1. Project Lead/Key Contact (name, email & phone number)

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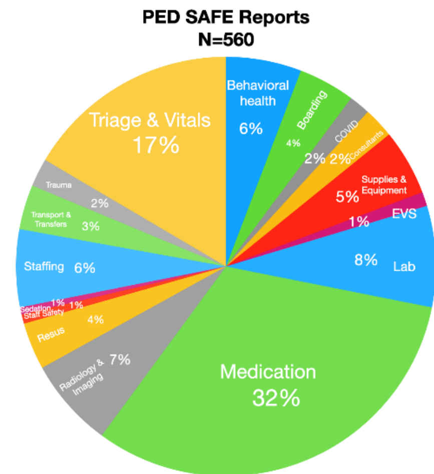
2. Why are you interested in participating in the Improvement Scholars Program?

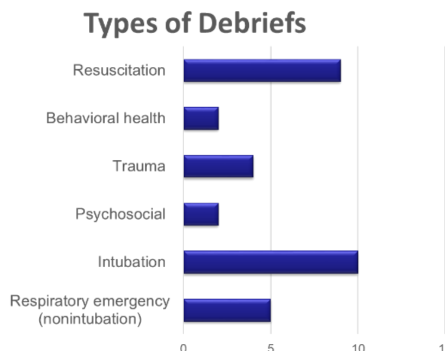
The UNC Institute for Healthcare Quality Improvement (IHQI) Improvement Scholars Program would offer me the opportunity to hone my skills as a physician leader in quality and safety. My background interest is in debriefing after clinical events. I have developed a clinical event debriefing program in our pediatric emergency department and could gain so much from the insight of clinical improvement mentors to ensure the program is meeting all of our QI goals, learn more effective utilization of data for patient care improvement, and use proven quality improvement methods to evaluate the program.

3. Which UNC Health improvement priority will your project address?
    - Preventing patient harm and reducing mortality
    - Building a culture of safety by reducing harm and increasing physician /team member collaboration and engagement in improvement and safety

4. What is the problem or gap in quality you seek to improve?

“Clinical events” are events that can lead to potential harm to either the patient or the health care providers caring for those patients in the pediatric emergency department. These events can include rare but distressing events such as cardiac arrest, intubation, and/or resuscitation involving immediate lifesaving procedures or interventions. Clinical events can also include events such as medication errors or delays or a violent patient compromising staff safety. Debriefing is a meeting held following a clinical event for the purpose of review and discussion of team performance, error identification, emotional response, and development of plans for the future. **Effective debriefing after resuscitations improves future patient care (1–4)**. The American Heart Association and American Academy of Pediatrics recommend regular post-event debriefings (3–5). **However, the majority of trainees do not receive formal training in debriefing. The lack of formal debriefing training makes it difficult to assure newly graduated attendings acquire adequate debriefing skills and experience** (1,2).





Jan 2024 SAFE report percentages Types of PED debriefs Aug 2020-March 2023 (#)

Standardizing and measuring the debriefing process while training and implementing structured debriefs post-clinical events in the UNC Pediatric Emergency Department will make a positive contribution to a hospital wide safety culture. This contribution will occur by increasing reporting of clinical events, identifying care deficits and generating changes to improve care, and ultimately improve perception of psychological safety for staff to reiterate a culture of safety.

5. Describe the patient population affected, scope, and impact of the problem
    a. What is the specific patient population your project will impact? All patients coming to the pediatric ED with a defined clinical event
    b. How many patients are in the population? UNC Pediatric Emergency Department currently sees around 20,000 children a year from all areas of North Carolina and serves as a Level 1 pediatric trauma center
    c. How frequently does the problem occur? Clinical events occur between 5-25 times/month
    d. What is the impact of the problem? ~30 SAFE reports are generated monthly in our unit which is one of the debrief triggers

6. What do you think are the underlying causes of the problem? Why do you think the problem is happening?

Development of a debriefing culture requires significant time and buy-in from a hospital unit: focusing on clinical events requires education on the concept of debriefing, ensuring a psychologically safe environment for staff, and allowing staff have the training and time to participate. Time, education and staff not seeing themselves as change agents are all components that can contribute to lack of a debriefing culture.

