

Comprehensive Healthcare Change Proposal

Jessica Fisch

College of Health Professions, Western Governors University

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Justine Elmer

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A1. Innovative Change

The proposed healthcare change is the implementation of a standardized nursing education and clinical decision-support program designed to improve recognition and timely escalation of non-septic shock in patients experiencing acute clinical deterioration. The program would supplement existing sepsis screening practices by providing nurses with focused education on the clinical characteristics of major non-septic shock states, including hypovolemic, cardiogenic, obstructive, and non-septic distributive shock, along with a concise point-of-care assessment and escalation tool to support clinical decision-making. The proposed change would not replace or delay established sepsis protocols; rather, it would reinforce systematic assessment and encourage nurses to consider alternative causes of shock when a patient's deterioration cannot be fully explained by sepsis. The change is innovative because it combines targeted nursing education with structured clinical decision support rather than relying solely on existing sepsis screening or early warning systems. The proposal is value-based because it is designed to improve recognition and escalation using existing nursing workflows while supporting timely treatment, reducing preventable complications, improving patient safety and outcomes, and promoting more efficient use of healthcare resources.

A1a. Authorized Proposed Change

See the attached Professional Verification Form.

A1b. Organizational Sponsor Discussion

During my discussion with my organizational sponsor, we reviewed the proposed change of providing standardized nursing education and a concise point-of-care assessment and escalation tool to improve recognition of non-septic shock while preserving existing sepsis protocols. My sponsor described a practice environment in which sepsis receives substantial

attention through screening, reporting, and recurring education, while hypovolemic, cardiogenic, and other forms of shock do not receive the same degree of focused screening or education. She explained that even in her hospital outpatient oncology setting, patients are routinely screened for sepsis when indicated. Still, there is no comparable screening process for other causes of shock. She also noted that many responses to clinical deterioration are symptom-driven and that existing treatment and response processes are largely incorporated into Epic and Beacon.

My sponsor agreed that the proposed intervention was appropriate and feasible. During our discussion, I clarified that the non-septic shock assessment would not replace or compete with the existing sepsis pathway. When sepsis or shock is suspected, nurses would continue the established sepsis screening while also using the proposed assessment to consider non-septic causes of deterioration. My sponsor questioned which clinical findings would trigger the additional assessment and emphasized the importance of establishing clear activation criteria. She expressed concern that using multiple assessment tools during an emergency could increase the time required to evaluate a deteriorating patient. She also identified workflow burden as an important consideration, particularly the additional electronic clicks and cognitive load that can result from adding a new process to nursing practice. She emphasized that staff resistance is common when additional steps are introduced and that the purpose and patient-safety benefit of the change would need to be clearly communicated to obtain nursing buy-in.

She also recommended that the intervention be incorporated into existing education and emergency-preparedness processes rather than treated as a one-time training activity. In addition to annual education, she recommended including the content in recurring emergency-response exercises and simulations. She suggested collaboration with nursing education and quality teams, bedside nurses, physicians, rapid-response personnel, and other disciplines, such as respiratory

therapy and pharmacy, when applicable. She also recommended involvement from senior nursing leadership. After reviewing the proposed implementation plan, she advised that the planned one-hour education period would likely be insufficient. She recommended approximately 90 minutes to allow adequate time for instruction and questions. She further recommended implementing the new process soon after staff education to avoid a significant delay between learning the material and applying it in practice.

Another important point from the discussion was the role of technology. My sponsor identified the need for an Epic or EHR analyst if the assessment tool is incorporated electronically, particularly to help design the workflow and minimize unnecessary documentation steps. She suggested that a concise, laminated point-of-care reference, combined with information available within Epic, could provide practical access for nurses. For evaluation, she recommended using both direct observation of the new process and EHR-derived data rather than relying solely on electronic data. She also emphasized the importance of examining staff and patient experience when determining whether the change is functioning effectively. Finally, she advised reviewing baseline organizational data before selecting a specific improvement target, because the number of relevant events may be so small that a percentage-based goal could be misleading.

A1c. Proposed Changes

Based on my organizational sponsor's feedback, I made several changes to the proposed implementation plan. First, I expanded the education component. The original plan included a one-hour educational session. However, my sponsor advised that this would likely be insufficient and recommended approximately 90 minutes to allow adequate time for instruction and questions. She also recommended reinforcing the education through existing quarterly

emergency-response exercises in addition to annual education, so that recognition of non-septic shock becomes part of ongoing clinical preparedness rather than a one-time learning activity.

I also revised the implementation plan to incorporate the electronic health record more fully. My original plan did not include an Epic/EHR analyst as a project resource or stakeholder. My sponsor pointed out that an analyst would be necessary if the assessment tool is implemented electronically, and that they could help design the workflow to avoid unnecessary documentation steps or excessive clicks. Based on this feedback, the revised proposal will include an Epic/EHR analyst and use a combination of EHR-based clinical decision support and a concise laminated point-of-care reference.

