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Staff Education on Vital Sign Assessment and Electronic Health Record Documentation for Acute and Critical Care Nurses and Patient Care Technicians

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Walden University

College of Nursing

This is to certify that the doctoral study by

Natalie Brock

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee

Dr. Barbara Barrett, Committee Chairperson, Nursing Faculty

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Sue Subocz, Ph.D.

Walden University
2026

Executive Summary: Staff Education Project

Staff Education on Vital Sign Assessment and Electronic Health Record Documentation
for Acute and Critical Care Nurses and Patient Care Technicians

by

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MS, Walden University, 2013

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Executive Summary Submitted in Partial Fulfillment
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Summary

A staff educational quality improvement initiative aimed at enhancing the knowledge and accuracy of acute care nurses and patient care technicians (PCTs) in vital sign documentation was the focus of the doctoral project. Gaps in vital sign obtainment and electronic health record (EHR) documentation were identified through organizational serious safety event reviews, highlighting risks to patient safety and clinical decision-making. The project addressed the question of whether, in the inpatient hospital setting, a staff educational training program for acute and critical care nurses improves their knowledge of accurate vital sign documentation in the EHR.

I analyzed pre- and posttest assessments and program evaluations using descriptive statistics and comparative review to measure participants' knowledge gains, confidence, and potential documentation improvements. Findings demonstrated enhanced knowledge which could improve clinical judgment, consistency, and confidence in vital sign documentation, while identifying barriers, such as workload and equipment limitations. Major products included structured educational sessions; supporting materials; and recommendations for refresher training, expansion to all units, and EHR workflow optimization. The project reinforces evidence-based nursing practice; promotes safe and standardized care; and supports positive social change by ensuring equitable, high-quality care across patient populations.

Background

Serious safety events at a Level 2 trauma center in Central Texas are reported through the organization's event reporting system. In a review of 121 serious safety events for Fiscal Year 2025 (July 1, 2024 – June 30, 2025), 39 events mentioned gaps in vital sign documentation and/or reassessment of vital signs. In one example, a patient experienced hypotension, and a rapid response was initiated. During a review of the patient's EHR, no respiratory rate (RR) was documented or were vital signs obtained during the rapid response documented in the appropriate section of the EHR. A patient experiencing leg weakness had orders for vital signs and neurovascular checks every 4 hours.

Clinical cues, such as blood pressure, heart rate, RR, and temperature, are used by healthcare providers to assist in identifying patients with deteriorating conditions (Burdeu et al., 2021). Nurses require the knowledge of how to interpret, synthesize, and escalate patient care based on assessing their patients' vital signs (Considine et al., 2024). Nurse education was needed to reinforce the importance of following provider orders and unit policy for vital sign assessment and documentation, along with documenting vital signs obtained during a rapid response or Code Blue in the appropriate section of the EHR.

Project Question and Purpose

This staff educational project addressed the following question: *In the inpatient hospital setting, does a staff educational training program for acute and critical care nurses improve their knowledge about the accuracy of vital sign documentation in the EHR?* Accurate documentation of vital signs is essential for timely clinical decision-making, early identification of patient deterioration, and effective communication among

the interdisciplinary care team. Despite its importance, variations in practice and knowledge gaps may result in incomplete or inaccurate EHR documentation, placing patient safety at risk. In the staff educational project, I proposed the implementation of a structured staff education program focused on obtaining vital signs per provider order or unit routine and accurately documenting a complete set of vital signs in the EHR. The effectiveness of the education was evaluated using pre- and posttest knowledge assessments to measure changes in nurses' knowledge and guide recommendations for sustaining accurate vital sign documentation practices within the inpatient setting.

Supporting Evidence

I conducted an evidence-based practice review to evaluate whether a staff educational training program improved acute and critical care nurses' knowledge of accurate vital sign documentation in the EHR. A search of the databases in the Walden University Library yielded 188 relevant articles, of which 24 met inclusion criteria. I appraised these articles using the Johns Hopkins Evidence-Based Practice Model for nursing and healthcare professional's appraisal tools (see Dang et al., 2021). Eighteen studies were rated as high quality and six as good quality. The evidence levels included 14 Level V studies, seven Level III studies, two Level II studies, and one Level IV study. Overall, the body of evidence demonstrates moderate to strong strength, supported by systematic and scoping reviews, quality improvement initiatives, quasi-experimental studies, and observational analyses, with consistent findings across clinical settings.

Strong evidence from systematic reviews and large observational studies indicates that incomplete or inconsistent vital sign documentation, particularly respiratory rate and oxygen saturation, limits early recognition of patient deterioration. While heart rate,

blood pressure, and temperature are most frequently documented, respiratory rate is often omitted despite being one of the strongest predictors of mortality and adverse events (Burdeu et al., 2020; Considine et al., 2023; Schnock et al., 2021). Retrospective analyses demonstrated that increased respiratory rate documentation and contextual nursing comments are associated with inpatient mortality, suggesting that accurate and complete documentation reflects clinical concern (Schnock et al., 2021). The body of evidence is rated strong, supporting focused education on accurate and complete vital sign documentation.

