

Team-Centered Care after Trauma Patient Death: Promoting Healers' Healing by Humanizing Our Roles

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ABSTRACT

Introduction: Recurrent exposures to adverse patient events, including death, affect all members of the care team and can have long-term effects on clinician performance, personal well-being, and patient safety. Recognizing the impact of patient deaths on care teams is essential to mitigating potential risks of increased clinician burnout. We share the outcomes of a three-month pilot wellness intervention implemented at a busy academic hospital, directed explicitly toward resuscitation care teams managing patients who die from traumatic injuries.

Approach: A collaborative group from Stanford's Trauma Surgery, Emergency Department (ED), and well-being leadership developed an integrated workflow to connect with care team members after a resuscitation ending in patient death. Our 4-pronged approach included 1) an immediate pause and 2) a defusion session, 3) a direct email communication to extend peer support and mental health resources, and 4) an invitation to monthly grief counselor-facilitated healing sessions. Engagement was measured based on email responses and healing session attendance. At 3 months, 8 trauma mortalities were recorded, with 120 corresponding email communications sent to care team members. The average event-to-distribution time was 84 hours (SD = 52.9 hours). A total of 18 unsolicited positive email responses were documented, in addition to the reception of verbal in-person feedback. Three monthly counselor-facilitated healing sessions occurred with 15, 10, and 9 individuals in attendance, respectively.

Discussion: Trauma-associated death is not uncommon, yet it often occurs without organized support systems for care teams. Our 4-pronged approach demonstrated the feasibility and considerable interest of medical professionals in a team-based and institution-driven effort to streamline resources and create spaces for facilitated peer-to-peer discussions. Further investigation is needed to understand the sustainability of offering consistent opportunities for healing support across all healthcare professions.

INTRODUCTION

Resuscitations often occur in highly volatile, uncertain, complex, and ambiguous (VUCA) environments [1]. Adverse events, including patient death, are common in the Emergency Department (ED) and trauma surgery and have cumulative effects on care team members [2, 3]. Adverse events in VUCA environments lead to vicarious trauma or second victim phenomenon [1, 2, 4]. Vicarious trauma, or second victim phenomenon, refers to the tremendous impact a patient's outcome (including death) can have on those involved in their medical care [4]. Vicarious trauma may result in feelings of guilt and personal responsibility among care team members [5]. The impact on care team members due to recurrent exposures to vicarious trauma may result in prolonged emotional and

physiological stress worsened by an increased risk of self-isolation, feelings of inadequacy in delivering care, and subconscious "reliving" of the traumatic event [6, 7]. These internal factors often go unrecognized and continue to build, eventually affecting clinicians' self-confidence and clinical performance [8, 9]. Impacted care teams carry the psychological and cognitive remnants of vicarious trauma, which over time may extensively influence both professional and personal aspects of their lives [10]. Repeated exposures to vicarious trauma without acknowledgment of impact and space for processing compromise patient safety, cause declines in clinician wellness and well-being, and contribute to clinician burnout [9, 11].

The prevalence of burnout approximates 50% of clinicians across specialties and has risen over the past decade [10, 12]. Loss of confidence, stress, and increasing pressure to avoid

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adverse outcomes negatively affect subsequent patient cases, and these, as well as burnout, can lead to increased medical errors [3, 6]. This impacts patient safety, quality of care received and perceived by patients, and professionalism among clinicians [8]. Access to resources for learning how to cope with adverse events could improve clinician wellness and help with early burnout prevention efforts [13].

Despite the known risks of vicarious trauma, acknowledgment of this experience rarely occurs until the consequences are already evident [14]. This makes mitigating the effects of vicarious trauma challenging, with a lack of consistent or readily attainable and immediate support being a critical factor [15]. Furthermore, lack of access to appropriate support, resources, time, and space for event defusion increases clinician distress and burnout [16]. Defusion can be defined as a brief period of time, typically 15 minutes or less, after a resuscitation or similar occurrence as a designated moment for emotional processing of the event [17]. Although similar to “debriefing,” defusion sessions are less structured and are intentionally limited to individuals directly involved in the event; whereas debriefing may involve more facilitated discussion and additional personnel [17, 18].

Current investigations into the effectiveness of long-term resources for support are limited due to a lack of standardized reporting measures and the variation in resource sustainability between institutions [19]. Literature on wellness interventions in healthcare environments indicate an emphasis on visible and involved leadership or management along with space for feedback and multi-level engagement efforts [19]. Training, resources, and institutional support are critical to recognize and take steps toward mitigating the impact of vicarious trauma [20].

