Nicholas Piazza ISP Application 03/13/2026

Project Lead/Key Contact

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Why are you interested in the Improvement Scholars Program?

Quality improvement has become the central thread of my current work and the area in which I am most eager to grow. My career has evolved into a set of complementary roles that sit at the intersection of bedside care, clinical documentation, and system-level performance, shaping my focus on improving how healthcare quality is delivered, measured, and sustained.

I practice clinically in Hospital Medicine, where I see firsthand how delays in recognition, gaps in prevention, and breakdowns in communication contribute to avoidable patient harm. In parallel, I serve as a Physician Advisor in Clinical Documentation Integrity with a focus on Patient Safety Indicators (PSI). Through this work, it has become clear that PSI-03—hospital-acquired pressure injuries—represents the most significant opportunity for improvement at UNC and is the only PSI on which we perform meaningfully below the national average. This role has reinforced how closely linked clinical practice and documentation are, and how addressing both in a coordinated way can drive meaningful improvement.

In addition, I am the principal investigator for a clinically focused quality improvement initiative in the Emergency Department centered on opt-out HIV and HCV screening. While this project has been a valuable hands-on experience in building partnerships and implementing change, it has also highlighted the limitations of an informal, experiential approach to quality improvement. As the scope, complexity, and number of stakeholders increase, it has become clear how valuable structured mentorship, formal methodology, and guided measurement strategies would be—particularly as I prepare to lead another, more complex improvement project focused on hospital-acquired pressure injuries.

Taken together, these experiences have solidified my commitment to quality improvement as a cornerstone of my career. The Improvement Scholars Program represents a natural next step by providing mentorship, structure, and methodological rigor to help me design, lead, and sustain high-impact improvement initiatives. Participation in this program would allow me to build on my existing work while developing the skills needed to successfully lead future projects of greater complexity and system-wide impact.

Problem Statement: What is the problem you are looking to solve?

Hospital-acquired pressure injuries (HAPI) continue to represent a meaningful patient safety concern at UNC, even after recent improvement efforts. The burden of HAPI is concentrated among patients with critical illness, prolonged immobility, and extended hospital stays, and reflects gaps in early risk identification, coordination across care teams, and documentation reliability. In FY24, UNC recorded 501 HAPI events, followed by a reduction to 441 events in FY25 after targeted interventions. Despite this progress, pressure injury rates remain above national benchmarks, and PSI-03 continues to be the only Patient Safety Indicator on which UNC underperforms. The UNCMC PSI-03 Rate Quartile Rank for FY25 = 94 O/E Ratio 1.89 compared to FY24 of 94 O/E Ratio 1.884. These findings indicate improvement is underway; however, preventable harm persists, and additional coordinated strategies are needed.

Importance Statement: Why is this project important?

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Why this project is important

Hospital acquired pressure injuries impose devastating impacts on both patients and hospital systems, affecting up to 3 million patients annually in the US with costs exceeding $26.8 billion and significantly increasing mortality, length of stay, and readmission rates. Beyond direct patient morbidity, pressure injuries are closely tied to public reporting, regulatory scrutiny, and financial penalties, making them a priority for health systems nationwide. For an academic public hospital system such as UNC, continued pressure injury events represent not only missed opportunities for harm reduction, but also a misalignment with institutional commitments to safety, transparency, and excellence in care delivery.

How will the improvement benefit patients?

The proposed work will improve patient care by strengthening the reliability of HAPI prevention by accelerating recognition and response when skin injury first develops. Early identification of high-risk patients, consistent application of prevention strategies, and clear escalation pathways will reduce injury severity and associated complications. Patients will benefit from fewer painful wounds, lower infection risk, improved mobility, and reduced length of stay. Improved diagnostic clarity will also ensure that care plans appropriately reflect underlying physiology when skin breakdown occurs in the setting of advanced illness. Building systems to improve our documentation around HAPI in patients with existing wounds will help draw attention to the wounds for providers amidst other clinical priorities to prevent progression.

What is the potential downside of this effort for patients?

Efforts to improve diagnostic accuracy must be balanced to avoid unintended consequences. One risk is overapplication of the diagnosis of acute skin failure, which—if used without appropriate clinical criteria—may obscure preventable injury and reduce vigilance around prevention.

Prevention frameworks must be implemented with clinical nuance, as overly prescriptive application may place patients at risk. Standardization is necessary for reliability, but one-size-fits-all approaches are rarely effective. This underscores the importance of individualized care planning, interdisciplinary review, and an approach that prioritizes bedside protection and treatment while documentation refinement occurs in parallel.