Moderate-quality evidence demonstrates that targeted EHR education improves nurses' documentation knowledge, proficiency, and compliance. A quasi-experimental study by Ju and Jeong (2025) showed that practice-oriented EHR education significantly enhanced new nurses' documentation skills, with authors recommending refresher training to sustain gains. Multiple quality improvement and audit-based studies further support this finding, showing that standardized templates, targeted education, and audit-feedback mechanisms reduce documentation burden while improving accuracy and compliance (Brima et al., 2021; Bunting & de Klerk, 2022; Jedwab et al., 2022; Phillips & Baur, 2021). Collectively, the findings provide moderate-to-strong evidence that structured staff education positively influences nurses' documentation knowledge and practices.

Scoping reviews and case studies provide moderate evidence that documentation burden and manual data entry contribute to omissions in vital sign documentation, while workflow-aligned policies and EHR optimization improve efficiency and accuracy (Gonzalez et al., 2025; Lowry et al., 2022; Panganiban et al., 2025). Evidence from

expert opinion and program evaluations supports the use of adult learning principles, experiential learning, multimodal delivery, microlearning, just-in-time education, and gamification to enhance knowledge retention and engagement among nurses (Dacanay et al., 2021; Harper, 2025; Higgins, 2024; Jang, 2022; Joseph et al., 2023). Although largely nonexperimental, these findings are consistent and contextually relevant, contributing supportive evidence for educational design.

Staff Education Project Development

The staff education project involved nurses and PCTs from six acute care and critical care units within the project site hospital. Participants included all registered nurses and PCTs working on these units who were responsible for obtaining and documenting vital signs in the EHR. To meet organizational requirements, participants were provided with information regarding voluntary participation in a project conducted at the institution (see Appendix A).

The project procedures began with coordination with nurse managers to introduce the educational initiative and schedule time on preexisting unit staff meetings to deliver the education project. During the unit staff meetings, nurses and PCTs viewed a PowerPoint presentation (see Appendix B) accompanied by a supplemental educational flyer (see Appendix C) that highlighted best practices for accurate vital sign documentation. Prior to the education, participants completed an electronic pretest via Google Forms to assess their baseline knowledge (see Appendix D). It was important that demographic information was collected from the participants because identifying the units in which respondents worked helped contextualize the findings and determine whether unit-based factors influenced vital sign documentation practices. Following

completion of the educational sessions, participants completed an electronic posttest that included the same items reflected in the pretest to evaluate their knowledge acquisition. At the end of the posttest items to assess the program's effectiveness were incorporated.

Results

I conducted three staff education sessions during scheduled unit staff meetings for three acute care units. A total of 68 associates, including registered nurses and PCTs, attended the education sessions. Attendance varied by unit, with 30 associates attending the 3rd floor staff meeting, 20 associates attending the 4th floor staff meeting, and 18 associates attending the 5th floor staff meeting. The critical care unit staff meeting was cancelled on the day of the scheduled session; therefore, they did not receive the education during the implementation period.

Twenty-five acute care nurses and PCTs from the 3rd, 4th, and 5th floor completed the pretest questionnaire, and 25 nurses and PCTs completed the posttest questionnaire and program evaluation. Overall, the results demonstrated strong baseline knowledge with measurable improvements in knowledge, about the accuracy of vital signs documentation, which could lead to participant consistency, confidence, and documentation improvement following the educational intervention (see Table 1).

Regarding knowledge of required vital signs, 100% of respondents ($N = 25$) correctly identified heart rate, respiratory rate, blood pressure, temperature, and oxygen saturation as required per organizational policy on both the pre- and posttest assessments (see Table 1). The finding indicates that foundational knowledge of required vital sign

components was maintained throughout the intervention period comprised of delivering the staff educational program.

On the pretest, 88% ($n = 22$) correctly identified the minimum frequency for routine vital sign monitoring in stable acute care patients as every 4 hours, with some respondents appropriately indicating that monitoring may also occur per provider order. Posttest responses demonstrated improved consistency, 96% ($n = 24$) selecting every 4 hours and/or per provider order (see Table 1).

Participants demonstrated strong recognition of policy-driven clinical scenarios requiring prompt vital sign assessment. More than 90% of respondents ($n = 23$) correctly identified that vital signs should be obtained and documented immediately upon arrival following patient transfer from another care area, new-onset chest pain, and return to the unit after surgery (see Table 1). For blood transfusion monitoring, 92% of participants ($n = 23$) correctly identified required assessment intervals, including pretransfusion, 15 minutes after initiation, and immediately posttransfusion.

