge and participation in PI or quality initiatives. Ideally, the TMD should have allocated administrative time separate from the call schedule to focus on programmatic needs and growth. Both the TMD and the TPD should collaborate to strategically design the future state of the program and outline the path to accomplish the journey (Althausen, 2014). This mutual goal takes a high level of commitment in time, design, networking, and research to begin to shape the foundational building blocks of the program.

A crucial but often overlooked foundational element of the trauma program is the reporting structure. A trauma program that reports directly to a senior leader (e.g., chief executive office, chief operating officer) achieves efficiency by removing some of the inherent delays in getting approval for resources or organizational changes with other less senior reporting relationships. As trauma crosses so many disciplines, a leader at the executive level is required to support change management and hold other leaders accountable. Creating this structure of accountability high within the organizational leadership structure removes some of the potential long delays in feedback and prompts more rapid action plans, leading to timely completion of PI activities. Trauma program leaders should have regularly scheduled and frequent meetings with the executive leader to help identify and break through any barriers to gaining resources for the improvement process, allowing for transparency in program gaps, so that there are no surprises when survey time arrives and demonstrating the organizational commitment.

A necessary element for trauma programs is participation in national databases, such as the Trauma Quality Improvement Program (TQIP) and the National Trauma Data Bank (NTDB). Although essential to measure program performance against like centers, these programs are associated with significant cost. The return on investment is demonstrated through the powerful data provided to the organization as compared with others in order to put PI initiatives in place. Executive leaders and key stakeholders should have a solid understanding and support involvement in participation of these national databases and improvement activities based on results.

Building on hospital board support for program expansion, trauma program leaders should organize a kick-off meeting and discuss the strategic plan and vision for

the program involving all key stakeholders. A financial pro forma should be completed to identify current state and projected future state, as well as outline historical trends in region of service (e.g., population, demographics, and community growth) to define what type of resources may be needed. From there, a business proposal should be developed to begin the structured process to seek additional programmatic resources. Strategic planning and marketing should be involved from the start of the conversation to ensure a solid understanding of the process and resource commitment to provide accurate and widespread news of the hospital's community promise to the trauma population. In turn, buy-in from community members to amplify program commitment will ensure engagement of all necessary stakeholders, such as local emergency medical services (EMS) agencies, referring hospitals, fire and law enforcement, school boards, division of motor vehicles, highway patrol, and other public officials.

Hiring the Right Team

After engagement from key stakeholders in developing the future state of the program, trauma program leaders should identify and hire for needed positions. The most essential component of this key element is to hire for the skill set (including background, strengths, weaknesses, and interests) based on role type. People may be taught many skills; however, having a diverse skill set on your team to balance strengths and weaknesses offers a unique opportunity to offer creative solutions simply based on the diversity of the team. In addition to diverse skill sets, seeking highly motivated staff with the ability to identify problems on their own and think in a solution-oriented way to solve program challenges is essential.

Once the right team is hired, several key leadership strategies should be exercised to harness the power of your team. An initial step is to be aware of your own strengths and limitations and build the team around this foundation, leading your team members by example. Get to know your team member personalities through personality tests that promote self-discovery and provide strategies to improve working together. As a leader, you can then delegate the right tasks to the right person, giving them activities that bring them joy and empowerment, further improving team dynamics and promoting a positive work environment and higher level of employee engagement. Promote autonomy to identify and solve questions independently, fostering a teaching and coaching environment between team members.

Clinical Expertise

Another essential component of establishing a highly successful trauma program is to ensure stellar clinical expertise. In a community hospital supporting a large,

predominantly rural geographic region, it is beneficial to have providers dual certified in critical care and general surgery. This model provides for cross-coverage in the emergency general surgery and critical care populations, providing the optimal framework for providing high-quality care to the trauma patient. This model also creates a successful learning environment for the general surgery residency program. In addition, it has been beneficial to have advanced practice providers (APPs) with training in general surgery or trauma to assist with high volumes, ensuring that throughput and quality metrics are met while maintaining high-quality care delivery (Althausen, 2014). This triad (attending, resident, APP) provides multiple levels of quality assurance and care coordination.