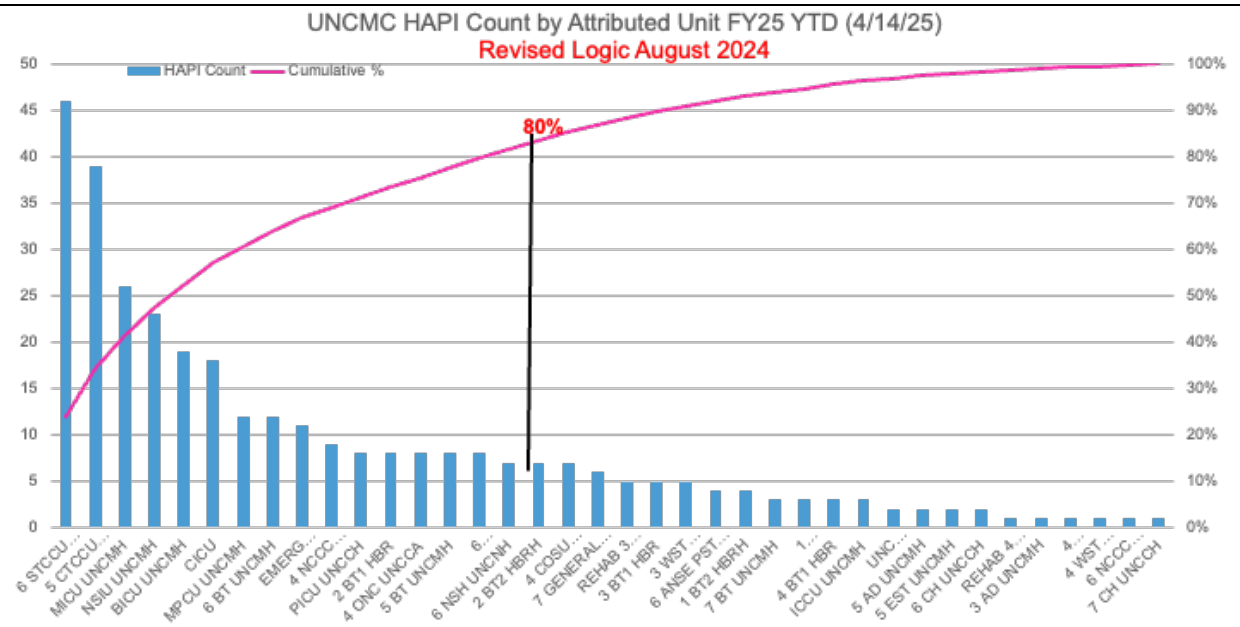
What background information supports this effort?

Both UNC's local data and the broader scientific literature identify hospital-acquired pressure injuries as a significant patient safety issue and reinforce the need for focused improvement efforts.

Local Data:

UNC formed the "HAPI Strike Team" in October 2024 to assess pressure injury data and form strategies to combat the problem. The FY25 HAPI End of Year Data (7/1/24-6/30/25) from the HAPI Strike Team's assessment demonstrates that HAPI remains a significant challenge – especially in the ICU settings. These data also demonstrate that pressure injuries are responsive to structured intervention, as evidenced by reductions achieved through targeted unit-based efforts in FY25[1].

The figure below (*prepared by S Quadri / HAPI Stike Team)* demonstrates that ICU settings account for the highest burden of pressure injuries, with five ICUs representing approximately half of all cases hospital wide.



Broader, Peer Reviewed Data:

Reported data in the literature also demonstrate that HAPIs represent a significant patient safety threat as well as substantial quality and economic consequences. These preventable complications affect approximately 3 million patients annually in the United States and are associated with increased mortality, prolonged hospitalization, higher readmission rates, and considerable healthcare costs[2-3].

Mortality is significantly elevated in patients who develop HAPIs. In-hospital mortality risk increases nearly threefold (adjusted OR 2.81), with 30-day post-discharge mortality elevated by 69% (OR 1.69)[4]. The DecubICUs study demonstrated a dose-response relationship between pressure injury severity and mortality, with stage III or worse injuries associated with an OR of 2.8 for death[5]. Complications from HAPIs contribute to an estimated 60,000 deaths annually in the United States[6].

Length of stay increases substantially with HAPI development. Hospital stays more than double from 4.8 days in patients without pressure injuries to 11.2 days in those who develop HAPIs[4]. This prolonged hospitalization is directly associated with increasing injury severity[2].

Economic costs are considerable, with HAPIs costing the U.S. healthcare system an estimated $26.8 billion annually[3]. The average incremental cost per HAPI is $21,767, with costs rising proportionally with injury severity[2]. Notably, a large-scale cost-effectiveness analysis demonstrated that comprehensive prevention programs for all inpatients was cost effective in >99% of simulations run yielding incremental cost-effectiveness ratios of approximately $2,000 per quality-adjusted life year[7].

Readmission rates increase by 33% within 30 days of discharge (OR 1.33), with similar elevations at 60 and 90 days[4]. Additionally, HAPIs are associated with 1.5 to 2 times greater risk of developing other hospital-acquired conditions, including pneumonia, urinary tract infections, and venous thromboembolism[2] - that in turn increase readmission rate, mortality, costs, and length of stay as well.

The global burden remains substantial, with pooled prevalence of 12.8% and hospital-acquired rates of 8.4% among hospitalized adults[8]. Evidence from implementation studies demonstrates that

multicomponent prevention strategies—including standardized interventions, multidisciplinary teams, designated skin champions, ongoing education, and sustained audit and feedback—can effectively reduce HAPI rates[6].

What organizational goals does this project align with?

This initiative directly supports UNC Medical Center's Board-level commitment to quality and safety by targeting preventable harm with measurable outcomes. Reducing hospital-acquired conditions aligns with institutional goals related to patient safety, responsible resource utilization, and performance on publicly reported metrics. As a public academic medical center, UNC's mission to improve the health of North Carolinians further strengthens the imperative to address pressure injuries through durable, system-wide solutions.

How has this problem been addressed successfully at UNC or elsewhere?

At UNC, the HAPI Strike Team has applied this model through focused work in priority units, combining bedside prevention, education, technology, and workflow redesign. These efforts have yielded meaningful reductions in harm and created a strong operational foundation on which additional improvement can be built. Nationally, pressure injury reduction has been achieved through coordinated, multidisciplinary strategies rather than isolated interventions.