Knowledge related to documentation location for vital signs obtained during a critical response or Code Blue improved following the intervention. Pretest responses demonstrated variability in identifying appropriate EHR documentation pathways. Posttest results showed improved alignment, with 88% of participants ($n = 22$) correctly identifying appropriate documentation locations, such as Compass Interactive View or the Resuscitation Record (see Table 1).

Regarding recognition of clinical deterioration, 84% of respondents ($n = 21$) correctly identified respiratory rate, heart rate, blood pressure, and oxygen saturation as the most sensitive indicators of patient decline (see Table 1). Additionally, when

automated respiratory rate monitoring was unavailable, 92% of participants ($n = 23$) correctly identified manual counting and documentation as the appropriate action.

Self-reported confidence improved following the educational intervention. On the pretest, approximately 56% of participants ($n = 14$) reported being very confident in recognizing when additional vital signs were needed outside of routine monitoring.

Posttest results demonstrated a notable increase in confidence, with approximately 84% of participants ($n = 21$) reporting being very confident. (see Table 1).

Table 1*Pre- and Posttest Outcomes: Vital Sign (VS) Documentation Education*

Outcome measure	Pretest results	Posttest results	Change/interpretation
Correct identification of required VS (HR, RR, BP, Temp, SpO ₂)	100% (25/25)	100% (25/25)	High baseline knowledge maintained
Correct routine VS frequency for stable acute care patients (every 4 hours/per provider order)	88% (22/25)	96% (24/25)	Improved consistency and policy alignment
VS obtained immediately after transfer, chest pain, or post-op arrival	92% (23/25)	100% (25/25)	Reinforced situational policy knowledge
Correct blood transfusion VS timing (pre, 15 min, post)	92% (23/25)	96% (24/25)	Improved accuracy and confidence
Correct documentation location for CRT/Code Blue VS	68% (17/25)	88% (22/25)	Notable improvement in EHR navigation knowledge
Correct action when RR not captured electronically (manual count)	92% (23/25)	96% (24/25)	Reinforced best practice
Recognition of most sensitive indicators of deterioration (RR, HR, BP, SpO ₂)	84% (21/25)	92% (23/25)	Improved clinical judgment
Self-reported “Very Confident” in recognizing need for additional VS	56% (14/25)	84% (21/25)	Meaningful increase in confidence

Note. VS = vital signs; HR = heart rate; RR = respiratory rate; BP = blood pressure;

Temp = temperature; SpO₂ = oxygen saturation; CRT = critical response team; EHR =

electronic health record; post-op = postoperative; min = minutes.

Program Evaluation

Post program evaluation findings further supported the effectiveness of the intervention. Participants rated the education highly across all evaluation domains on a 5-point Likert scale, with mean scores ranging from 4.5 to 4.8 for presenter effectiveness, relevance to clinical practice, understanding of when and how often to obtain vital signs, knowledge of documentation location following a Code Blue or rapid response, and awareness of accurate and timely vital sign documentation (see Table 2).

Table 2

Post staff Education Program Evaluation Scores (5-Point Likert Scale)

Evaluation item	Mean score
Presenter effectiveness and engagement	4.6–4.8
Relevance to clinical practice	4.6–4.8
Understanding of when/how often to obtain vital signs	4.5–4.8
Knowledge of where to document vital signs after CRT/Code Blue	4.5–4.8
Awareness of accurate and timely vital sign documentation	4.6–4.8

Note. CRT = critical response team

Barriers

Despite overall positive outcomes, participants identified persistent barriers to obtaining and documenting vital signs as required. The most frequently reported barriers included time constraints and workload, identified by approximately 70%–75% of respondents ($n \approx 18$ –19), and equipment availability or functionality, identified by approximately 50%–60% ($n \approx 13$ –15). Fewer than 15% of participants ($n \approx 3$ –4) identified unclear policies as a barrier (see Table 3).

Table 3*Key Barriers Identified*

Barrier	Approximate frequency
Time constraints/workload	70%–75%
Equipment availability/functionality	50%–60%
Unclear policies	< 15%

Organizational Impact

The staff education program enhanced knowledge, and perceived confidence, and consistency among acute care nurses and PCTs in obtaining and documenting vital signs. Post staff education program results demonstrated improved clinical judgment, adherence to policy-driven practices, and correct EHR documentation, supporting safer patient care and timely recognition of clinical deterioration. Participants rated the sessions highly, indicating strong engagement and applicability to practice. Persistent barriers, such as time constraints, workload, and equipment availability, were identified, providing leadership with actionable insights for workflow optimization and future interventions.