Finally, I refined the implementation and evaluation strategies. In response to my sponsor's concern about when nurses would use the additional assessment, the proposed tool will include clear activation criteria based on signs of acute clinical deterioration, such as new hypotension or other findings suggesting hemodynamic instability. These criteria will prompt nurses to consider non-septic causes while continuing established sepsis screening and escalation protocols without delay. The assessment will be designed to minimize additional steps during time-sensitive situations. Education and implementation will occur close together so nurses can begin applying the new process soon after training. Evaluation will also include direct observation of how nurses use the protocol in practice, as well as EHR data. My sponsor emphasized that electronic outcome data alone may not identify workflow problems and recommended observing the process and considering staff and patient experience when determining whether implementation is successful. A specific percentage-based improvement target will not be finalized until baseline organizational data are reviewed because the number of relevant cases may be too small for a predetermined percentage to be meaningful.

A2. Data to Support the Need for Change

National data support the need for improved recognition and escalation of non-septic causes of clinical deterioration. Sepsis is a major focus of hospital screening and early-recognition efforts because of its substantial effect on morbidity, mortality, and healthcare utilization. The Agency for Healthcare Research and Quality (2024) reported that sepsis-related inpatient stays at nonfederal acute-care hospitals in the United States increased from 1.8 million in 2016 to 2.5 million in 2021, representing nearly a 40% increase. The aggregate hospital cost of inpatient stays due to sepsis also increased from \$31.2 billion in 2016 to \$52.1 billion in 2021. These findings demonstrate the importance of maintaining effective sepsis-recognition and treatment processes while also ensuring that other causes of clinical deterioration are considered.

The overlap between sepsis and noninfectious conditions further supports the need for the proposed change. Lengquist et al. (2024) evaluated 2,664 intensive care patients who met criteria for presumed sepsis and found that 656 patients, or approximately 25%, were ultimately classified as sepsis mimics because they did not meet criteria for probable infection. Common conditions among the sepsis-mimic population included acute heart failure, respiratory failure, and cardiac arrest. Although these conditions do not necessarily represent non-septic shock, the findings demonstrate that patients initially suspected of having sepsis may instead have other serious causes of deterioration, some of which may involve hemodynamic instability. The researchers also found that commonly used clinical and laboratory findings had limited ability to distinguish confirmed sepsis from sepsis mimics. These findings reinforce the importance of comprehensive nursing assessment and consideration of alternative causes when evaluating a deteriorating patient.

Sepsis screening systems also have limitations that reinforce the importance of clinical judgment. In a systematic review of 10 studies evaluating electronic sepsis alerts in emergency departments, Hwang et al. (2020) found that sensitivity ranged from 10% to 100%, specificity from 78% to 99%, and positive predictive value from 5.8% to 54%. Although sepsis alerts can support early recognition and treatment, this variability demonstrates that screening tools alone cannot reliably establish the underlying cause of a patient's deterioration. Nurses, therefore, need the knowledge and clinical decision support necessary to systematically assess deteriorating patients and recognize when findings may warrant escalation for a possible non-septic cause.

The consequences of deterioration that require an unplanned transfer to a higher level of care provide additional support for earlier recognition and escalation. Khanna et al. (2023) found that, compared with matched medical patients who did not experience an unplanned intensive care unit transfer, patients with an unplanned transfer had an average hospital stay that was 4.1 days longer and hospital costs that were \$13,424 higher. Although not every unplanned ICU transfer is preventable, and these data are not specific to non-septic shock, they demonstrate the clinical and financial consequences associated with deterioration requiring higher-acuity care. Together, these national findings support the need for a standardized nursing education and clinical decision-support program that complements existing sepsis processes by strengthening recognition, systematic assessment, and timely escalation when a deteriorating patient's condition may have a non-septic cause.

A3. Change Barriers

Two barriers may hinder the implementation of the proposed change. The first barrier is limited staff time and competing workload demands. Bedside nurses must balance patient care responsibilities, documentation, medication administration, monitoring, and other required

education, which may make it difficult to complete additional training or consistently use a new assessment tool during periods of high workload. Research has identified workload and staffing constraints as barriers to thorough nursing assessment. Research on out-of-hours care has also linked time constraints, competing clinical demands, and reduced staffing with delayed monitoring and escalation of patient deterioration (Donnelly et al., 2024; Virtudazo et al., 2026). The organizational sponsor also identified additional workflow burden as a concern, particularly the time required to complete extra steps, additional documentation, or EHR clicks, and the cognitive burden of remembering another process during an episode of acute deterioration. To successfully implement the proposed change, education and decision support would need to be concise, accessible, and, whenever possible, incorporated into existing workflows.