In addition, having nursing experts available 24/7 with critical care backgrounds (e.g., intensive care, emergency department) supports the triad model of providers. These nursing experts, also known as trauma nurse leads (TNL), serve as a rapid response nurse to trauma patients and hold advanced nursing certifications (e.g., trauma nursing core course [TNCC], advanced trauma care for nurses [ATCN], Trauma certified registered nurse [TCRN]). Trauma nurse leads have demonstrated improved outcomes through focused efforts for trauma patients, including decreasing hospital and intensive care unit length of stay, improving adherence to massive transfusion and anticoagulation reversal protocols, and more timely dispositions (Polovitch et al., 2019). With two TNLs on shift around the clock, they are able to support staff in responding to emergency department resuscitations and inpatient rounding as well as evaluation for potential clinical deterioration in patients. As the quote “rising tides raise all ships” (anonymous, n.d.), the TNLs have raised the bar higher for other clinical staff to rise. Although providing patient care is a core component of their role, they are heavily involved in providing education (both real-time and scheduled), PI, and research activities.

It is important to also consider the post-acute phase and develop a follow-up trauma clinic to help solidify the care continuum. Using the clinical expertise of the APPs or residents, a multidisciplinary clinic for all specialties involved in the care of the trauma patient provides an alternative for patient follow-up (Althausen, 2014). Depending on organizational structure, this model may generate some hospital revenue in addition to providing streamlined care for patient follow-up.

Trauma Registry

An often forgotten, key element of building a successful trauma program is highlighting the trauma registry's importance as a foundational component that needs continuous development. In addition to ensuring that the right team members are a part of your registry team, several key initiatives can ensure quality chart abstraction and

data integrity. Critical data points for registrars include demographics, initial vital signs, time stamps, procedures, diagnosis, and Abbreviated Injury Scale (AIS) coding/ Injury Severity Score scoring, as these all determine the risk adjustments for TQIP and determine overall outcomes compared with others across the nation. Without accurate data being inputted into these categories, the results are not valid in TQIP, resulting in challenges for program staff to target PI initiatives to improve overall outcomes.

Proper registry training is essential to ensure quality of data and to gain and maintain competency (e.g., AIS, trauma registry course). A phased-in plan for registry entry should be used to ensure that each element is understood. These should focus on incremental steps in the process, such as identifying patients and demographic data entry, eventually progressing to complications and diagnoses/procedures. Finally, integrate AIS coding factors into the registrar's workflow to be able to close charts. Similar to the clinical teams, continuing education for registry staff is important. Registrars need to stay current with national and state regulations as well as dictionary changes.

The trauma program leader should complete direct observation and time studies to understand data entry workflow. Harnessing information gained from these interactions, a standardized workflow should be established for registrars to promote efficiency and improve productivity. Once a standardized workflow is developed, create a uniform process for confirming interrater reliability (IRR). The IRR process should be seen as a learning opportunity and not associated with punitive measures unless consistent trends are identified. The findings from the IRR process can be taken to establish internal goals for compliance. Specific training should be developed in any categories that fall below the compliance threshold to generate improvement. Ultimately, spending the time hardwiring the registry process improves quality and integrity of data being entered and can be used reliably for program improvements.

As the program evolves, it is important for the registry team to understand the benchmarks that are set. Registry data correlates to program outcomes and, as such, registrars should be included in strategic planning as their data are the foundation upon which the program is built. The importance of accuracy and concurrency when inputting registry elements may be undervalued if trauma program leaders do not create the shared vision within the team. If the registry staff is not part of the shared vision, registrars may feel undervalued as their work is behind the scenes. Ensure that trauma program leaders and team members are giving recognition to the registrars for their work when they are able to demonstrate meeting their internal benchmarks or national data (e.g., TQIP reports) submission success and concurrency are maintained. A

concurrent registry helps shift PI from a reactive to a proactive approach and more timely loop closure.