Limitations

The findings of the staff education project are limited by a small sample size and variable attendance, with some units not participating, which may affect generalizability. Data relied on self-reported measures, introducing potential response bias, and assessments were conducted only immediately post staff education program, limiting insight into long-term knowledge retention. I did not evaluate direct patient outcomes in the project and did not control external factors, such as workload and equipment availability, which may have influenced results. Additionally, the project was conducted

in a single organization, limiting applicability of the findings to other settings or populations.

Continued Project Importance

Improving vital sign obtainment and documentation is important beyond the local site because accurate vital sign monitoring is critical to patient safety in all acute care settings. The staff educational program provides a replicable model for unit-based staff education that improves knowledge, confidence, and documentation practices. The findings also highlight common barriers, such as workload and equipment availability, which affect policy adherence across healthcare organizations. Additionally, the project reinforces evidence-based practice and supports nursing professional development, contributing to safer, more consistent care nationwide.

Conclusions

The Doctor of Nursing Practice staff education project yielded a positive organizational impact by improving nurses' and PCTs' knowledge, and perceived confidence, and consistency in vital sign obtainment and EHR documentation, thereby supporting patient safety, timely clinical decision-making, and adherence to organizational policy. In addition, I identified system-level barriers, including workload demands and equipment availability, providing leadership with evidence to inform workflow optimization, resource allocation, and future quality improvement initiatives. My recommendations include expanding the intervention to all inpatient units, integrating the content into orientation and annual competency validation, implementing refresher education to promote sustainability, and exploring EHR optimization and audit-feedback mechanisms. Implications for nursing practice include strengthened clinical judgment,

professional accountability, and evidence-based documentation practices that enhance interdisciplinary communication and early recognition of patient deterioration.

Standardized documentation practices support diversity, equity, and inclusion by reducing variability in care delivery; promoting consistent monitoring across patient populations and care settings; and fostering an inclusive learning environment that support professional development and equitable, high-quality nursing care, which have the potential to positively impact social change.

References

- Brima, N., Sevdalis, N., Daoh, K., Deen, B., Kamara, T. B., Wurie, H., Davies, J., & Leather, A. J. M. (2021). Improving nursing documentation for surgical patients in a referral hospital in Freetown, Sierra Leone: Protocol for assessing feasibility of a pilot multifaceted quality improvement hybrid type project. *Pilot & Feasibility Studies*, 7(1), 1–13. <https://doi.org/10.1186/s40814-021-00768-5>
- Bunting, J., & de Klerk, M. (2022). Strategies to improve compliance with clinical nursing documentation guidelines in the acute hospital setting: A systematic review and analysis. *SAGE Open Nursing*, 8, 1–34. <https://doi.org/10.1177/23779608221075165>
- Burdeu, G., Lowe, G., Rasmussen, B., & Considine, J. (2021). Clinical cues used by nurses to recognize changes in patients' clinical states: A systematic review. *Nursing & Health Sciences*, 23(1), 9–28. <https://doi.org/10.1111/nhs.12778>
- Considine, J., Casey, P., Omonaiye, O., van Gulik, N., Allen, J., & Currey, J. (2024). Importance of specific vital signs in nurses' recognition and response to deteriorating patients: A scoping review. *Journal of Clinical Nursing*, 33(7), 2544–2561. <https://doi.org/10.1111/jocn.17099>
- Dacanay, A. P., Wyllie, C., Sorrentino, E., Sibrian, J., & Dunbar, G. (2021). Can you escape sepsis? Using a healthcare escape room as an innovative approach to nursing education. *Clinical Nurse Specialist*, 35(2), 65–72. <https://doi.org/10.1097/NUR.0000000000000578>

- Dang, D., Dearholt, S. L., Bissett, K., Ascenzi, J., & Whalen, M. (2021). *Johns Hopkins evidence-based practice for nurses and healthcare professionals: Model and guidelines* (4th ed.). Sigma Theta Tau International.
- Gonzalez, J., Fisher-Grace, K., Carpenter, J., & Pronovost, P. J. (2025). Nursing governance to reduce documentation burden. *Nurse Leader*, 23(2), 187–190.
<https://doi.org/10.1016/j.mnl.2024.11.006>
- Harper, M. (2025). Teaching adult learners. *Nephrology Nursing Journal*, 52(2), 115–121. <https://doi.org/10.37526/1526-744X.2025.52.2.115>
- Higgins, S. M. (2024). Just-in-time training: A strategy to support perioperative nurses' continued professional education. *ORNAC Journal*, 41(1), 27–44.
<https://doi.org/10.5737/ornac11507>
- Jang, E. C. (2022). Addressing challenges to the development, delivery, and evaluation of continuing education for nurses. *Nursing Clinics of North America*, 57(4), 513–523. <https://doi.org/10.1016/j.cnur.2022.06.003>
- Jedwab, R. M., Franco, M., Owen, D., Ingram, A., Redley, B., & Dobroff, N. (2022). Improving the quality of electronic medical record documentation: Development of a compliance and quality program. *Applied Clinical Informatics*, 13(4), 836–844. <https://doi.org/10.1055/s-0042-1756369>
- Joseph, L. M., Therady, A. M., Rahman, A., & Varghese, R. M. (2023). “Just-in-time” COVID-19 education: The story of a nursing professional development unit. *Journal for Nurses in Professional Development*, 39(6), E180–E184.
<https://doi.org/10.1097/NND.0000000000000905>