Pilots serve as important steps in exploring recruitment and training of teams to integrate designed interventions into existing routines that can be retained if proven feasible [21]. We examined the feasibility—determined through intervention acceptability, feedback, and ease of workflow integration—of a 4-pronged approach to address vicarious trauma in a busy academic hospital. These elements included: first, a pause immediately after a trauma-related death; second, a facilitated defusion session within the hour after patient resuscitation and death; third, a targeted outreach to all care team members offering support and resources within 72-hours of patient death; and lastly (fourth), a monthly healing session facilitated by trained grief counselors and a well-being leader (**Figure 1**). Our goal was to recognize and acknowledge the impact of caring for trauma patients who die despite resuscitation. We aimed to explore the feasibility of team-based, institution-driven support and outreach to all care team members potentially impacted by vicarious trauma.

METHODS

This was a three-month interdepartmental collaborative project to address vicarious trauma in trauma surgery and emergency medicine teams. Initial phases of this project were proposed by the well-being leadership within the Stanford Department of Surgery in collaboration with the Section

of Acute Care Surgery, our Trauma Program, and the Department of Emergency Medicine. Our team invited perspectives from attendings, fellows, residents, clinical psychologists, nurse managers, and nurse education specialists from these departments. We identified a need for a formal wellness intervention targeting vicarious trauma and trauma-related death to disseminate available peer support and mental health resources.

Audience

The target audience for this feasibility pilot was care team members involved in the resuscitation of trauma patients who died in the ED or operating room from their traumatic injuries. Clinicians included attending physicians, fellows, residents, medical students, advanced practice providers, and other healthcare workers (i.e., clinical social workers, case managers, respiratory therapists, registered nurses, ED technicians, operating room staff, and pharmacists).

Workflow

The pilot workflow was constructed and curated using a Plan Do Study Act (PDSA) methodology; this iterative process is used to identify an aim (Plan), establish a workflow (Do), design an intervention (Study), and implement the workflow in cycles to strategically assess outcomes and potential for improvement (Act) [22]. The pause and defusion sessions of the 4-pronged approach were expected to happen in situ. Conference and faculty meeting announcements, emails, posters, and QR codes were used to disseminate intervention information. The third part of the intervention utilized emergency medicine and trauma surgery nurse care coordinators to identify trauma-related deaths in the ED or operating room. All team members involved in the patient’s care were abstracted from the patient’s medical record. Each team member on the list received a personalized email (communication document) with an attached peer support and mental health resources one-pager (see **Appendix B**), a \$15 coffee card to encourage taking a personal moment of reflection or to invite a colleague to reflect and debrief, and subsequently, an invitation to attend monthly virtual healing sessions facilitated by a grief counselor and a well-being leader. The project leaders were copied on the emails, and the general surgery resident (CA) on the project team personally contacted each resident involved in the event via text message to further personalize peer support for trainees.

Immediately After an Event

Trauma and Emergency Medicine attendings were provided instruction, including a sample walk-through, on facilitating the pause and defusion session after patient death despite resuscitation.

Internal Communication

After every trauma-associated patient death, the ED and trauma program manager nurse coordinators verified a complete roster of care team members with the charge nurse during the shift based on the patient’s medical record. Care team members were encouraged to notify our team if any colleagues were inadvertently missed and not included in the initial communications.

Communication Document

An e-mail communication was developed to acknowledge the impact of vicarious trauma, including the potential emotional burden placed on the care team, and provide an incentive to encourage reflection and peer support, along with disseminating Stanford support resources (Appendix A). The personalized communication document was carefully reviewed to include all clinical roles involved in trauma patient care. The communication was sent with the goal of reaching individuals within 24-72 hours of patient death (as evidence suggests this is a critical time frame to extend support [23, 24]). Included in the email, recipients were asked to acknowledge receipt of the communication and responses were documented (Table 1).

Table 1: Communication Efforts and Response Tracking

Trauma Patient Death Event	Event to Email (hours)	Number of Care Team Members Emailed	Number of Unsolicited Email Responses from Care Team Members
#1	72	15	2
#2	24	16	4
#3	48	14	2
#4	192	11	1
#5	120	14	3
#6	96	15	2
#7	72	15	3
#8	48	20	1
Total: 8	Average (SD) 84 (52.9)	Total: 120	Total: 18

Peer Support and Mental Health Resource Document

High-yield peer support and mental health resources available at Stanford specific to clinicians and healthcare workers were collated into a single document and were included in the initial email communication. This document identified and summarized contact information unique to the role of each team member (ideally to improve accessibility and decrease barriers to available institutional resources). Resources outlined in this document included navigation links to emotional support, collegial support, role-specific guidance, and available hotlines for immediate support (Appendix B).