Program Data

Program data is another key element of a successful trauma program. Data analysis should occur at a variety of levels, evaluating inputs from national databases such as TQIP, NTDB, state database comparisons, and internal dashboards. All key stakeholders, including specialty and interdisciplinary team members, should be aware of the current state of program data elements, whether positive or negative. Data should be visible to all and regularly reported in key meetings, as well as a presence on executive and unit-based dashboards (e.g., bulletin boards). It is essential to have routine scheduled meetings with key stakeholders to share performance measures, reviewing data to understand how to mutually impact data and outcomes. This structure creates a shared vision, allowing for program goals and gaps to be shared, ensuring real-time follow-up with department leaders.

Data elements come from a variety of sources. These may include data required by national and state databases as well as data points identified through PI opportunities when measuring compliance with evidence-based guidelines. Compliance with these trauma guidelines should be monitored to standardize program work and ultimately achieve improved outcomes aligned with current science. Moreover, concurrent PI activities to audit and monitor outcomes are ideal. If a concurrent PI process is well established, PI team members can attend multi-

disciplinary or tabletop rounds while a patient remains admitted to identify missed opportunities for audit filters or noncompliance to clinical guidelines. This proactive approach improves patient outcomes and translates to improved metrics and possibly prevention of adverse events.

Based on program data, action plans should be established. Lean methodologies offer valuable tools for health care organizations to organize data, identify and engage key stakeholders, and develop action plans (Graban, 2009). The desired future state can be identified through value stream mapping and identify SMART (Sustainable, Measurable, Actionable, Reasonable, Timely) goals (American Society for Quality, n.d.). Helpful tools such as a 4-square in Figure 2 (also known as an Impact-Effort matrix) can be used to determine wins that require low effort and have a high impact and establish a time frame to tackle initiatives that may require more effort. Once action plans are established, utilize Plan-Do-Study-Act (PDSA) cycles to determine process successes or necessary refinements.

Performance Improvement

With data as a key foundational element, defining a Performance Improvement and Patient Safety (PIPS) plan is not only required but also essential to establish infrastructure for how loop closure will occur. Outlining the different levels of review (e.g., PI RN vs. TPM vs. TMD), no matter the simplicity or complexity of the case, ensures a defined and consistent process for review.

#	Causes (Potential X's)	Impact	Effort	Product	Owner	Progress
1	Protected Time direct supervisor (occurrence,time, structure)	7	7	49	Jen	Complete
2	Staff meeting Ice Breakers/Resiliency Exercises	5	7	35	Gina	Complete
3	Learn Others Strengths(include 2nd strength, group activities, display, leverage)	3	7	21	Jackie	Complete
4	Learn other peoples' professional skill sets	8	8	64	Jackie	Complete
5	Webex or videos with administration "State of Hospital Address"	10	5	50	Jackie	Complete
6	Education Topics (data analytics, Lean, excel, minitab, conferences)	8	3	24	Terrie	Complete
7	Recognition (woohoo, employee of the month, huddles, PI meeting)	10	10	100	Gina	Complete
8	Fun Friday	3	10	30	Jen	Complete
9	Different types of activities to appeal to others	7	7	49	Kelli	In-progress
10	Annual retreat	7	3	21	Jackie	In-progress
11	PI weekly meetings	8	9	72	Jackie	Complete
12	Breakfast/pot lucks	10	7	70	Jen	Complete