- Ju, J.-K., & Jeong, H.-W. (2025). Effect of a practice-oriented electronic medical record education program for new nurses. *Healthcare (2227-9032)*, 13(4), 365.
<https://doi.org/10.3390/healthcare13040365>
- Lowry, A. W., Futterman, C. A., & Gazit, A. Z. (2022). Acute vital signs changes are underrepresented by a conventional electronic health record when compared with automatically acquired data in a single-center tertiary pediatric cardiac intensive care unit. *Journal of the American Medical Informatics Association*, 29(7), 1183–1190. <https://doi.org/10.1093/jamia/ocac033>
- Panganiban, H. P., Dela Cruz, A., & Jedwab, R. (2025). Electronic health record strategies for improving nurse documentation in the hospital setting: A scoping review. *Computers, Informatics, Nursing: CIN*, 43(12), e01267.
<https://doi.org/10.1097/CIN.0000000000001267>
- Phillips, T., & Baur, K. (2021). Nursing praxis for reducing documentation burden within nursing admission assessments. *CIN: Computers, Informatics, Nursing*, 39(11), 627–633. <https://doi.org/10.1097/CIN.0000000000000776>
- Schnock, K. O., Kang, M.-J., Rossetti, S. C., Garcia, J., Lowenthal, G., Knaplund, C., Chang, F., Albers, D., Korach, T. Z., Zhou, L., Klann, J. G., Cato, K., Bates, D. W., & Dykes, P. C. (2021). Identifying nursing documentation patterns associated with patient deterioration and recovery from deterioration in critical and acute care settings. *International Journal of Medical Informatics*, 153.
<https://doi.org/10.1016/j.ijmedinf.2021.104525>

Appendix A

Participant's Consent Information

Staff Education Project: Improving Vital Sign Documentation and Assessment in the Electronic Health Record

You are invited to take part in a quality improvement project led by Natalie Brock, MSN, RN, Doctor of Nursing Practice (DNP) student at Walden University.

- You are being asked to participate because you work as a nurse at the project site on an acute care or critical care unit.
- Though taking part in the project is voluntary, the outcome of the analysis will have no bearing on your employment status and performance evaluation.
- The purpose of this project is to improve the accuracy and consistency of vital sign documentation and assessment in the electronic health record (EHR).

What Will Happen in this Clinical Practice Project?

- If you decide to take part, you will first complete a brief pre-test about your current knowledge of vital sign documentation requirements.
- Next, you will either receive an informational flyer to review or participate in an in-person presentation.
- After, you will be asked to complete a second short post-test.
- The entire process will take about five minutes.

Will I Be Paid for Taking Part in This Clinical Practice Project?

There is no payment or additional compensation for participating in this quality improvement project.

Confidentiality

- Your survey responses will not be linked to you personally.
- All information will be reported in aggregate form only.
- Your answers will not affect your employment, role, or patient care in any way.
- To protect your privacy, no personal identifying information will be collected during this study. Instead, you will be assigned a unique identifier. This identifier will allow us to link your responses from the pre-test to the post-test while ensuring that your identity remains confidential.

What if I have questions or concerns?

If you have questions about this quality improvement project, feel free to contact Natalie Brock at XXXXXXXX.

If you have questions about your rights as a clinical practice project participant or want to report any problems or complaints, you can contact the project site IRB at XXXXXXXX.

How do I agree to be in the clinical practice project?




Completion of the pre-/post-test will serve as your consent to participate.

Thank you for taking time to consider taking part in this quality improvement project.

Appendix B: PowerPoint Presentation



Introduction

 <p>The Problem:</p> <p>Inconsistent and incomplete documentation of vital signs in the electronic health record (EHR)</p> <p>Respiratory rate and oxygen saturation often under-documented</p> <p>Missed opportunities for early recognition of patient deterioration</p>	 <p>How the Problem Was Identified:</p> <p>Review of serious safety event reports and EHR audits showed gaps in timely and complete vital sign documentation</p> <p>Event reviews of Rapid Responses and Code Blues revealed missing or delayed documentation</p> <p>Staff feedback indicated uncertainty about documentation expectations and EHR workflow</p>	 <p>The Solution:</p> <p>Implement targeted nurse education focused on:</p> <ul style="list-style-type: none"> • Policy awareness and documentation standards • Accurate measurement of respiratory rate • Proper documentation after critical events (Rapid Response / Code Blue) • Early recognition of abnormal vital signs indicating patient deterioration
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Agenda

- Welcome and Introduction (2 minutes)
- Pre-Test (3 minutes)
- Learning Objectives (2 minutes)
- Educational Session (10 minutes)
- Questions & Answers (2 minutes)
- Post-Test & Evaluation (3 minutes)
- Closing Remarks (2 minutes)

Pre-Test

The pre-test should only take a few minutes to complete.