Local Efforts – UNC HAPI Stike Team

The UNC HAPI Strike Team conducted a comprehensive systems-based review to better understand drivers of hospital-acquired pressure injuries and identify opportunities for improvement[1]. This work included multidisciplinary gap assessment, root cause analysis, and structured review of frontline workflows. Several system-level gaps were identified, including inconsistent communication across care teams, challenges with completing pressure injury risk assessments and documentation, limited availability and suboptimal use of prevention resources, and variable staff experience with essential aspects of pressure injury prevention, identification, staging, and treatment.

Root cause analysis highlighted operational and workforce factors contributing to these gaps. Competing clinical priorities often limits prevention efforts at the bedside, particularly in high-acuity settings. Nursing experience levels were frequently misaligned with patient complexity, and onboarding structures sometimes resulted in new nurses precepting other new staff, contributing to workflow drift and inconsistent adherence to standard practices. Training gaps were particularly evident in pressure injury prevention fundamentals and Wellsense bed utilization, with notable variability in overnight staff education. Additional contributors included unclear equipment troubleshooting pathways, inconsistent use of precepting checklists, limited visible leadership accountability at the bedside, and workflow inefficiencies related to supply and utility room layout.

In response, the Strike Team implemented a coordinated portfolio of unit-level and system-wide interventions focused on strengthening prevention reliability, standardizing workflows, and reinforcing staff education. On priority units, efforts emphasized improved compliance with dual-clinician admission skin assessments, more consistent turning and repositioning documentation, structured onboarding into Skin Champion training, expanded weekly skin rounds and audits, and enhanced collaboration with Wound Ostomy and Continence Nursing (WOCN) and Respiratory Therapy teams. Additional initiatives included installation of visual turn reminder tools, expansion of Wellsense superusers, standardized

offloading device ordering, patient education to reduce repositioning refusals, and structured learning activities for new staff.

System-wide interventions targeted documentation reliability, technology utilization, and organizational education. These included updated wound photography policies enabling timely bedside image capture, standardized wound documentation workflows with automatic WOCN consultation, implementation of acute skin failure diagnostic guidance, recurring Wellsense operational huddles, installation of a central Wellsense monitoring station, and integration of pressure injury prevention education into new employee nursing orientation. Collectively, these efforts represent a coordinated, interdisciplinary strategy to address systemic contributors to pressure injury risk and strengthen prevention practices across the institution

Literature Review - Successful Interventions

Review of the literature suggests that multicomponent care bundles are the most effective approach for preventing hospital-acquired pressure injuries, reducing incidence by 60-69% (pooled RR 0.31-0.40) compared to standard care[9-10]. Single interventions used in isolation are not consistently effective, emphasizing the critical importance of multifaceted bundled strategies[11-12].

Some of the components utilized in these bundled strategies include:

1.) Improvement in identifying at risk patients – Various validated tools exist to Identify at-risk patients such as the Braden Scale (https://www.mdcalc.com/calc/10038/braden-score-pressure-ulcers) or Norton Scale (https:// www.ahrq.gov/patient-safety/settings/hospital/resource/pressureulcer/tool). Using validated tools to identify at risk populations can help target interventions[3,13].

2.) Utilization of specified support surfaces: Advanced static mattresses or overlays (gel-infused memory foam, high-specification foam) are often utilized in patients identified as at-risk or with wounds. There is strong evidence that certain surfaces can reduce pressure ulcer incidence compared with standard hospital mattresses[13]. Reactive air surfaces, alternating pressure air surfaces, reactive gel surfaces, and Australian medical sheepskin all demonstrate effectiveness compared to standard foam[14-15]. Alternating pressure air surfaces are cost-effective for prevention[16].

3.) Promoting Repositioning and Mobilization: Efforts based on individualizing repositioning schedules based on patient weight, body habitus, and functional status can be effective in deterring HAPI and are optimal when compared to rigid q2 or q4 schedules[3,17]. Early mobilization, use auditory/visual reminders to improve adherence, minimizing shear forces through proper manual handling techniques, keeping the head of bed as level as possible, and angling wheelchair seats to reduce sliding are common practices aimed at reduction of pressure injures[3]. Repositioning is most effective when supported by pressure-mapping technology or patient positioning systems[11].

4.) Optimizing Skin Care: Maintaining skin hydration and cleanliness, particularly after incontinence events is an important aspect of pressure injury prevention. The American Family Physician recommendations on pressure injuries recommend use of pH-balanced cleansers (pH 5.5) rather than alkaline soaps (pH 9.5-10.5) and applying moisture barriers as needed[3]. Specifically, protective dressings should be applied to high-risk areas (sacrum, trochanters, heels) in conjunction with other preventive measures[11].

5.) Nutritional Support: Nutrition and wound healing are closely related – malnutrition is strongly associated with more advanced wounds and poor healing. A multifaceted approach to HAPI reduction often includes screening for nutritional risk and optimizing calorie and protein intake, though nutritional interventions alone have limited effectiveness in preventing pressure injuries[3].

6.) Patient / Family Directed Education: Caregiver and family education improves understanding and comfort but does not significantly reduce pressure injury rates when used as a standalone intervention[3].

7.) Documentation Optimization / Recognition of acute skin failure and ulcerations with etiology other than pressure: Pressure injury and acute skin failure can often be mistakenly interchanged or mislabeled in documentation—particularly in ICU populations. This reinforces the need for focused physician education and documentation support as part of prevention efforts[18-19.]

The evidence consistently demonstrates that comprehensive, multicomponent approaches addressing multiple risk factors simultaneously achieve the greatest reductions in hospital-acquired pressure injuries. Successful programs incorporate standardization of many of the interventions described above combined with documentation, multidisciplinary team involvement with leadership engagement, designated skin champions, ongoing staff education and training, sustained audit and feedback mechanisms, and system reminders for healthcare professionals[6, 11-13].