Impact	HIGH = 10 = >80% certain will fix the problem; Little to no incentive or ability to work-around the solution without detection
	MED/HIGH = 7 = 60-80% certain will fix the problem; Little incentive or ability to work-around the solution without detection
	MEDIUM = 5 = 40-60% certain will fix the problem; Work-arounds can be detected
	MED/LOW = 3 = 20-40% certain will fix the problem; Work-arounds can be detected in some cases
Effort	LOW = 1 = <20% certain will fix the problem; Hard to detect compliance
	HIGH = 1 = Not exactly sure how to get the skills we need – will probably take over a month
	MED/HIGH = 3 = Have an idea of what resources are needed – Will take approximately 1 month
	MEDIUM = 5 = Authority is just a level or so above us – we can get this done within a couple of weeks
	MED/LOW = 7 = Authority is just a level above us – we can get this done less than a couple of weeks
	LOW = 10 = Within our authority – we can leave here and implement

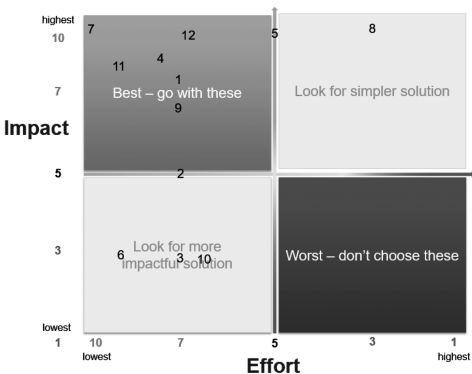


Figure 2. Four square: Impact-effort matrix. After identifying a problem, assess the effort and impact for each solution. Place the solutions in the diagram according to the assessments using a label. Above is an example of identifying an issue with program engagement and possible solutions using an Impact-Effort Matrix from the American Society for Quality. Solutions in the upper left-hand quadrant yield the best return and should be considered as first steps in an action plan. Template from “Quality Tools” with permission by American Society for Quality, n.d., from Learn about quality: <https://asq.org/quality-resources/quality-tools>

There can be a wide range in number of PI personnel based on size of program. A ratio that has worked well for our program is one FTE PI RN to 1,000 patients maximum. This has resulted in 30-day loop closure on a consistent basis as well as 100% chart review for our facility (versus review with only major safety events). It is important to look at program goals and align the PI work with each of those goals. If you have several individuals, divide and assign the work to individuals based on team members' strengths and backgrounds. This practice allows for members of the team to become proficient within a given injury pattern and serve as the dedicated contact person for questions or PI initiatives.

The PI staff should receive initial and ongoing education of key program data requirements and outcomes improvements and tracking. Helpful resources include courses offered by the Society of Trauma Nurses, such as Trauma Outcomes and Performance Improvement Course (TOPIC) and the Optimal Trauma Center Organization And Management Course (OPTIMAL). The PI staff should complete registry training to ensure a thorough understanding of not only the process but also the data dictionary.

Clear expectations for PI RNs should be set around how the PI work is done within the tracking module of your registry software. Assignments should be clearly delineated for various teams, projects, and organizational committees. Audit filters should be clearly defined, ensuring consistency between clinical coordinators and minimizing extraneous filters. This allows for more focused reporting from the trauma registry PI module. Schedule regular team meetings to review charts in order to promote standardization and gain consensus on how to document outcomes. A report out calendar with assignments should be kept to keep track of assignments and what the program is specifically measuring.

The ultimate goal of all PI is to reduce or eliminate the chance of a negative or unplanned outcome from occurring or reoccurring. It is imperative that all PI team members are able to answer the statement "future similar patients are less likely to have this problem because" When the PI team is able to demonstrate how an intervention directly impacts data and shows sustainable outcomes, true loop closure occurs.

Projects should be well recorded for all PI work, including meeting minutes, quality metrics, root cause analysis work, and PDSA cycles. A simple way to capture these initiatives is using the same Lean principles set forth in the Define, Measure, Analyze, Improve and Control process. A simple document, such as an A3 format (see Figure 3), can be used to outline the problem, goals, root cause, and implementation steps.