The second barrier is resistance to changing established clinical practices. Nurses may already be accustomed to using sepsis screening tools, early warning systems, and existing escalation protocols when evaluating deteriorating patients. Introducing an additional approach that emphasizes consideration of non-septic causes of shock may initially be perceived as unnecessary or as adding complexity to established processes. Connor et al. (2025) found that nurses experienced tension when clinical judgment was incongruent with early warning system protocols and described nurses as relying on both structured systems and clinical judgment when assessing and responding to deterioration. These findings suggest that incorporating an additional decision-support strategy into established practice may require nurses to adjust how they interpret and respond to clinical information. The organizational sponsor emphasized that resistance is common when new steps are added to a clinical process and that nurse buy-in improves when staff understands why the change is important, how it benefits patients, and what risks it is intended to prevent. Clear communication that the proposed program supplements,

rather than replaces, existing sepsis protocols would be important for promoting staff acceptance and reducing resistance to the change.

A4. Potential Negative Outcome

If the proposed change is not implemented, a potential negative outcome is delayed recognition and escalation of non-septic shock in patients experiencing acute clinical deterioration. Critically ill patients who initially meet criteria suggesting sepsis may ultimately have a noninfectious cause of deterioration. Lengquist et al. (2024) found that 25% of patients admitted to the ICU with presumed sepsis were classified as sepsis mimics, with cardiovascular and respiratory conditions among the most common alternative diagnoses. Sepsis-focused alerting systems also exhibit variable diagnostic performance, underscoring the importance of ongoing clinical assessment when evaluating deteriorating patients (Hwang et al., 2020). Without focused education and decision support that reinforces consideration of alternative causes, nurses may have fewer structured resources to recognize when a patient's presentation is not fully explained by sepsis. Delayed recognition and escalation may allow hemodynamic instability to progress, contributing to preventable complications or the need for higher-acuity care. Unplanned ICU transfers are associated with substantially longer hospital stays, higher healthcare costs, and higher mortality, underscoring the potential clinical and economic consequences when deterioration requires a higher level of care (Khanna et al., 2023).

A4a. Potential Action

If there is a lack of support for the proposed change, a potential action would be to meet with staff and key stakeholders who express concerns to identify the specific reasons for their hesitation and incorporate appropriate feedback into the implementation plan. Concerns may involve workload, additional education requirements, duplication of existing processes, or the

possibility that the intervention could interfere with established sepsis protocols. Addressing these concerns directly would clarify that the proposed program is intended to supplement, rather than replace or delay, existing sepsis screening and treatment practices. The intervention could also be introduced through a small pilot with opportunities for staff feedback before broader implementation. This approach could increase staff involvement, identify workflow problems early, and improve acceptance of the proposed change while preserving its primary goal of improving recognition and timely escalation of non-septic shock.

A5. Value-Based Care Enhancement

The proposed change could enhance value-based care in two ways. First, it could improve patient outcomes by supporting earlier recognition and escalation of non-septic shock. Patients who initially meet criteria suggesting sepsis may ultimately have a noninfectious cause of deterioration, making accurate recognition challenging (Lengquist et al., 2024). Providing nurses with focused education and a structured assessment and escalation tool could strengthen clinical judgment and help nurses recognize when a deteriorating patient may require evaluation for an alternative cause of shock. Earlier recognition and escalation may allow appropriate treatment to begin sooner, potentially reducing progression of hemodynamic instability and preventable complications.

Second, the proposed change could promote more efficient use of healthcare resources by reducing potentially avoidable deterioration and escalation to higher levels of care. Unplanned ICU transfers are associated with increased hospital costs and longer lengths of stay compared with similar patients who do not require unplanned ICU transfer (Khanna et al., 2023). Although the proposed intervention cannot prevent every ICU transfer, improving nurses' ability to recognize and escalate deterioration earlier may help prevent some complications that require

more intensive and costly care. Improving outcomes while reducing potentially unnecessary resource utilization supports the goals of value-based care by increasing the value delivered to patients relative to the resources used.

A6. Key Stakeholder Identification

Several key stakeholders would be essential to the successful implementation of the proposed change. The nurse manager would provide leadership support, approve unit-level implementation activities, help allocate staff time and resources, and reinforce expectations for participation. This stakeholder is important because leadership support can influence staff engagement, resource availability, and the integration of the proposed education and decision-support process into existing workflows.

The nursing director would provide organizational leadership support and help align the proposed intervention with broader patient safety and quality improvement priorities. This stakeholder could assist with securing necessary approvals, coordinating resources across departments, and supporting potential expansion beyond the initial pilot unit. Nursing director involvement would be important to ensure that the proposed change aligns with organizational priorities and has the leadership support necessary for long-term sustainability.