Reporting structure and leadership feedback

This project would report to the HAPI Strike Team / Prevention Council, ensuring alignment with existing governance and accountability structures. Feedback from this group has been consistent in recognizing progress while identifying remaining gaps—particularly in cross-team communication about wounds, consistency of education across disciplines, and accuracy of physician documentation. Leadership has emphasized the need to extend prevention beyond nursing workflows and more fully engage providers and documentation specialists in the effort.

Summary:

I am seeking IHQI support to further optimize pressure ulcer prevention, early identification, management, and diagnostic accuracy across the UNC Medical Center. Building on existing bedside interventions, this project will strengthen education around pressure injuries and acute skin failure, improve cross-specialty communication regarding wound management, and enhance documentation reliability.

This work will be accomplished through close partnership with the HAPI Strike Team to reinforce and expand effective bedside practices while exploring additional data-driven interventions; Identification of patients at highest risk for development of HAPI; Utilization of a tiered system of interventions based on a patient's risk profile; implementing huddles around patients with developing wounds; implementation of debriefs in patients who develop HAPI; development of Epic-based SmartPhrases and checklists to identify risk level and support accurate diagnosis, prevention, and management of skin injury; targeted education for CDI specialists and physician advisors on diagnostic criteria and PSI-03 inclusion and exclusion factors, including appropriate use of focused queries; and physician-led education of learners and colleagues. Support from the IHQI Scholars Program will provide the mentorship and structure needed to successfully design, coordinate, and sustain a hospital-wide quality improvement initiative of this scope.

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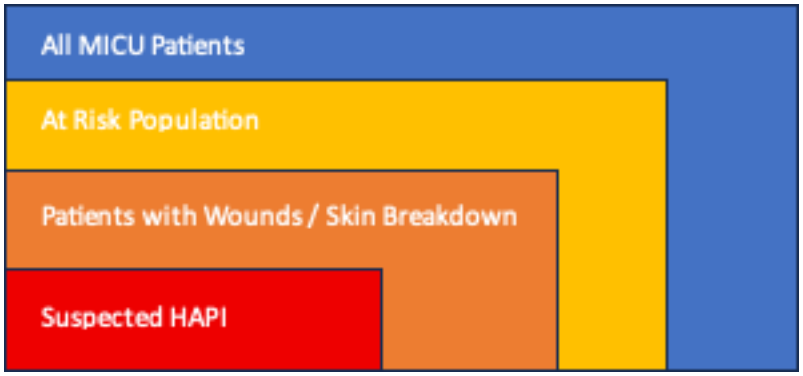
Project Scope

In Scope: This project will be conducted in the UNC Medical Intensive Care Unit (MICU), a 30-bed adult ICU with approximately 120 admissions per month.

We plan to scale intervention based on risk factors and the presence of wounds. Scaling will occur as follows:

1.) All MICU Patients - All adult patients admitted to the MICU during the project period will be included in unit-wide prevention efforts and early recognition efforts, including reinforcement of current HAPI prevention practices (2 person skin assessment, turn compliance documentation, use of Wellsense Vu, use of off-loading devices, etc.), improved interdisciplinary communication regarding wound risk, and standardized clinical documentation guidance to enhance reliability and accuracy.
2.) At Risk Population – We will identify a score, such as Braden, Norton, or other set of qualifiers to identify "At Risk Population". These are patients without wounds, but who are deemed elevated at risk of developing wounds. Interventions will be based on increased surveillance and intensified preventative measures to prevent the development of wounds.
3.) Patients with skin changes or developing wounds – Patients with early signs of wounds will have enhanced efforts to prevent progression of wounds. These patients will be discussed in a weekly huddle. Consideration for the development of skin failure will be discussed in these cases.
4.) Suspected HAPI / PSI 03 Cases – Patients who develop suspected HAPI. Debriefing and root cause analysis will occur on each patient who develops HAPI to direct further quality improvement. Enhanced documentation review with real-time feedback will occur on each of these patients to ensure correct diagnosis is documented.



Out of Scope: During the pilot phase, this project will not include hospital-wide implementation or simultaneous expansion to other intensive care units. Pediatric, surgical, step-down, and non-ICU settings are excluded. Patients on the medical ICU team but who are boarding outside the MICU (CICU, BICU, etc.) will not be included.

The project will not involve redesigning enterprise EHR infrastructure (beyond SmartPhrase / simple template creation. No ISD requests) or system-wide staffing model changes. Broad institutional wound prevention policy revision is not a primary goal of the pilot. Any recommendations for broader adoption will be considered only after evaluation of outcomes and feasibility within the MICU.