7. What is the history of improvement or attempted improvement at UNC Health? What work will *your proposed improvement build on?*

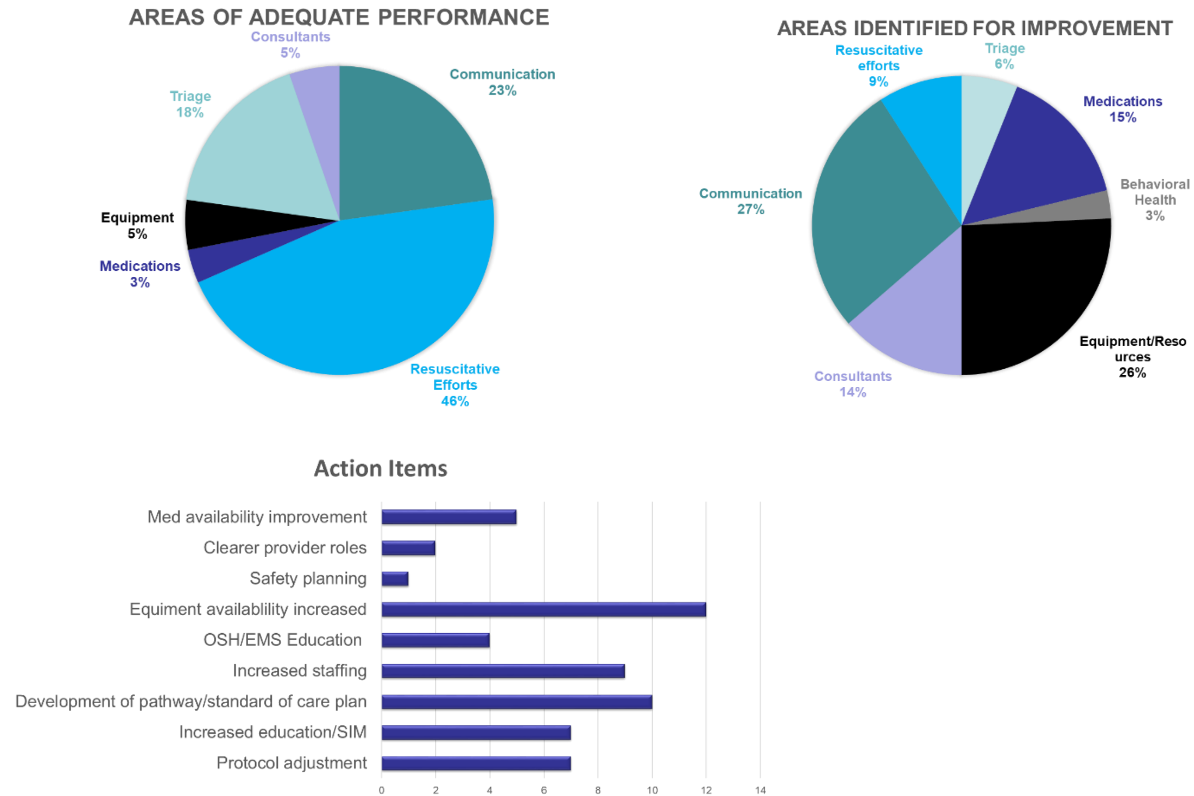
Currently, UNC Health has a robust morbidity and mortality (M&M) process in place which is department and hospital wide. Debriefing serves as an adjunctive first step towards this process and often can solve issues on a unit level without escalation to a full M&M.

We currently perform warm or cold debriefs after real critical events in the pediatric emergency department. Debriefs can occur directly after an event (hot), hours to days post-event (warm), or days to weeks later (cold). The benefits of a warm debrief include the ability to facilitate virtually, gather the team in entirety and allow for a facilitator to be present.

Currently, I facilitate virtual debriefs with our attendings, nurses, and residents who rotate through the emergency department. Faculty, staff and trainees are encouraged to submit patients as possible debrief candidates. We meet on an online platform and the team discusses the case. We track these debriefs, develop action items and monitor trends in our pediatric emergency department. These trends include what types of events are considered for debriefs, correlation of patient safety reports and debriefs, and how often an action item is brought up by teams. As action items are brought to fruition, we share this information with the PEM division in order to share our gains. For example, numerous debriefs brought up the need for easier accessibility to antiepileptic drugs in the emergency room for pediatric patients in status epilepticus. This helped contribute to increased availability in the PED Pyxis of Keppra (one of the mainstays in status epilepticus treatment). This aspect of the project will monitor the impact of debriefs in the pediatric emergency department on safety reports entered into the safety network and development and fruition of action items leading to safer care for our pediatric patients.