Research Opportunities

Research is a critical component to drive continuous improvement through generating new knowledge (ACS, n.d.-a). Establishing research as a priority for your organization and designating a lead to drive research initiatives is essential to ensure that research program requirements are met. It is essential to have an individual with advanced training (e.g., Doctor of Nursing Practice, PhD-prepared nurse scientist, or researcher) in research and evidence-based practice principles designated to the research priorities. A successful model for identifying and driving research initiatives is the integration of the clinical nurse specialist role into the trauma program, also filling the roles of expert practitioner, educator, and consultant (Howard & Thorson, 2008).

A clear process for identifying, outlining, and performing research initiatives based on current data and resource consumption must exist, including the process for ensuring human subjects protection through such venues as an institutional review board. This can be accomplished through a structured hospital research committee that can also partner with a residency program and engage other specialty areas with similar research interests (e.g. orthopedics, neurosurgery). Pursue involvement in multicenter studies to contribute to the larger body of science. Based on successful research or PI initiatives, abstracts and manuscripts to professional conferences and organizations should be a priority and submitted frequently.

Outreach and Education

Building on the other key elements, internal data and stakeholder engagement can be used to understand current state. Using this information, potential outreach and educational opportunities should be identified. Based on results, action plans should be developed with key stakeholders.

Prehospital personnel play a vital role in the care of the trauma patient, and efforts by first responders often determine patient outcomes (ACS, n.d.-a). When navigating relationships with EMS, it is important to have a regional liaison that has a pre-established relationship with EMS and prehospital agencies. This relationship facilitates understanding of the level of education of prehospital personnel and how the trauma program can support outreach and educational programs (Gregory, Walker, & Young, Ralchenko, 2018). Concurrent chart review with real-time feedback to EMS is highly valued, and trauma program leaders can gain a good understanding and relationship with EMS through attending prehospital peer reviews. Sending routine data reports to EMS to identify what is expected within their documentation elements is valued and a necessary component to ensure completion of registry elements. Once programs begin sending information, EMS will begin to seek data for their own PI and can provide closure to challenging patient cases. Similar