Healing Sessions

Included in the communication document was an invitation to monthly online healing sessions facilitated by professional grief counselors. Sessions were open to all faculty and staff of Stanford Medicine.

Revisions to Workflow

Two PDSA cycles were completed during the pilot timeframe, the first in the initial 1.5 months, and the second shortly thereafter, following a workflow evaluation. The engagement was measured by tracking email response acknowledgment from recipients and monthly healing session attendance. In-person verbal and email feedback were collected, reviewed, and implemented into workflow revisions.

IRB status

This pilot was considered an evaluation of a quality improvement project and was deemed exempted from IRB review.

APPROACH

The first PDSA cycle spanned from the initial launch date to halfway through the pilot. Six trauma patient deaths were recorded during this first cycle, and 85 emails were sent to care team members (Table 1). The average time from an adverse event to email distribution was 92 hours (standard deviation = 59.6 hours). This accounted for time spent confirming each care team member involved from the completed medical records and tracking accurate email addresses for each person on the roster. We received 14 unsolicited positive email responses within one week of initial contact and several in-person comments throughout the first cycle (Table 2). Our project team's surgery resident (CA) received a 100 percent response rate to the personal peer support text messages sent to each resident involved in the patient's care. Text messages were personal and peer-to-peer yet did not disclose patient identifiers in compliance with the Health Insurance Portability and Accountability Act (HIPAA). Two healing sessions were hosted during this first cycle, with 15 and 10 individuals in attendance, respectively (Table 3). Two grief counselors facilitated each session with at least one well-being leader. Several care team members verbally expressed gratitude for having an established time to reflect, defuse, and process with trained professionals and peers. Clinical roles and professional specialty were tracked for documentation on those reached by the intervention with the outlined workflow (Table 4).

Table 2: Excerpts of Email Responses from Care Team Members

Clinical Role	Response
Nurse	"Thank you for this email and resources."
Nurse	"Thank you for the gift card and for providing support and resources. I appreciate it."
Resident Physician	"I received the email, thank you. This is a wonderful and much needed wellness project."
Attending Physician	"Thanks so much for sending this. What a great project."
Attending Physician	"Thank you so much for the email and the resources. I feel very well taken care of as part of this group. I particularly appreciated Dr. A going out of his way to check in with me on shift this weekend regarding this case. Fortunately, I have some good outlets and am feeling well supported, but truly appreciate this effort and think it's an essential element of maintaining an effective and healthy trauma care team."
ED Technician	"Good evening I acknowledge this email, thank you so much, really made the start of my shift. Thank you."
Social Worker	"Thank you. I have reviewed the email. Appreciate the acknowledgement and support."
Respiratory Therapist	"Thank you for checking in after our recent trauma death in E.D. I have discussed this experience with a few supportive coworkers who were also a part of the responding team. I will reach out if or when I need support while processing the work we do here. Thank you for taking the time to check in with us. I appreciate the supportive culture here at SHC, it's a great place to work."
Pharmacist	"Thank you so much for the email, kind words, and gift certificate."
Pharmacist	"Thank you for this email and allowing these resources to be available to pharmacy team members in the ED; I'll make sure to share them with our pharmacy residents and learners as well. Thank you again for reaching out."

Table 3: Healing Session Attendance by Profession

Session Number	Total Attendance	Faculty	Nurse	Social Worker	Chaplain	Unknown	Grief Counselor
#1	15	4	8	0	0	1	2
#2	10	1	3	1	1	0	2
#3	9	2	5	0	0	0	2

At 1.5 months, we evaluated workflow impact and revised efficiency efforts. Feedback from recipients indicated that the peer support and mental health resources document was valuable yet overwhelmingly long to read. Therefore, we condensed the document into one page, highlighting the top resources, and provided an external link to expanded resource descriptions organized by clinicians and healthcare workers (Appendix B). We also received several suggestions to discontinue the inclusion of the \$15 enclosed coffee card as it unintentionally created a perception of incentivizing exposure to patient death. Upon careful consideration, the team terminated the coffee card aspect of the pilot. Based on attendance and positive comments from the first two healing sessions, we added the monthly facilitated healing session information to the initial email communications (to directly reach impacted individuals and lower the threshold for accessing the link to the session). The timeline from adverse event notification to email distribution was evaluated and reduced to a critical impact period of 72 hours or less during the second half of the pilot (Table 1).