Measures: (Process, Balancing, Structure)

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

Measure Name	Measure Type	Measure Calculation	Measure Exclusion	Data Source	Baseline	Goal	Collection Frequency
HAPI Count	Outcome	Total number of HAPI observed as well as incidence breakdown of POA status.	Total hospital length of stay < 3 days, burns/exfoliative disorders with > 20% skin coverage, pregnancy. Acute skin failure.	Epic, Business Objects. Data from ACS/HAPI Huddle	2-3 / month	Overall decrease, Increased recognition on admission	Monthly
Incidence of HAPI progression	Process	Assess frequency of progression from early to late stage versus resolution		Epic, Business Objects, Data from ACS/HAPI Huddle		Decrease	Monthly
Provider documentation compliance / Awareness	Process	Assess frequency in utilization of any implemented documentation SmartPhrases		Epic		Increase	Monthly
Incidence of Acute Skin Failure	Balancing	Assess incidence of acute skin failure	Pressure injury	Epic, Business Objects, Data from ACS/HAPI Huddle	~ 1 / month	Increase (suspect under reported)	Monthly
Documentation Query Monitoring	Balancing	Number of Wounds Related CDI Queries Sent / Frequency of documentation mismatch resolutions		Epic			Monthly

Root Cause Analysis

The MICU cares for some of the hospital's highest-acuity patients, many of whom require mechanical ventilation, vasopressor support, prolonged immobility, and complex device management — all well-established risk factors for hospital-acquired pressure injury (HAPI). The HAPI Strike Team's most recent annual review identified several operational and cultural contributors to pressure injury development. These include competing bedside priorities in a high-acuity environment, increasing numbers of novice nursing staff relative to patient complexity, and a trickle-down effect of misinformation when new nurses precept other new nurses. Variability in adherence to standardized prevention workflows — including checklist completion and Wellsense bed troubleshooting (for example - bed equipment repair delays or

delays in identifying a bed needing repair "wrench" light) — further contributes to inconsistent prevention practices. In addition, inconsistent night-shift training, unclear equipment processes, and variable leadership accountability at the bedside were identified as contributing factors. Environmental design issues, such as the location of supplies and utility rooms, may also create barriers to timely preventive interventions.

Beyond bedside prevention processes, we believe documentation and clinical characterization contribute meaningfully to the problem. There may be missed opportunities to identify wounds early in their evolution or to clearly document wounds as present on admission when appropriate. In critically ill patients, differentiation between hospital-acquired pressure injury and other etiologies of skin breakdown — including acute skin failure in the setting of shock or multiorgan failure — can be clinically complex. While acute skin failure is relatively uncommon, misclassification may occur if documentation does not clearly reflect the clinical context. Additionally, staging discrepancies between wound care nursing assessments and physician documentation may lead to incongruence in coded stage severity, potentially either inflating or underrepresenting the true burden of injury. There may also be missed PSI-03 exclusion factors that are not consistently captured in documentation. Clinical documentation specialist knowledge gaps in when to apply skin failure versus pressure injuries when there is conflicting documentation may also be a contributing factor.

Taken together, these findings suggest that the observed occurrence of HAPI and the corresponding PSI likely reflects a combination of prevention reliability challenges in a high-acuity environment and documentation variability that affects accurate classification and risk adjustment. Addressing both operational prevention processes and documentation clarity will be necessary to meaningfully reduce preventable injury and ensure accurate representation of care.

Ideas for Improvement

1. Prevention

1. **Continue and strengthen existing HAPI Strike Team prevention initiatives**, including improving two-person (“4-eyes”) admission skin checks, increasing documentation of Q2-hour turn compliance, enrolling new hires in Skin Champion training, advancing the 24-hour bathing initiative, standardizing Flo-Lock utilization, conducting weekly skin rounds and audits with WOCN collaboration, increasing Wellsense bed superusers, enhancing collaboration with Respiratory Therapy, installing visual turn clocks, and improving patient education to reduce refusal of Q2-hour turns. Compliance and reliability of these initiatives will be assessed during the MICU pilot phase.
2. **Identify highest-risk patients early** using structured risk assessment tools such as the Braden Scale and clinical risk factors including vasopressor use, mechanical ventilation, sepsis, advanced liver disease, and prone positioning.
3. **Implement structured prevention checklists** for nursing and providers to standardize risk assessment, prevention interventions, and documentation for critically ill patients.
4. **Ensure early access to pressure injury prevention equipment** at the time of MICU admission, including positioning devices, pillows, and silicone bordered foam dressings, with equipment readiness incorporated into admission workflows and prevention checklists.
5. **Utilize optimal equipment to prevent device-related pressure injuries**, including preferential use of small-bore feeding tubes with bridles rather than large-bore nasogastric tubes when

appropriate, padded nasal cannula for oxygen delivery, Mepilex Up for tracheostomy and endotracheal tube protection, and Mepilex Lite for BiPAP/CPAP interfaces.

2. Care Optimization / Progression Prevention

1. **Protocolize WOCN consultation** for suspected or confirmed pressure injuries, including obtaining wound photographs at the time of discovery and ensuring completion of LDA (Lines, Drains, Airways) flowsheet documentation during the consultation.
2. **Increase multidisciplinary involvement in wound care**, including structured engagement of physical therapy, occupational therapy, nutrition, and respiratory therapy for patients with wounds or those at high risk for progression.
3. **Establish regular MICU-based Acute Skin Failure / HAPI interdisciplinary huddles** to review patients with wounds, align nursing and provider teams on treatment plans, and coordinate prevention strategies.

3. Documentation Optimization

1. **Implement structured provider-based wound documentation**, including SmartPhrase templates that clearly document wound etiology (pressure injury, acute skin failure, or alternative cause).
2. **Standardize staging documentation in provider notes** by implementing dropdown staging options aligned with CWOCN documentation to ensure consistent terminology across disciplines.
3. **Establish Physician Advisor review for all MICU patients with advanced wounds**, in collaboration with Clinical Documentation Specialists, to evaluate PSI-03 exclusion criteria, verify present-on-admission (POA) status, and identify opportunities for documentation clarification queries.
4. **Implement structured review when documentation between providers and CWOCN does not align**, encouraging interdisciplinary discussion and use of TeamSTEPPS communication tools such as Call-Outs and CUS statements to resolve discrepancies.