The clinical nurse educator would be responsible for helping develop and deliver educational content on recognizing non-septic shock. The educator could assist with case-based learning, simulation scenarios, competency validation, and evaluation of nurses' knowledge before and after implementation. This role is important because the proposed change depends on accurate, evidence-based education appropriate for the clinical setting and the nursing scope of practice.

Bedside registered nurses would be the primary users of the intervention. They would participate in the education, apply the assessment and escalation tool during patient deterioration, and provide feedback regarding its usability and relevance to clinical practice. Bedside nurses are essential stakeholders because they perform ongoing patient assessments, recognize changes in patients' conditions, and initiate escalation when deterioration occurs.

A physician representative, such as a hospitalist or critical care physician, would provide clinical input to help ensure that the educational content and escalation process are consistent with current diagnostic and treatment practices. Physician involvement would also support interdisciplinary communication when nurses identify deterioration that may have a non-septic cause. This stakeholder is important because nursing recognition and escalation must be followed by timely medical evaluation and treatment.

The rapid response team nurse would provide expertise in assessing and stabilizing patients experiencing acute deterioration and shock. This stakeholder could assist in reviewing educational scenarios, validating escalation criteria, and evaluating how the proposed tool aligns with existing rapid-response processes. Participation by the rapid response team nurse would help ensure that the intervention supports timely escalation without duplicating or conflicting with established emergency response systems.

The quality improvement specialist would assist in identifying appropriate measures for evaluating the change, such as pre- and post-education knowledge, use of the assessment tool, appropriate escalation, and selected patient safety outcomes. This stakeholder would also help review implementation data and identify opportunities for improvement. The quality improvement specialist is important because ongoing evaluation would be necessary to

determine whether the proposed change is producing the intended results and whether modifications are needed.

The Epic/EHR analyst would support integration of the assessment and escalation tool into the electronic health record. This stakeholder would help design and build the electronic workflow, minimize unnecessary documentation steps or additional clicks, and ensure that the tool is accessible within the clinical systems nurses already use. The Epic/EHR analyst is important because successful electronic integration requires technical expertise to translate the proposed clinical process into a practical, efficient EHR workflow.

A6a. Stakeholder Collaboration

Collaboration with the nurse manager would focus on obtaining leadership support, identifying unit priorities, determining feasible implementation timelines, and coordinating staff participation in the education. Regular communication would be used to review progress, address barriers, and determine whether adjustments are needed to fit existing unit workflows.

Collaboration with the nursing director would focus on aligning the proposed intervention with organizational patient safety priorities, securing necessary leadership approvals, and identifying resources needed for implementation. Regular communication would help address organizational barriers, review pilot findings, and determine whether the intervention could be expanded to additional units.

The clinical nurse educator would be involved in developing the educational content, case scenarios, and competency activities. Collaboration would include reviewing the evidence together, adapting the education to the needs of the nursing staff, and evaluating pre- and post-education results to determine whether additional reinforcement is needed.

Bedside registered nurses would be engaged throughout implementation because they are the primary users of the intervention. Collaboration would include introducing the purpose of the change, providing education and opportunities to practice using the assessment and escalation tool, and obtaining feedback about usability, workflow impact, and clinical relevance. Their feedback would be used to refine the intervention before wider adoption.

The physician representative would be consulted to review the clinical content and ensure that the assessment and escalation process is consistent with current diagnostic and treatment practices. Collaboration would also focus on establishing clear expectations for interdisciplinary communication when nurses identify signs of deterioration that may indicate a non-septic cause of shock.

The rapid response team nurse would be involved in reviewing escalation criteria and clinical scenarios. Collaboration would focus on ensuring that the proposed tool aligns with existing rapid-response processes and supports timely escalation without duplicating current emergency response systems. Feedback from the rapid response team nurse would also help identify situations in which escalation criteria or educational content should be modified before broader implementation.

The quality improvement specialist would collaborate in selecting appropriate process and outcome measures, reviewing baseline and post-implementation data, and identifying opportunities for improvement. Regular review of implementation data would help determine whether the intervention is meeting its intended goals and whether modifications are needed.

The Epic/EHR analyst would collaborate with the clinical and quality teams to integrate the assessment and escalation tool into the electronic health record. Collaboration would focus on translating the clinical workflow into an efficient electronic format, reducing unnecessary

documentation steps or additional clicks, and testing the tool before implementation. Feedback from bedside nurses and other users would be shared with the analyst so the electronic workflow could be refined to improve usability and support consistent use at the point of care.