Please use your initials for the "Unique ID"



LEARNING OBJECTIVES

- After completing this education, the learner will be able to:
 - Locate and reference the unit's policy and standards regarding the frequency of obtaining vital signs (e.g., on admission/transfer, post-procedure/post-operative, or during a change in patient condition).
 - Demonstrate accurate and timely documentation of a complete set of vital signs (BP, HR, RR, Temp, O₂ Sat).
 - Perform and record the correct process for measuring the respiratory rate.
 - Demonstrate accurate and timely documentation of vital signs after a rapid response or Code Blue event in the appropriate section of the electronic health record (EHR).
 - Interpret and recognize vital signs that may serve as early indicators of adverse events (e.g., respiratory rate and temperature).



RECOGNIZING CHANGES IN
A PATIENT'S CONDITION
EARLY ALLOWS TIMELY
CARE, PREVENTING
ADVERSE EVENTS AND
IMPROVING OUTCOMES.

©Burda et al., 2021

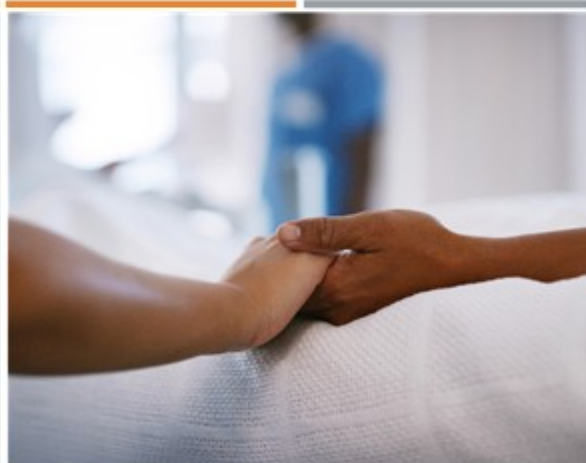
WHY DO I HAVE TO RELEARN ABOUT VITAL SIGNS?

In a review of 121 serious safety events for fiscal year 2025 (July 1, 2024 – June 30, 2025), 39 events mentioned gaps in vital sign documentation and/or reassessment of vital signs.

A PATIENT EXPERIENCED HYPOTENSION, AND A RAPID RESPONSE WAS INITIATED.

DURING A REVIEW OF THE PATIENT'S ELECTRONIC HEALTH RECORD (EHR):

- NO RESPIRATORY RATE WAS DOCUMENTED.
- NOR WERE VITAL SIGNS OBTAINED DURING THE RAPID RESPONSE DOCUMENTED IN THE APPROPRIATE SECTION OF THE EHR.





A patient experiencing leg weakness had orders for vital signs and neurovascular checks every four hours.

In reviewing the EHR after the patient had a rapid response due to increasing leg weakness,

- Neurovascular checks were not documented for over 48 hours
- Patient did not receive ordered antihypertensive medications for a systolic blood pressure greater than 160, with no provider notification of why the medication was not administered.

WHY ARE VITAL SIGNS IMPORTANT?

Omitting the assessment of specific vital sign parameters may place patients at risk of unrecognized clinical change, or

May indicate that nurses are tailoring their assessment to patient needs or clinical states.

LET'S REVIEW

"ASSESSING AND REASSESSING A PATIENT" POLICY
DEFINES VITAL SIGNS AS:

Heart Rate

Respiratory Rate

Blood Pressure

Temperature

SpO₂

WHEN SHOULD VITAL SIGNS BE DOCUMENTED ?

- On Admission or Transfer
- Per Unit Routine
- Per Provider Order
- Post Procedure/Post-Operatively
- Change in Patient Condition

WHEN SHOULD VITAL SIGNS BE DOCUMENTED ON ADMISSION OR TRANSFER?



Immediately on arrival



Within 30 minutes



Within 1 hour

WHAT IS CONSIDERED "UNIT ROUTINE" VITAL SIGNS FOR ACUTE CARE?

- Every 4 hours
- Every 8 hours
- Once per Shift
- Per Provider Order

WHAT IS CONSIDERED "UNIT ROUTINE" VITAL SIGNS FOR A STABLE PATIENT IN CRITICAL CARE?