We have already began implementation of the debriefing program into our work flow in the pediatric emergency department.

Preliminary data August 2020-March 2023:



8. Please complete the "Measures Table". Please describe the anticipated outcome measure(s), 2-3 process measures, and one balancing measure. Please do not include more than 5 measures total.

Please see attached document.

9. What ideas do you have for changes that will result in improvement (your improvement strategy)?

Our improvement strategy will be multi-faceted. At this time, we only have one trained debriefing champion who is leading all debriefs. We will aim to facilitate a training program for core staff in the pediatric emergency department with the end aim of this training to have these staff feeling empowered to lead hot debriefs directly after clinical events. We will measure all elements of the debriefs (what type of providers and how many attended; whether all types of attendees participated; where the debrief occurred; length of debrief; recurrent themes; action item themes; action item completion; amount of "red/yellow/green" action items). Not only will this review give an objective look at the quantity of the debriefs and surface level data, it can also delve into deeper review with

analysis of learner inclusion and participation, psychological safety, evaluation of dedication to providing equitable care, team member increase in resiliency and decrease in attrition rate. We will survey the staff pre-and post-intervention with the AHRQ Hospital Survey on Patient Safety Culture to compare and analyze initiation of a Just Culture and psychological safety.

10. How has this problem has been addressed successfully elsewhere?

A structured program debriefing after clinical events has been implemented at numerous large academic centers with success. A meta-analysis of team-based clinical event debriefing showed improved effectiveness of teams whom debriefed versus those who did not (9). There is evidence debriefing programs have demonstrated improved return of spontaneous circulation, neurologic outcomes, hands-off compression times, and time delay to first compression in clinical cardiopulmonary resuscitation events (9). As noted above, the AHA and AAP strongly advocate for the use of debriefs after clinical events due to proven improved patient care (3-5).

11. How will Carolina Quality tools (Just Culture, SAFE reporting, team communication and teaming skills, huddles, and visual management boards) be used to support the work? Although use of these tools is not required, applications including them will be strengthened.

This work builds on existing Carolina Quality Tools of Just Culture, Safe reporting, team communication and huddles. Debriefs are the epitome of Just Culture with a focus on a non-punitive, team based approach to improving patient care. Safe reporting will continue to serve as a method to obtain debrief candidates alongside those cases brought forth by team members. As the debriefing culture is integrated, team communication and huddles will remain a key element of ensuring debriefs are initiated and action items are followed through to completion.

12. Please describe how your project addresses one or more of the 5 elements reflected in the Quintuple Aim for Health Care Improvement.

- Improved health
- Enhanced patient experience
- Enhanced clinician and staff experience
- Health equity
- Reduced costs

The project will address the UNC Health Improvement priorities of patient harm prevention and mortality reduction as well as address all five elements of the quintuple aim for health care improvement: improved health, enhanced patient experience, enhanced clinician and staff experience, health equity, and reduced costs. Evaluating performance during clinical events allows for development of action items to better care for future patients and improve their health and overall experience while encouraging health equity with discussions on barriers to the best care experience for all types of patients. The aim is also to allow staff to see themselves as change agents with control over their environment giving them the ability to provide the best quality of care and improve deficits they may come across all while improving efficiency which can lead to less waste of resources and cost overall.

13. Please describe the support and engagement you have from leadership for the work you are proposing. Please indicate leaders with whom you have consulted about this proposal.

We currently have strong leadership involvement in the project including the pediatric emergency medicine division chief (Dr. Cheryl Jackson) and medical director (Dr. Dan Park) and support from leaders in quality and safety in the children's hospital (Dr. Benny Joyner). Our team will be composed of these physician leaders as well as Meg Whitaker, CPEN, CNIII, one of our nurse leaders in the pediatric emergency department and Haili Gregory PharmD, our pediatric emergency medicine clinical pharmacist. The team above will be the initial champions: learning the skills of debriefing and leading the debriefs, encouraging debriefs after clinical events, and review and completion of action items.

14. Who will comprise the project team? List names and roles of team members, **describe how the project team will function and how the team's work impacts other teams/units and/or is impacted by other teams/units.** Successful improvement project teams are interprofessional, multidisciplinary, and often include patient and family members. Although not required, applications listing interdisciplinary co-leads (e.g., nurse and provider co-leads, or pharmacist and provider co-leads) will be strengthened. Access this link to learn additional helpful information about improvement teams.