4. Sustainability

1. **Conduct structured debriefs following pressure injury development**, involving bedside nurses, wound specialists, and provider teams in a voluntary, non-punitive review process to identify improvement opportunities.
2. **Standardize SAFE reporting for advanced pressure injuries** to ensure systematic event identification and review.
3. **Use iterative Plan–Do–Study–Act (PDSA) cycles** informed by compliance audits and case-level reviews to refine and optimize interventions.
4. **Implement visual management boards within the unit** to display improvement opportunities, progress metrics, and successes.
5. **Promote a Just Culture environment** that empowers staff to identify patients at risk for skin breakdown, raise concerns, and initiate Call-Outs when wound development is suspected.

Risks and Opportunities

Factors That Will Foster Improvement

1. **Strong Multidisciplinary Engagement -**Active collaboration between MICU nursing and nursing leadership, PT/OT, Nutrition, MICU providers, WOCN, Clinical Documentation Specialists, and Physician Advisor leadership will enable shared ownership of prevention and documentation processes.
2. **Existing Strike Team Infrastructure -** The HAPI Strike Team has already established foundational prevention initiatives, educational programs, and audit structures that can be leveraged and refined rather than built from scratch.
3. **High-Impact, Contained Pilot Setting -** The 30-bed MICU provides a defined, high-acuity environment with measurable patient volume (~120 admissions/month), allowing rapid-cycle testing and reliable data capture.
4. **Leadership Support and Accountability at the Bedside -** Engagement from unit-based leadership and nursing champions will reinforce adherence to standard work and support cultural prioritization of pressure injury prevention.
5. **Established Data and PSI Tracking Mechanisms -** Existing PSI-03 reporting structures and CDI review processes allow timely identification of cases and objective measurement of improvement over time.
6. **Real-Time Feedback Loops -** Structured case-level review and physician advisor involvement will allow rapid feedback to bedside teams, promoting learning and course correction.
7. **Focus on Reliability Rather Than Reinvention -** Emphasis on improving compliance with existing evidence-based prevention practices reduces complexity and increases likelihood of sustainable change.
8. **Iterative PDSA Framework -** Use of structured PDSA cycles will allow small tests of change, minimize disruption, and promote scalable learning before broader ICU expansion.
9. **Alignment of Patient Safety and Documentation Accuracy -** Framing the project around both prevention of harm and accurate clinical characterization creates shared motivation across clinical and CDI stakeholders.
10. **No Epic Changes Required**

Challenges

1. **High Patient Acuity and Competing Bedside Priorities -** The MICU cares for critically ill patients requiring urgent interventions, mechanical ventilation, vasopressor support, and frequent procedures. Competing clinical priorities may limit consistent adherence to repositioning schedules, documentation workflows, and checklist completion.
2. **Limited Risk Discrimination in ICU Populations -** Most MICU patients are high risk by standard tools (e.g., Braden scoring), which reduces the ability to meaningfully stratify patients and may make prevention escalation less targeted. Novel tools may be needed for risk stratification.
3. **Staffing Variability and Experience Levels -** Increased numbers of novice nurses, variability in precepting quality, and night-shift training inconsistencies may reduce reliability of prevention practices and checklist adherence.
4. **Prevention Fatigue and Alert Burden -** Introducing additional checklists or documentation prompts may be perceived as increasing workload in an already complex environment, potentially limiting adoption.

5. **Interdisciplinary Documentation Variability -** Differences in staging assessments between WOCN and provider documentation may persist despite structured tools, affecting coding concordance and PSI classification.
6. **Clinical Complexity of Skin Injury Etiology -** Differentiating hospital-acquired pressure injury from other causes of skin breakdown (e.g., hemodynamic compromise, device-related injury, or acute skin failure) can be clinically nuanced and may create diagnostic uncertainty.
7. **Measurement and Attribution Challenges -** Distinguishing true prevention improvement from improved documentation accuracy may be difficult, particularly when PSI rates are influenced by coding and exclusion criteria.
8. **Cultural Sensitivity Around PSI Metrics -** If not framed appropriately, interventions related to documentation and PSI review could be perceived as metric-focused rather than patient-safety–focused, which may impact engagement and buy in for the project. An over focus on acute skin failure, a relatively rare diagnosis, may negatively impact perception of the study.
9. **Sustainability Over Time -** Initial enthusiasm may wane, particularly if turnover remains high or leadership focus shifts to competing institutional priorities.
10. **Scalability Beyond the Pilot Unit -** Interventions successful in a 30-bed MICU may require adaptation before expansion to other ICUs with different workflows, staffing models, or patient populations.

Stakeholders and Project Team Members

Name	Role
Nicholas Piazza – MD, CDI Physician Advisor	*Co-Scholar*
Paul Ossman – MD, CDI Physician Advisor	*Co-Scholar*
Christine Duffy – RN, BSN, CCRN, CN IV, MICU Nursing	*Co-Scholar*
Lisa Jenkins – BSN, RN, CWOCN	*Co-Scholar*
Erica Ricker – BSN, RN, Clinical Documentation Specialist	*Subject Matter Expert*
Honey Jones – DNP, MICU APP Supervisor	*Subject Matter Expert*
Escher Howard Williams – MD, CDI Physician Advisor	*Subject Matter Expert*
Linda Dodd – RN, BSN - Clinical Quality Assurance Specialist, OQE. Program Manager Patient Safety Indicators	*Sponsor - See attached letter of support*
Paul Perryman – MSN, MS, RN, NE-BC, Director Inpatient Medicine Services	*Sponsor – See attached letter of support*
Kenton Dover – MD, Associate Chief Medical Officer of Quality	*Sponsor - See attached letter of support*

Impact on the Quintuple Aim

Improved Health: Reducing hospital-acquired pressure injuries directly improves patient outcomes by preventing avoidable morbidity, infection risk, prolonged hospitalization, and functional decline. Standardizing high-risk identification, reinforcing prevention reliability, and implementing structured case-level review will decrease progression to advanced-stage injuries. Improved early recognition and appropriate differentiation of injury etiology will also ensure patients receive timely and targeted interventions, ultimately improving healing trajectories and overall clinical outcomes.