- Every Hour
- Every 2 hours
- Every 4 hours
- Per Provider Order

A PATIENT IS RECEIVING A BLOOD TRANSFUSION.
PER POLICY, VITAL SIGNS SHOULD BE TAKEN AND
DOCUMENTED...?

Pre-transfusion

15 minutes after
beginning the
transfusion

Immediately post-
transfusion

PolicyStat (2024).

A PATIENT POST-PROCEDURE / POST-OPERATIVE .
PER UNIT ROUTINE, VITAL SIGNS SHOULD BE TAKEN AND DOCUMENTED ... ?



EVERY 30 MINUTES X 2 TIMES, THEN
EVERY HOUR X 2 HOURS, THEN EVERY
4 HOURS X 24 HOURS



TEMPERATURE SHOULD BE TAKEN
UPON ADMISSION TO THE UNIT, ONE
HOUR LATER, AND THEN PERFORMED
EVERY 4 HOURS



PER PROVIDER ORDERS, NURSING
JUDGMENT, OR PATIENT'S CONDITION

WHERE DO YOU DOCUMENT VITAL SIGNS OBTAINED DURING A RAPID RESPONSE OR CODE BLUE?



Resuscitation Record (i.e., Code Blue Documentation Sheet)



COMPASS → AdHoc → Clinical Event → Medical Status Change



COMPASS → AdHoc → Clinical Event → Critical Results



COMPASS → Interactive View and I&O → Vital Signs

WHICH VITAL SIGN(S) ARE THE MOST FREQUENTLY DOCUMENTED?

Heart Rate

Blood Pressure

WHICH VITAL SIGN(S) ARE THE LEAST FREQUENTLY DOCUMENTED?

Respiratory
Rate

Temperatur
e

SpO₂

Conlidine et al., 2020

WHICH VITAL SIGN(S) ARE THE MOST COMMON CLINICAL CUES TO RECOGNIZE CHANGE IN PATIENT CONDITION?



Heart rate, blood pressure, and temperature are the most common clinical cues that healthcare providers use to recognize clinical changes in patients.



Hypotension and bradycardia are the most common triggers for activating a rapid response.

Bladner et al., 2020; Conlidine et al., 2020

WHICH VITAL SIGN(S) ARE THE LEAST COMMON CLINICAL CUES TO RECOGNIZE CHANGE IN PATIENT CONDITION?



Respiratory rate and conscious state are the least common clinical cues that healthcare providers use to recognize clinical changes in patients.



Bradypnea and hypoxemia are the least common triggers for activating a rapid response.


Conside et al., 2020


WHY IS THE RESPIRATORY RATE BEING MISSED?

- VitalsLink machines do not measure respiratory rate, meaning that staff must go into the EHR and manually document the respiratory rate.
- This step is frequently missed.



THE IMPORTANCE OF RESPIRATORY RATE

 Respiratory rate and oxygen saturation are not consistently documented in EHRs.

 Tachypnea and hypoxemia are the most accurate signs of critical illness and the most sensitive precursor to in-hospital events.

Ducku et al., 2020

WHAT'S MISSING
OR WRONG?

		9/24/2025										9/25/2025									
		7:50 CDT	7:28 CDT	9:55 CDT	8:20 CDT	9:18 CDT	23:53 CDT	21:30 CDT	20:42 CDT	19:29 CDT	18:30 CDT	16:38 CDT	11:26 CDT	9:19 CDT	8:20 CDT	8:06 CDT	7:43 CDT				
Vital Signs																					
Temperature Oral (DegF)	DegF	97.9				98.1				99.3		98.6	98				97.9				
Temperature Oral (DegC)	DegC	36.6				36.7				37.4		37.0	36.7				36.6				
Temperature Axillary (DegF)	DegF																				
Temperature Axillary (DegC)	DegC																				
Apical Heart Rate	bpm																				
Peripheral Pulse Rate	bpm	66	65	71	67	67	60			63	67		53	60			62	60			
Respiratory Rate	br/min	18	18			18				18			18	18			18	18			
SBP/DBP	mmHg	171/65	150/80	133/80	162/82	166/82				133/73	104/71		140/70	172/89	146/72	144/77		100/75			
Monitor Calculated MAP	mmHg	101	104			109	110			100	109		104	96				110			
Blood Pressure Location			Right arm		Right arm		Right arm				Right arm		Left arm	Left arm				Left arm			
Oxygen Saturation Method	%	96	97		95	95	96			95	96		97	92			97	93			
Oxygen Flow Rate Method	L/min																				
Oxygen Delivery Method		Room air	Room air		Room air	Room air	Room air	Room air	Room air	Room air	Room air		Room air	Room air			Room air	Room air			
Vital Signs Details		Hydrate... BP Tech...																			