B1. Implementation Resources

Implementation of the proposed change would require personnel, staff time, educational resources, existing technology, and point-of-care materials. Personnel resources would include a clinical nurse educator to develop and deliver the educational content and provide initial implementation support; a nurse manager to coordinate implementation and staff participation; a nursing director to provide organizational oversight, facilitate necessary approvals, and coordinate resources; a physician representative, such as a hospitalist or critical care physician, and a rapid response team nurse to review the clinical content and escalation process; a quality improvement specialist to assist with evaluation measures and implementation data; and an Epic/EHR analyst to assist with developing, integrating, and testing the electronic component of the assessment and escalation tool. Bedside registered nurses would require protected time to complete the education and participate in the initial pilot. The addition of an Epic/EHR analyst reflects the sponsor's recommendation that an electronic tool would require technical expertise to integrate it into the existing EHR workflow while minimizing unnecessary documentation steps.

Training resources would include an approximately 90-minute educational program covering recognition of hypovolemic, cardiogenic, obstructive, and non-septic distributive shock; case-based examples of clinical deterioration; appropriate nursing assessment; and timely escalation of care. Pre- and post-education knowledge assessments, as well as clinical scenarios, would also be needed to evaluate learning. The education would be reinforced through existing emergency-response exercises or simulations, giving staff opportunities to practice applying the

process after the initial training. The organizational sponsor recommended allowing additional time beyond the originally planned one-hour session and incorporating the content into recurring emergency-response education.

Existing organizational technology could be used to minimize additional expenses. The hospital's learning management system could host the educational module and knowledge assessments, while existing hospital computers or workstations could provide staff access. The point-of-care assessment and escalation process could be integrated into the existing EHR with support from the Epic/EHR analyst. A limited number of laminated reference cards could also be available during the pilot to provide nurses with a concise bedside reference, while more detailed information and clinical guidance remain accessible electronically. This combination reflects the sponsor's recommendation for both an easily accessible physical reference and information available within Epic. No new clinical monitoring equipment would be required, as the intervention focuses on nursing education, recognition, assessment, and escalation rather than on purchasing new diagnostic or treatment equipment.

B2. Implementation Costs

Implementation costs are estimated based on a pilot involving 20 bedside registered nurses. Because actual salaries, staffing structures, and organizational resources may vary, the following amounts are planning estimates and could be adjusted if more specific organizational information becomes available. A base registered nurse labor rate of \$90 per hour will be used for the pilot because this rate is consistent with regional wage data for registered nurses in the San Francisco, Vallejo, and Santa Rosa areas (U.S. Bureau of Labor Statistics, 2026). At this rate, providing 90 minutes of paid education to 20 bedside registered nurses would cost approximately \$2,700. Using a lower estimate of \$84 per hour would reduce the training cost to

approximately \$2,520, while a higher estimate of \$98 per hour would increase it to approximately \$2,940.

Clinical nurse educator time is estimated at 16 hours for development of the educational content, case scenarios, knowledge assessments, point-of-care materials, and implementation preparation. Using an estimated rate of \$90 per hour, this would cost approximately \$1,440. An additional 1.5 hours would be allocated to delivering the initial education at an estimated cost of \$135, and 4 hours to initial implementation support and follow-up at an estimated cost of \$360. These educator-hour estimates are planning estimates because a final organizational estimate for development and oversight time is still pending.

Nurse manager time for planning, coordination, and review is estimated at four hours at \$75 per hour, for a cost of \$300. The nursing director's time for reviewing the proposed intervention, supporting organizational alignment, and coordinating necessary approvals is estimated at 2 hours at \$125 per hour, totaling \$250. Physician representative time for review of the clinical content is estimated at two hours at \$150 per hour, for a cost of \$300. Rapid response team nurse time for review of escalation criteria and clinical scenarios is estimated at two hours at \$90 per hour, for a cost of \$180. Quality improvement specialist support is estimated at three hours at \$60 per hour, for a cost of \$180.

An Epic/EHR analyst would also be required to assist with the development, integration, testing, and refinement of the electronic assessment and escalation workflow. Because an organizational rate has not yet been provided, analyst time is estimated at 10 hours at \$75 per hour, for a planning cost of \$750. Existing EHR software, the learning management system, hospital computers, and workstations would require no new purchases, resulting in an additional equipment or software cost of \$0.

Approximately 25 laminated point-of-care reference cards would be produced at an estimated cost of \$2 each, for a materials cost of \$50. No new clinical monitoring equipment would be required, resulting in an equipment cost of \$0. Reinforcement through existing quarterly emergency-response exercises would use already scheduled organizational training activities and is therefore estimated to require \$0 in additional equipment or facility costs.

Based on these planning estimates, the total initial cost of the 20-nurse pilot would be approximately \$6,645. Most of the cost would be attributable to paid staff education, development time, and EHR integration rather than new equipment or software. This estimate reflects base labor costs and excludes benefits, overtime, differentials, or additional staffing coverage, which could increase the organization's actual implementation costs.