Enhanced Patient Experience: Pressure injuries are painful, distressing, and often prolong recovery. Preventing injury and minimizing progression improves comfort, mobility, and dignity during critical illness. Increased patient education regarding repositioning and prevention efforts may also enhance understanding and shared participation in care. Clear and consistent communication around wound status and care plans can reduce confusion and strengthen trust between patients, families, and care teams.

Enhanced Clinician and Staff Experience: Pressure injuries are frequently perceived as preventable harm, which can contribute to moral distress among bedside clinicians. By improving prevention reliability, clarifying workflows, and establishing structured interdisciplinary review, this project supports clinicians with clearer expectations and real-time feedback. Streamlined documentation tools and defined escalation pathways reduce ambiguity and improve confidence in clinical decision-making. A transparent learning-oriented review process may also foster a culture of shared accountability rather than blame.

Health Equity: Critically ill patients, particularly those with limited mobility, malnutrition, hemodynamic instability, or social vulnerability, may be at disproportionately higher risk for skin injury. Standardizing risk assessment and prevention practices reduces variability in care delivery and helps ensure that all high-risk patients receive consistent interventions regardless of background, communication barriers, or social circumstances. Structured documentation processes also promote equitable clinical characterization and accurate representation of patient complexity.

Reduced Costs: Hospital-acquired pressure injuries increase length of stay, resource utilization, wound care supply costs, and risk of complications requiring additional treatment. Preventing advanced-stage injuries and reducing progression can meaningfully decrease direct treatment costs and avoid excess hospitalization days. Improved documentation accuracy and appropriate PSI classification further support accurate quality reporting and resource alignment. By emphasizing prevention reliability and early intervention, this project promotes high-value care and reduces avoidable downstream expenditures.

Sustainment Plan

Sustaining the Improvement

Sustainability will be achieved by integrating project interventions directly into standard workflows for MICU staff, WOCN, clinical documentation specialists, and CDI physician advisors. By embedding prevention and documentation processes into routine care delivery, pressure injury management becomes part of the standard of care rather than a temporary initiative focused on metric improvement. Standardized documentation tools (e.g., SmartPhrases, structured staging selections) will remain embedded within the EHR to reduce reliance on individual memory and improve consistency. Case-level review of advanced injuries will transition from a project-based activity to a standing interdisciplinary review process aligned with existing quality forums. High-risk identification triggers and prevention checklists will be incorporated into daily workflows to support sustained reliability. Iterative PDSA cycles

will identify effective interventions and refine them into optimized, durable MICU processes.

Continuation Beyond IHQI Support

IHQI support will provide the structured framework, protected time, and improvement science methodology necessary to pilot and rigorously evaluate these interventions within the MICU. The goal is to build a scalable model that can be replicated across other intensive care units and, ultimately, adapted to non-ICU settings. Following demonstration of feasibility and measurable impact, the prevention reliability framework, documentation tools, root cause analysis template, and physician advisor review pathway developed during the pilot will serve as transferable assets for phased expansion. Lessons learned through iterative testing will inform a standardized protocol that can be integrated into institutional quality, nursing education, and CDI infrastructure. Over time, this work will transition from a unit-based pilot to a sustainable, enterprise-aligned pressure injury reliability model that integrates prevention, accurate clinical characterization, and interdisciplinary learning across the system.

Carolina Quality Tools

Just Culture principles will guide how pressure injury events and near-misses are reviewed. Case-level reviews of advanced-stage injuries will occur within a learning-focused framework that emphasizes system factors, prevention reliability, and workflow improvement rather than individual blame. This approach supports psychological safety and encourages transparent reporting and participation from frontline staff.

SAFE reporting will serve as a mechanism for frontline team members to escalate concerns related to prevention barriers, equipment issues (e.g., support surface or bed functionality), workflow gaps, or near-miss skin injury events. Trends in SAFE reports will inform targeted PDSA cycles and help identify operational friction points that may not be visible through structured audits alone.

TeamSTEPPS tools will support interdisciplinary communication around wound risk and management. Structured huddles and debriefing sessions will be utilized to assess individual patients / situations and guide quality improvement. Call outs / CUS tool utilization will be encouraged to advocate for improved wound prevention and documentation alignment.

MICU HAPI / Acute Skin Failure huddle will be used to reinforce prevention priorities and enable real-time problem solving. Daily huddles will include review of high-risk patients, new or evolving wounds, equipment needs, and prevention compliance barriers. Weekly interdisciplinary huddles will support shared learning from recent cases and rapid-cycle adjustments.

Visual management boards will provide transparent tracking of prevention metrics and improvement progress within the MICU. Key indicators such as HAPI events, prevention bundle compliance, documentation reliability, and action items from case reviews will be displayed to promote shared accountability, sustain visibility of the work, and celebrate progress.