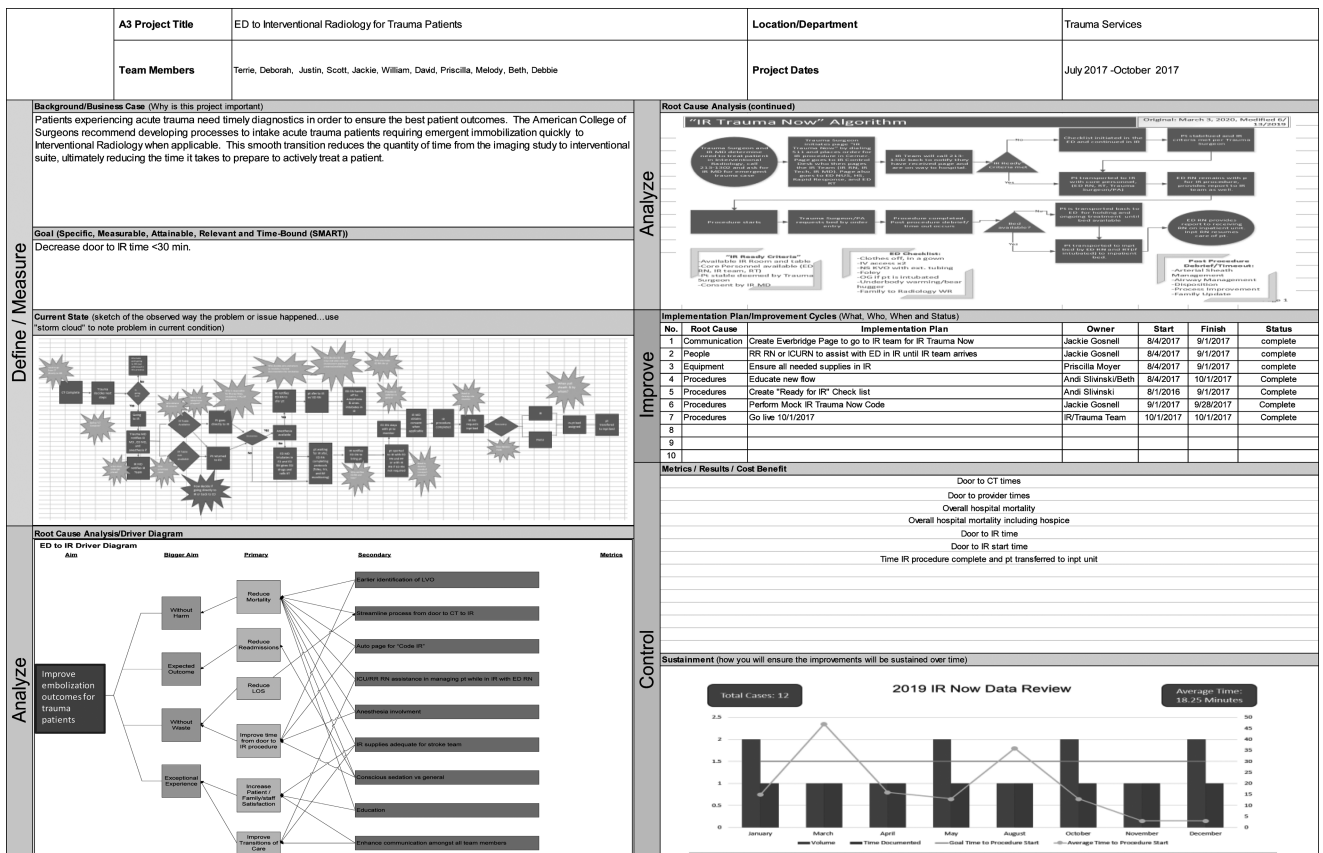


Figure 3. A3 report. This is an example of an A3 report outline in which authors were outlining the process used to improve the time to interventional radiology for trauma patients. The A3 report can be used to track performance improvement through defining or clarifying problems, suggesting potential solutions, and recording results of improvement activities by creating a visual storyboard. Template from “Quality Tools” with permission by American Society for Quality, n.d., from Learn about quality: <https://asq.org/quality-resources/quality-tools>

strategies can be enacted with regional referring hospitals, using real-time feedback and routine data to inform their clinical practice and establish PI efforts.

Specific to Level I or Level II trauma centers, using a PI FTE focused on outreach is beneficial. This individual reviews all prehospital opportunities and becomes the trauma liaison to the region, sharing a view of both organizational and community needs to look for opportunities to bridge the gaps between the two. Having a robust regional trauma advisory committee and peer review process that includes case presentations, trauma center goals, and routine data can be an effective bridge for the regional outreach position. In addition, prehospital and regional referring facility needs can be identified by this individual through surveys, frequent calls, touch points, letters, drop-ins, and public relations efforts. Other key elements of the outreach and education role are offering education experiences that are highly valued and often difficult to obtain, such as TNCC, Advanced Trauma Life Support, Rural Trauma Team Development Course, Trauma Care After Resuscitation, ATCN, Prehospital Trauma Life Support, and other monthly virtual and simulation opportunities.

The work of the trauma program should not stop at the time of discharge. Outreach and education opportunities also exist for patients and families using the Trauma Survivors Network structure to provide support and services to patient and families in need during their recovery from a serious injury (American Trauma Society, n.d.). Monthly group meetings can be helpful for trauma survivors and families, providing an opportunity for open communication to share struggles with survivorship. In addition, real-time referrals can be made for patients who remain hospitalized to establish this relationship early, offering respite and a listening ear to patients and families who learn to struggle with posttrauma life.

Injury Prevention

Injury prevention is another core component of the trauma program and often takes a dedicated FTE for Level I or large Level II trauma centers. After analyzing internal data for top mechanism of injuries, programs can be developed to address these mechanisms of injury to potentially decrease future occurrences. A dedicated injury prevention coordinator can create and hardwire community partnerships

(e.g., schools, police, highway patrol, safe kids) as these are essential in a successful injury prevention program. Involving local agencies in injury prevention plans solidifies community relationships and fosters collaboration.