B3. Implementation Benefits

One benefit of implementing the proposed change is improved recognition and assessment of non-septic shock by nurses. Focused education on hypovolemic, cardiogenic, obstructive, and non-septic distributive shock could strengthen nurses' ability to recognize patterns of deterioration that may not be fully explained by sepsis. Structured education and simulation have been shown to improve nurses' knowledge and confidence in recognizing and managing deteriorating patients (Noye et al., 2025). A concise assessment and escalation tool could further support nurses in combining vital signs, trends, physical assessment findings, and clinical judgment when evaluating a deteriorating patient.

A second benefit is the more timely and consistent escalation of care. Standardizing the assessment and escalation process could reduce variation in how nurses respond to clinical deterioration and provide clearer guidance about when additional evaluation or higher-level support is needed. Research has identified nursing knowledge and experience, workload,

communication, and clinical decision-making as factors influencing recognition and response to patient deterioration (Donnelly et al., 2024; Dresser et al., 2023). Providing a structured approach that supplements existing sepsis and rapid-response processes could support earlier communication with providers or rapid-response teams and promote a more coordinated response to patients experiencing non-septic shock.

B4. Implementation Phases

The planning phase will take approximately three weeks. During this phase, leadership approval will be obtained from the nurse manager and nursing director; key stakeholders will review the proposed change; educational content will be finalized; and the nursing assessment and escalation tool will be developed with clear activation criteria based on signs of acute clinical deterioration. Pre- and post-education assessments will also be prepared. The Epic/EHR analyst will work with clinical stakeholders to develop and test the electronic component of the assessment and escalation tool, ensuring that it can be incorporated into the existing workflow without unnecessary documentation burden or interference with established sepsis and emergency-response protocols. A schedule for reinforcing the education through existing quarterly emergency-response exercises will also be established. A milestone for this phase will be the completion and approval of all educational materials, assessment tools, activation criteria, the electronic workflow, and the implementation plan before staff training begins.

The implementation phase will take approximately four weeks. During the first week, the 20 participating bedside registered nurses will complete the pre-education assessment, receive approximately 90 minutes of education on recognizing non-septic shock, practice using case-based or simulation scenarios, and complete the post-education assessment. The education and clinical implementation will be scheduled closely together so nurses can begin using the new

process immediately after completing the training. During the remaining three weeks, nurses will use the assessment and escalation tool when signs of acute clinical deterioration meet the established activation criteria, while continuing existing sepsis screening and emergency-escalation processes without delay. Nurses will provide feedback on the tool's usability and impact on workflow. Direct observation will also be used during the pilot to identify missed steps, workflow issues, or areas requiring clarification. Milestones for this phase will include completing education for all participating nurses, activating the assessment and escalation process for clinical use, and completing the three-week pilot period.

The evaluation phase will take approximately two weeks. During this phase, pre- and post-education knowledge scores, scenario recognition performance, staff feedback, direct observation findings, EHR-derived implementation data, and other available pilot data will be reviewed. Evaluation will also consider whether the additional assessment steps created an unnecessary documentation burden or interfered with the timely escalation of care. The results will be shared with key stakeholders to determine whether the intervention should be continued, revised, or expanded. Findings from the pilot will also be used to determine whether changes to the electronic workflow, education, or point-of-care materials are needed before broader implementation. A milestone for this phase will be the completion of data analysis and the presentation of the results and recommendations to stakeholders.

B5. Implementation Data

Data would be used throughout implementation to guide the proposed change and determine whether adjustments are needed. Before implementation, baseline data would be collected through a pre-education knowledge assessment and clinical scenarios to identify nurses' current understanding of non-septic shock recognition and escalation. Available

organizational data, such as rapid response or MET events, unplanned transfers to a higher level of care, and other relevant deterioration-related outcomes, would also be reviewed to establish a clinical baseline when available. These findings would help identify knowledge gaps and ensure that the educational content focuses on areas of greatest need.

During implementation, process data such as education completion rates, participation in case-based or simulation activities, use of the assessment and escalation tool during the pilot, and staff feedback on the tool would be monitored. Direct observation would also be used to evaluate how nurses apply the process in practice. A nurse manager, charge nurse, or other designated observer could use a checklist to determine whether key steps are being completed and identify why any steps are missed. EHR data would be reviewed alongside these observations to determine whether the electronic workflow is functioning as intended. These data could identify barriers such as difficulty completing training, unclear content, limited use of the tool, an excessive documentation burden, or problems integrating it into the workflow, so the implementation strategy can be modified when necessary.

After implementation, post-education knowledge scores and scenario-recognition performance would be compared with baseline results to determine whether nurses demonstrated improvement. Direct observation findings, EHR data, staff feedback, and available clinical outcome data would also be reviewed to assess the extent to which the intervention was incorporated into practice. Using baseline, process, observational, and post-implementation data would support evidence-based decision-making and help determine whether the intervention should be revised, sustained, or expanded.