The second PDSA cycle spanned the remaining half of the pilot. Two additional trauma-related deaths were recorded, bringing the total count to eight events over the three-month intervention (Table 1). A total of 35 email communications were sent associated with these two events, and four unsolicited positive email responses were received within a week of initial contact. The average time from adverse event to email distribution was 60±17 hours—which was well within our 72-hour target. During this PDSA cycle, instructions for smooth hand-off of medical record confirmation between nurse coordinators were also established in case of potential coordinator absence. Our team’s surgery resident (CA) again received a 100 percent response rate to personal peer support text message communications, positive feedback from trainees across the board, and questions about whether this pilot could be expanded to other training sites where surgery and emergency medicine residents rotate. The last healing session had nine individuals in attendance. We continued to receive positive verbal in-person feedback as more individuals became aware of this initiative.

DISCUSSION

Providing team-based, institution-driven support to acknowledge and address vicarious trauma among care teams involved in trauma-related deaths is a feasible wellness initiative. Workflow integration is key for sustainable change. In our 4-pronged approach, workflow integration in situ with a pause and defusion session as part of resuscitation is achievable at a busy academic hospital. Identifying affected care team members for follow-up requires workflow integration with ED and trauma

Table 4: Communications by Clinical Role and Specialty

Clinical Role and Specialty	Number Communications
Advanced Practice Provider	1
Anesthesiology Attending	1
Emergency Dept Technician	12
Emergency Medicine Attending	10
Emergency Medicine Resident	17
General Surgery Attending	7
General Surgery Resident	15
Registered Nurse	46
Operating Room Lead	1
Pharmacist	3
Respiratory Therapist	2
Social Worker	5
Total	120

surgery nursing or other care coordinators. Email outreach provides asynchronous access to curated peer support and mental health resources. Calendar integration and cadence provides easy access to opt-in facilitated healing sessions with trained grief counselors and well-being leaders. Direct personal text messages (to resident physicians in this pilot, for example) offers an additional layer of peer support.

Streamlining the delivery of resources enhances accessibility and lowers the activation energy for clinicians and healthcare workers experiencing vicarious trauma, allowing them to engage according to their needs, availability, and comfort level. Clinicians and healthcare workers may be impacted differently by traumatic events and may not feel ready to discuss the emotional weight of a patient’s death; providing several methods of acknowledging vicarious trauma experienced can be powerful [25, 26]. Although the coffee card was meant to encourage taking a personal moment or debriefing with a colleague, an unintended perception of “reward” for experiencing patient death was discerned by study participants. On the contrary, providing various forms of support without monetary incentives seemed valuable to participants as stand-alone entities.

We found that recognizing vicarious trauma was significantly valuable among impacted care team members. Many individuals expressed comfort and appreciation for this team-based, institution-driven wellness initiative. The positive feedback was drawn from a multimodal approach to acknowledging vicarious trauma and providing support. Near peer in-person and text message check-ins were also received well, although they were not initially part of our formal intervention, requiring further investigation for sustainability. Additionally, those providing support may experience vicarious trauma, increasing the need for awareness on the topic [27]. However, this pilot did not explore the potential effects on peer supporters. Beyond this pilot, there is a critical need for a streamlined long-term workflow integration to address vicarious trauma in VUCA environments.

Designing a regular cadence for healing sessions led by trained grief counselors and a well-being leader(s) was another valuable aspect of this pilot. Directly linking individuals with opportunities to attend healing sessions created a blanket normalization of safe spaces for group reflection and peer support. Comments from healing session attendees revealed a need for a more widespread reach of these discussions among care team

members who may not otherwise feel supported. Monthly healing sessions were scheduled to continue beyond the pilot's conclusion.

LIMITATIONS

The intervention progressed on a relatively short, three-month timeline which may have reduced the ability for understanding true sustainability. Moreover, the intervention is lacking long-term follow-up assessment concerning the impact on healthcare burnout or professional fulfillment. We also did not have a formal way to track email communication interactions. We did not study the impact of this intervention on professional fulfillment, engagement, or burnout measures. As mentioned above, this pilot did not explore the intervention-based effects on peer supporters themselves. Additions to this study would include a follow-up survey to gauge recipient perception of the workflow-integrated wellness intervention. Interviews or focus groups could also provide insights into improving access and utilization of available mental health resources and strategies. Since email response was the primary indication of receipt, another consideration would be implementing a formal tracking system to evaluate receipt and rates of opening messages and link utilization.

Future directions should consider the institutional investment for workflow-integrated interventions. Another important consideration is investigating whether this intervention increased peer support and mental health resource utilization. It would be interesting to study whether such an intervention positively impacts team dynamics after humanizing the roles of care team members. This includes using objective measurements of engagement and teaming to decipher benefit. If benefit is observed, this could contribute significantly to patient and provider outcomes as both engagement and team health have significant implications for both improving patient safety / patient care quality and decreasing healthcare worker burnout. Future directions may also include expanding this recognition and awareness of vicarious trauma beyond trauma patient deaths to other patient morbidity scenarios.