The team will include the pediatric emergency medicine division chief (Dr. Cheryl Jackson) who will serve as project supervisor and medical director (Dr. Dan Park) who will serve as project sponsor and support from leaders in quality and safety in the children's hospital (Dr. Benny Joyner). Our team will be composed of these physician leaders as well as myself serving as the Day-to-Day Leader and Meg Whitaker, CPEN, CNIII, one of our nurse leaders in the pediatric emergency department and Haili Gregory PharmD, our pediatric emergency medicine clinical pharmacist. The team above will be the initial champions: learning the skills of debriefing and leading the debriefs, encouraging debriefs after clinical events, and review and completion of action items.

15. How will you ensure sufficient time to dedicate to the project over the scholar year? Although time commitment to the program varies throughout the year, Scholars may expect to spend at least 2 hours per week (with range from 1 hour minimum to 5 or more hours a week) on project-related activities.

My division chief and medical director have committed to allowing us time to complete these project including a reduction in clinical cFTE with inclusion of an academic day. We will have regular team meetings and work with nursing and pharmacy managers to ensure they have dedicated time to the project.

16. What factors do you anticipate will foster and hinder improvement?

Factors that will foster improvement in our project include buy-in which has already been achieved somewhat within our division, an interprofessional, multidisciplinary approach to the debriefs and their follow-up, and the potential support of the improvement scholars program.
Factors which could potentially hinder improvement could include bandwidth of the providers/stakeholders in an already stretched staffing model with high volume/high acuity patient care to have the time and ability to participate and follow up with debriefs, unit and department broader issues which may not be easily "solvable" from an action item point of view.

17. What ideas do you have for sustaining the improvement at the end of the Improvement Scholars Program?

We hope to maintain sustainability of the project by empowering our core staff to ask for and lead debriefs, continued integration into the daily workflow, and a concrete follow up plan for action items. Once the culture has been integrated into workflow, our team can more easily facilitate debriefs and have a system in place to follow up on action items.

18. Implementation Timeline

Our timeline will begin in October 2024 with our first PDSA cycle broadly advertising the concept, pre-survey of core staff to determine exposure and training key champions. January 2024 will include extension of debriefing training to other core staff, implementation of a hot debrief option, and solidifying an action item follow up plan. April 2024 will include revisions based on prior cycles. July 2024 will focus on action item feedback to teams and resurvey of teammates to determine subjective influence on providers.

19. References

- 1. Zinns LE, O'Connell KJ, Mullan PC, Ryan LM, Wratney AT. National survey of pediatric emergency medicine fellows on debriefing after medical resuscitations. Pediatr Emerg Care 2015;31:551–4.
- 2. Sandhu N, Eppich W, Mikrogianakis A, et al. Postresuscitation debriefing in the pediatric emergency department: a national needs assessment. CJEM 2014;16:383–92.
- 3. Maestre JM, Rudolph JW. Theories and styles of debriefing: the good judgment method as a tool for formative assessment in healthcare. Rev Esp Cardiol (Engl Ed) 2015;68:282–5.
- 4. Wolfe H, Zebuhr C, Topjian AA, et al. Interdisciplinary ICU cardiac arrest debriefing improves survival outcomes*. Crit Care Med 2014;42:1688–95.
- 5. Zebuhr C, Sutton RM, Morrison W, et al. Evaluation of quantitative debriefing after pediatric cardiac arrest. Resuscitation 2012;83:1124–8.
- 6. Lopreiato JO. Healthcare Simulation Dictionary. Rockville, MD: Agency for Healthcare Research and Quality, 2016.
- 7. Patterson MD, Blike GT, Nadkarni VM.In situ simulation: challenges and results. In: Henriksen K, Battles JB, Keyes MA, Grady ML, editors. Advances in Patient Safety: New Directions and Alternative Approaches. Vol 3. Rockville, MD: Performance and Tools, 2008.
- 8. Epstein RM, Krasner MS. Physician resilience: what it means, why it matters, and how to promote it. Acad Med. 2013; 88:301–303.
- 9. Kessler D, Cheng A, Mullan P. Debriefing in the Emergency Department after Clinical Events: A Practical Guide. Annals of Emergency Medicine. 2015; 65:6; 690-698.

20. Letters of Support: Two letters of support are required. One from the project sponsor (defined below) and one from your supervisor. Submit both letters with the application.

See attached.