B6a. Financial Benefits

A potential financial benefit of the proposed change is reduced healthcare costs associated with deterioration that results in unplanned transfer to a higher level of care. Earlier recognition and escalation of non-septic shock may allow treatment to begin before a patient's condition progresses to severe hemodynamic instability or requires intensive care. Khanna et al. (2023) found that matched medical patients who experienced an unplanned ICU transfer had, on average, \$13,424 higher hospital costs and a 4.1-day longer length of stay than patients who did not require an unplanned ICU transfer. Although the proposed intervention would not prevent every ICU transfer, improving nurses' ability to recognize and escalate deterioration earlier could help reduce some avoidable complications and associated resource use. Potential cost avoidance from shorter hospital stays, fewer preventable complications, and reduced need for higher-acuity care could provide a financial benefit to the organization.

B6b. Ethical Implications

One potential ethical implication of the proposed change is the risk of delayed sepsis treatment if the assessment and decision-support tool is misinterpreted. Because the intervention encourages nurses to consider non-septic causes of shock, there is a possibility that a nurse could focus too heavily on alternative causes and delay established sepsis screening, escalation, or treatment. This ethical concern relates to nonmaleficence because the proposed change should not pose additional risk to the patient. To reduce this risk, the education and decision-support tool would clearly state that the intervention supplements rather than replaces or delays existing sepsis protocols.

A second potential ethical implication is the inequitable application of the intervention among patients. Differences in staff training, experience, or use of the decision-support tool

could result in some patients receiving a more thorough assessment for non-septic shock and a greater opportunity for timely recognition and escalation than others. This ethical concern is related to justice because patients should receive consistent and equitable care. Standardized education, competency expectations, and equal access to the decision-support tool would help promote consistent use of the intervention across the nursing staff.

B7. Technology Integration

Technology could be integrated into the implementation strategy through the organization's existing learning management system and electronic health record. The learning management system could be used to deliver the nursing education module, case-based scenarios, and pre- and post-education knowledge assessments. This would allow nurses to complete the education electronically while also providing a method to track participation and evaluate changes in knowledge.

The point-of-care assessment and escalation tool could also be incorporated into the existing EHR, allowing nurses to access it within the same clinical workflow they already use when responding to patient deterioration. An Epic/EHR analyst would assist in designing and testing the electronic component to ensure the process is easy to access and does not create an unnecessary documentation burden or excessive additional clicks. For example, when a nurse initiates an assessment of a patient with new hypotension, tachycardia, or other signs of hemodynamic instability, the EHR-based tool could provide structured assessment cues and guidance for escalation. At the same time, the existing sepsis screening process continues. The tool would support systematic consideration of non-septic causes of deterioration without replacing or delaying established sepsis protocols.

A concise laminated reference could also be available at the point of care as a backup or quick-reference resource. This would provide nurses with immediate access to key assessment cues while more detailed guidance remains available electronically. Using a combination of the learning management system, EHR integration, and point-of-care reference materials could improve accessibility, support consistent use, and better integrate the intervention into the nurse's existing workflow.

B8. Measure Success

The success of the proposed change would be measured by comparing baseline and post-implementation outcomes related to nursing knowledge, recognition, and escalation of non-septic shock. Before implementation, nurses would complete a knowledge assessment and clinical scenarios designed to evaluate their ability to identify signs of non-septic shock, recognize when the proposed assessment tool should be activated, and determine when escalation is appropriate. The same or equivalent measures would be repeated after the education and decision-support program is implemented.

Success would be demonstrated by higher post-implementation knowledge scores, a greater percentage of accurately identified non-septic shock scenarios, and a greater percentage of appropriate escalation decisions compared with baseline. Staff completion of the education and use of the assessment and escalation tool would also be monitored as process measures. Direct observation using a standardized checklist would assess whether nurses recognize relevant clinical findings, use the tool appropriately, complete the necessary assessment steps, and promptly escalate concerns. EHR data would also be reviewed to evaluate use of the electronic tool and, when available, changes in relevant clinical outcomes such as escalation patterns, rapid response or MET events, delayed recognition, or unplanned transfers to a higher level of care.

Knowledge assessment results would demonstrate educational effectiveness, while observational and clinical data would help determine whether nurses apply the process appropriately in practice.

Staff feedback on usability, workload, and the intervention's effect on workflow would also be considered when evaluating success. Direct observation and staff feedback would help determine whether the additional assessment creates unnecessary documentation requirements, increases cognitive burden, or interferes with timely sepsis screening and emergency escalation. If feasible, patient and physician feedback could provide additional information about whether the intervention improved the overall response to clinical deterioration. A specific percentage-based improvement target would be established after baseline organizational data and the number of relevant cases have been reviewed, ensuring that the selected target is meaningful given the available sample size. Overall, the change would be considered successful if nurses demonstrate measurable improvement in knowledge, recognition, appropriate escalation, and consistent use of the new process without delaying established protocols or creating an unreasonable workflow burden.