CONCLUSION

A 4-pronged, team-based, institution-driven support is feasible in a large academic center to address vicarious trauma. Workplace integration with a multimodal approach to peer support and mental health resources is critical for initial success. Further research is needed to explore streamlining each workflow to increase success and ensure sustainability.

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Appendix A:

Communication Document Template

Subject Line: On behalf of the Trauma & EM Collaboration

Dear [Name],

You were identified as a team member that helped care for a patient who died in the trauma bay. Being part of any trauma resuscitations, especially those that end with death, is tough and stressful. We have all been there. We are reaching out to acknowledge how challenging (on many levels) these cases are, and to thank you for your teamwork and care of this patient.

Research has shown the value of taking a break to connect with a colleague, peer, supervisor, or mentor to get support and process these experiences. We are piloting a well-being initiative that seeks to facilitate these conversations. We want to acknowledge the importance of the work you do to help injured patients. We also acknowledge the stress and vicarious trauma these experiences can create and support you in whatever capacity we can.

Should you need professional support whether it is because of this case or any other life stressors, please know there are resources to help: [link]. We are also including additional resources in the attached list.

Please acknowledge that you received this email.

Additionally, here is a link to the next KARA healing session on [Date] at [Time]: [Zoom link]

Thank you again for all you do for patients and colleagues.

In Community,

Stanford Trauma Program, Department of Emergency Medicine, and Department of Surgery
Wellness Group

This initiative is supported by Stanford BeWell

Appendix B:

Mental Health Resources Available to SOM & SHC Faculty and Staff

EMOTIONAL SUPPORT

WellConnect Confidential mental health referral and consultation service to facilitate timely access to counseling, stress management and coping skills, wellness coaching (including strategies to mitigate burnout), and mental health services. Open to all benefits-eligible SOM faculty, fellows and residents.

- Access this benefit at [\[email\]](#) or [\[phone\]](#)

COLLEGIAL SUPPORT

Physician Resource Network (PRN) Peer Support Confidential, independent, legally-protected collegial support and resources for life's inevitable clinical, professional and personal challenges. This program typically consists of 1-2 interactions and is available for all faculty, fellows and residents.

- Contact PRN Peer Support at [\[email\]](#)

RESOURCES DIRECTED TO NON-PHYSICIAN CLINICAL STAFF (APP's, NURSES, AND OTHERS):

- Help is here : [HealthySteps \[link\]](#) (requires SHC log in)

STANFORD EM/TRAUMA FACILITATED HEALING SESSIONS:

- Mar 1, 2023 04:00 PM
- Apr 5, 2023 04:00 PM
- May 3, 2023 04:00 PM
- Jun 7, 2023 04:00 PM
- Jul 5, 2023 04:00 PM
- Aug 2, 2023 04:00 PM
- Sep 6, 2023 04:00 PM
- Oct 4, 2023 04:00 PM
- Nov 1, 2023 04:00 PM
- Dec 6, 2023 04:00 PM

HOTLINES AND LIFELINES

- 988 and the National Suicide Prevention Lifeline
 - 988 has been designated as the new three-digit dialing code that will route callers to the National Suicide Prevention Lifeline (now known as the 988 Suicide & Crisis Lifeline)
 - The previous Lifeline phone number (**1-800-273-8255**) will always remain available to people in emotional distress or suicidal crisis.
- Local Suicide and Crisis Hotlines:
 - Santa Clara County: **(855) 278-4204**
 - San Mateo County: **(650) 368-6655**
- Stanford Vaden Health Services – Immediate Mental Health Crisis Assistance
 - For immediate mental health crisis assistance call **[phone]** any time, including evenings and weekends. A clinician will be available to speak with you, assess your situation and offer support and/or recommendations for follow-up.
- Crisis Text Line
 - If you wish to access support without speaking on the phone, you can access this volunteer-run text support line.
 - Text **HOME** to **74174**

For additional support and resources, please navigate to the pages linked below:

SOM Faculty Staff & Students: [Link to Additional Mental Health Resources Available to SOM Faculty and Staff](#)

SHC Faculty & Staff: [Link to Additional Mental Health Resources Available to SHC Faculty and Staff](#)

Non-Physician Clinical Staff (APP's, nurses, and others): [Help is here : HealthySteps \(healthysteps4u.org\)](#) (requires SHC log in)