Empowering the injury prevention coordinator to lead the efforts has resulted in several well-established and significant programs. Building on community relationship, our injury prevention coordinator has partnered with local EMS, fire, and law enforcement to train more than 7,000 community citizens in Stop the Bleed principles (including nearly all local school system teachers). In addition, we used falls data to identify trends in increased waterfall accidents within our tourist area and partnered in a waterfall safety campaign, ultimately reducing waterfall events by 41% over a 3-year period. Collaborating with state-distracted driving initiatives, we have offered a program to teen drivers to reduce events related to distracted driving with a 75% reduction in drivers or passengers being killed or seriously injured within our county over the past 3 years (NC Vision Zero, 2020).

Establishing plans to provide community booths, participate in health fairs, develop educational symposiums, and promote national awareness days are all viable strategies to promote injury prevention efforts and further impact opportunities identified within program data. Although not required, volunteer engagement is instrumental in spreading injury prevention messages and helping deliver successful programs. All injury prevention programs should be evaluated for effectiveness and outcomes specifically related to the targeted population.

Survey Readiness

The pinnacle for program sustainment is achieving and maintaining a successful verification or designation survey. Establishing a “living” hospital survey questionnaire, such as a prereview questionnaire or state request for proposal document equivalent (depending on verification or state designation organization is seeking) and updating as processes change throughout the hospital, is essential to maintain the pulse on the program. This requires trauma program leaders to constantly measure quality metrics so as not be surprised when time to fill out survey questionnaires.

First and foremost, an organizational commitment to the trauma system should be drafted, typically in an annual commitment letter from the board. Internal meetings with key stakeholders should be scheduled regularly well in advance of the survey to ensure that participants are well informed of the process, understanding what is relevant to their department, and what is being measured and reported so as to ensure no surprises during the survey. Ahead of survey, establish a timeline that outlines the steps of what needs to happen prior to survey. This should be driven by the program gap analysis and impact–effort grid to understand the scale of project. Develop a tree diagram

(see Figure 1) to ensure adequate resources and plans in place for results of the gap analysis. The ACS and state regulations may be different; ensure that action plans address both based on level of survey. Using the previously outlined principles for recording PI work, be organized in the approach to show process readiness, designating sections for each arm of the program, and ensuring chart legibility.

CONCLUSIONS

As Henry Ford once stated, “coming together is the beginning, staying together is progress, and working together is success” (1863–1947), it takes a dedicated multidisciplinary team to achieve great results. Using these foundational elements, we have grown our program to 24.4 programmatic FTEs and have been able to achieve, exceed, and sustain top metrics across state and national benchmarks in multiple areas. Although difficult to quantify, with additional program support, proactive PI can occur at multiple levels throughout the program on a regular basis. This can result in decreased adverse events and improvements in patient and community outcomes.

The American College of Surgeons Committee on Trauma (n.d.) summarizes the goal best in saying:

the ultimate vision is to make our trauma system a continuously learning health care system, one in which science, informatics, incentives, and culture are aligned for continuous improvement and innovation, with best practices seamlessly embedded in the delivery process and new knowledge captured as an integral by-product of the delivery experience.

Establishing a successful trauma program takes substantial leadership support at all levels and a deep understanding of program needs and expectations. Foundational to program improvements is the engagement of key stakeholders in not only improving outcomes for patients but also program success. Just as in bedside trauma resuscitation, program development and growth is a team effort and takes a village to achieve sustainable high-quality outcomes for the trauma patient. Using the outlined building blocks for program development and sustainability, a successful trauma program can be achieved and maintained.

KEY POINTS

- Despite accreditation structures, currently there is no standardized pathway for developing and fostering program growth.
- Many foundational elements can pave the way for a successful program and ensure survey readiness.
- Developing and growing a successful trauma program require commitment throughout all levels of the program and the organization.

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