C1. Change Agent

I acted as a change agent by identifying a gap in the assessment of clinical deterioration and developing an evidence-based plan to support nurses' recognition of non-septic shock. In developing the proposed change, I reviewed current research on sepsis mimics, recognition of deterioration, clinical judgment, early warning systems, and nursing education. I then used that evidence to design a change that supplements existing sepsis processes rather than replacing them. This required considering patient safety, workflow, stakeholder involvement, educational needs, implementation barriers, and methods for evaluating the change's effectiveness.

One example of my role as a change agent was refining the intervention from a broad concern about non-septic shock into a structured nursing education and clinical decision-support program. Rather than proposing that nurses independently diagnose the specific cause of shock, I focused the intervention on improving pattern recognition, systematic assessment, and timely escalation when a deteriorating patient may have a non-septic cause. This helped make the proposed change more realistic, consistent with the nursing scope of practice, and easier to integrate into existing sepsis and rapid-response processes. By using evidence to identify the problem, shaping a feasible solution, and planning how the change could be implemented and evaluated, I demonstrated the role of a nurse change agent in promoting safer clinical practice.

C2a. Knowledge and Skills

My influence over the proposed change increased as my knowledge of the clinical problem expanded. One area of knowledge I developed was a better understanding of the overlap between sepsis and non-septic causes of shock. Through a review of the literature, I learned that patients with noninfectious conditions may initially present with presumed sepsis, and that sepsis screening and early warning systems can support recognition of deterioration but do not independently establish its underlying cause (Hwang et al., 2020; Lengquist et al., 2024). This knowledge changed how I approached the project. Rather than focusing on differentiating diagnoses, I developed the proposed change around improving nurses' recognition of concerning patterns, systematic assessment, and timely escalation while maintaining existing sepsis protocols. My discussion with the organizational sponsor further expanded my understanding of how a clinically appropriate intervention must fit into existing workflows to be practical. I learned that implementation must account for factors such as staff time, cognitive burden, EHR usability, recurring education, and the need to integrate new processes into systems nurses

already use. This helped me recognize that developing an effective clinical intervention requires consideration of both the evidence supporting the change and the operational environment in which it will occur.

A skill I developed and strengthened during the project was evidence appraisal and synthesis. I reviewed multiple types of evidence, including systematic reviews, qualitative studies, randomized and quasi-experimental studies, clinical guidelines, and national data. I compared the strengths, limitations, and relevance of each source before deciding how it should support the proposed change. For example, I used research on sepsis mimics and sepsis-alert accuracy to establish the clinical need to consider alternative causes of deterioration, while using studies on nursing deterioration and education to guide the design of the intervention. I also applied this skill when considering sponsor feedback and determining how recommendations on education, workflow, technology integration, and evaluation could strengthen the implementation plan without altering the proposal's central purpose. This skill allowed me to move beyond simply collecting research and instead use evidence and stakeholder input to develop a focused and feasible implementation plan.

C2b. Proposal Expansion

The proposed change was envisioned for initial implementation within an inpatient acute care hospital setting, where bedside nurses routinely assess and respond to patients experiencing clinical deterioration. Following evaluation of the initial pilot, the intervention could be expanded in phases, beginning with other inpatient units within the same hospital, such as medical-surgical, telemetry, oncology, and step-down units. These settings care for patients at risk for sepsis and other causes of shock, making recognition and timely escalation of non-septic deterioration relevant across multiple specialties. Expansion would involve reviewing the pilot

findings, incorporating feedback from bedside nurses and clinical stakeholders, and adapting the educational content, clinical scenarios, and activation criteria to the patient population and each unit's existing escalation processes. After demonstrating feasibility and effectiveness across multiple departments, the program could be introduced to other hospitals within the same health system and eventually to acute care facilities outside the original organization. The intervention could also be adapted for hospital outpatient departments, such as oncology infusion centers, where nurses may encounter acute clinical deterioration but have different resources and escalation procedures. Throughout expansion, the program would maintain its central focus on systematic assessment, recognition of possible non-septic shock, and timely escalation without replacing or delaying established sepsis protocols.

I could support expansion by sharing project outcomes and lessons learned with nursing leaders, clinical educators, quality improvement committees, and rapid-response or critical-care teams in other departments and organizations. If the intervention demonstrated benefit, I could present the project at staff meetings, shared governance or quality committees, and professional nursing meetings or conferences. Educational materials, implementation strategies, and evaluation results could also be shared electronically with nurse educators and clinical leaders at other organizations interested in adopting a similar approach. Networking with these professionals would enable the intervention to be adapted to different practice environments while promoting broader dissemination of best practices for the recognition and escalation of non-septic shock.

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