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March 5, 2026

Dear Members of the Selection Committee,

I am writing in strong support of **Dr. Nicholas Piazza's** application to the IHQI Improvement Scholars Program. As the Associate Chief Medical Officer of Quality, I have the opportunity to partner with physician leaders who are committed to measurable improvement in patient outcomes, reliability of care, and a culture of safety. Dr. Piazza exemplifies that commitment and is exceptionally well-positioned to benefit from, as well as contribute to, the Improvement Scholars cohort.

Dr. Piazza's current work sits at the intersection of bedside hospital medicine, clinical documentation integrity, and system-level performance improvement. In his role as a Physician Advisor in Clinical Documentation Integrity with a focus on patient safety indicators, he has developed a pragmatic and sophisticated understanding of how clinical practice, documentation, and measurement methods converge to influence safety outcomes. His application identifies hospital-acquired pressure injuries (HAPI) as a high-leverage opportunity for UNC, including the persistent reality that PSI-03 remains an area where performance is meaningfully below national benchmarks, despite recent progress within our institution. The proposed project is thoughtfully scoped and strategically designed to strengthen both prevention reliability and diagnostic/documentation accuracy. Dr. Piazza's plan to work in close partnership with the HAPI Strike Team/Prevention Council, incorporate iterative PDSA cycles, and build durable supports, aligns directly with our organizational quality and safety priorities. His attention to balancing measures, particularly around appropriate characterization of acute skin failure, reflects the clinical nuance and risk-awareness required for responsible improvement work in critical care settings.

Dr. Piazza is already demonstrating the mindset of an improvement leader: he can frame a complex problem, engage multidisciplinary stakeholders, and pursue change while maintaining credibility with frontline teams. His prior experience leading a clinically focused ED screening initiative reinforces his ability to build partnerships and implement change, and he is appropriately seeking the added rigor, mentorship, and measurement strategy that the Improvement Scholars Program provides.

From a sponsorship perspective, I fully support Dr. Piazza's participation in the program. This project has the potential to reduce preventable harm, improve patient experience, support clinicians through clearer standard work and feedback loops, and strengthen UNC's performance on publicly reported safety metrics.

Thank you for your consideration. I give my highest recommendation to Dr. Piazza for selection into the IHQI Improvement Scholars Program.

Sincerely,

Kenton Dover, MD
Assistant Professor of Medicine, Division of Pulmonary and Critical Care
Associate Chief Medical Officer of Quality
Medical Director, Medicine Intensive Care Unit

Linda Dodd, RN, BSN
RN Clinical Quality Assurance Specialist
Program Manager Patient Safety Indicators
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Dear Members of the Selection Committee,

I am writing to express my enthusiastic support for Dr. Nicholas Piazza's application to the IHQI Improvement Scholars Program. As a Clinical Documentation Improvement (CDI) Physician Advisor, Dr. Piazza brings a unique and highly valuable perspective to this work. Their comprehensive understanding of physician documentation and its direct impact on final chart coding is essential to the success of this project.

In my role as a Clinical Quality Assurance Specialist, I lead initiatives to reduce hospital-acquired pressure injuries through collaboration with interdisciplinary teams, with a focus on strengthening prevention reliability, improving measurement accuracy, and enhancing safety metric performance. Dr. Piazza has been an essential partner in these efforts, consistently providing clinical credibility, thoughtful analysis, and a strong commitment to aligning frontline practices with quality and safety goals.

As the Patient Safety Indicator (PSI) Reduction Program Manager, I recognize that the greatest opportunity to improve our publicly reported quality scores lies in reducing PSI 03—pressure injury cases. Achieving meaningful progress requires fostering an interprofessional culture of pressure injury prevention among nursing staff, Wound, Ostomy, and Continence Nurses (WOCNs), and physicians. Dr. Piazza's proposed Improvement Scholars Program project directly supports this objective and is designed to cultivate such a culture within the Medical Intensive Care Unit (MICU).

Dr. Piazza's proposal is practical, well-conceived, and strategically aligned with this critical priority. I fully support this initiative and look forward to continued collaboration as it advances into the implementation phase.

Thank you for considering this application. Please feel free to contact me if you have any questions.

Sincerely,
Linda Dodd
RN Quality Assurance Specialist
Program Manager—UNC Hospitals PSI

UNC HEALTH®

Paul Perryman
Director, Inpatient Medicine Services

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Dear Members of the Selection Committee,

I am writing to express my strong support for Dr. Nicholas Piazza's application to the IHQI Improvement Scholars Program.

As Director of Inpatient Medicine and Process Owner for the Hospital Acquired Pressure Injury (HAPI) Substrike Team, a workgroup within the Unparalleled Quality Strike Team, I partner closely with physician and nursing leaders, as well as frontline teammates, to operationalize patient safety initiatives and translate improvement priorities into sustainable frontline workflows. In these roles, I am pleased to support the work Dr. Piazza is leading and believe his proposed project addresses a significant opportunity for improvement in the prevention of hospital-acquired pressure injuries across our inpatient services. Additionally, as a nurse, I am excited to have this interprofessional opportunity to collaborate with Dr. Piazza and promote interprofessional collaboration across our organization.

I am committed to supporting the administrative and operational implementation of this intervention and to helping align the necessary clinical, nursing, and system resources to ensure its success. In my experience with Dr. Piazza, he approaches improvement work with professionalism, collaboration, and a clear focus on meaningful outcomes. I am confident that this project will generate measurable improvements and bring meaningful value to both our patients and our care teams.
Thank you for your consideration of Dr. Piazza's application.

Sincerely,

Paul Perryman, MSN, MS, RN, NE-BC
Director, Inpatient Medicine Services