		9/24/2025										9/25/2025									
		8:11 CDT	9:27 CDT	23:25 CDT	22:34 CDT	21:52 CDT	19:57 CDT	19:45 CDT	19:42 CDT	13:15 CDT	12:41 CDT	12:48 CDT	12:44 CDT	12:28 CDT	12:13 CDT	11:58 CDT	11:43 CDT	11:38 CDT			
Vital Signs																					
Temperature Oral (DegF)	DegF	97.5	97.2	97.3						98.4	98.3										
Temperature Oral (DegC)	DegC	36.4	36.3	36.4						36.9	36.8										
Temperature Axillary (DegF)	DegF																				
Temperature Axillary (DegC)	DegC																				
Apical Heart Rate	bpm																				
Peripheral Pulse Rate	bpm	67	75	68	69	64	67	76		75	77		76	76	68	68	72				
Heart Rate Monitor	bpm																				
Respiratory Rate	br/min	18				18	18			19			18	18	15	13	14	13			
SBP/DBP	mmHg	95/58	100/62	94/57	107/71	95/60	92/53	102/61		95/51			116/52	121/62	96/52	99/60	95/55	102/51			
Monitor Calculated MAP	mmHg	70	74			66	6	74.7										65			
Blood Pressure Location																					
Blood Pressure Method																					
Oxygen Saturation Method	%	96	93	97			93	96	96	97	95		96	95	96	98	95	95			
Oxygen Flow Rate Method	L/min	3	2	2			2	2	2	2	2	2	2	2	2	2	2	2			
Oxygen Delivery Method		Nasal ca.	Nasal ca.	Nasal ca.			Nasal ca.	Nasal ca.	Nasal ca.	Nasal ca.	Nasal ca.	Nasal ca.	Nasal ca.	Nasal ca.	Nasal ca.	Nasal ca.	Nasal ca.	Nasal ca.			
Vital Signs Details		Nasal ca. attempt...																			

The screenshot shows a patient's vital signs over time, with columns representing dates and times. The data is as follows:

	9/27/2025	9/28/2025	9/29/2025	9/30/2025	10/1/2025	10/2/2025	10/3/2025	10/4/2025	10/5/2025	10/6/2025	10/7/2025	10/8/2025	10/9/2025	10/10/2025	10/11/2025	10/12/2025
Temperature Oral (DegF)		96.5	96.6													
Temperature Oral (DegC)		36.9	37.0													
Temperature Axillary (DegF)																
Temperature Axillary (DegC)																
Temperature Temporal Artery (DegF)																
Temperature Temporal Artery (DegC)																
Apical Heart Rate																
Peripheral Pulse Rate																
Heart Rate			83	100	†		105	†	85	96	†	82	118	†	118	†
Heart Rate Monitored	66	79				90	†									
Respiratory Rate	16	18				16										
SpO2			113/73	106/67					112/73	16		116/78	132/73	144/91	†	106/76
Mean Arterial Pressure																
Monitor																
Calculated																
MAP			85	80				86		91	94	102	†	87		
Blood Pressure Location																
Blood Pressure Method																
Oxygen Saturation %	99	97	96	95		99	97	96	99	100	98	96	97			
Oxygen Flow Rate	2															
Oxygen Delivery Method	Nasal ca., Room air					Room air, Room air			Room air							
Vital Signs Details																

HOW TO SOLVE FOR MISSING VITAL SIGNS?



Follow unit routine or provider orders for obtaining vital signs.



Ensure that all vital signs (HR, RR, BP, Temp, Sp O2) are documented appropriately.



Manually count and document respiratory rate.



Utilize the Task List (e.g., Activities and Interventions) to ensure no orders or tasks are missed.




Document CRT & Code Blue vital signs in "Interactive View and I&O" under Vital Signs.



Post-Test

The post-test should only take a few minutes to complete.

Please use your initials for the "Unique ID"



REFERENCES

- Burdeu, G., Lowe, G., Rasmussen, B., & Considine, J. (2021). Clinical cues used by nurses to recognize changes in patients' clinical states: A systematic review. *Nursing & health sciences*, 23(1), 9–28. <https://doi.org/10.1111/nhs.12778>
- Considine, J., Casey, P., Omonaiye, O., van Gulik, N., Allen, J., & Currey, J. (2024). Importance of specific vital signs in nurses' recognition and response to deteriorating patients: A scoping review. *Journal of clinical nursing*, 33(7), 2544–2561. <https://doi.org/10.1111/jocn.17099>
- PolicyStat. (2024). Blood and blood products – Administering and transfusing. <https://ascension-seton.policystat.com/policy/170446354atest>
- PolicyStat. (2025). Assessing and reassessing a patient. <https://ascension-seton.policystat.com/policy/180237964atest>

Appendix D: Supplemental Flyer

DID YOU KNOW...?

Recognizing changes in a patient's condition early allows timely care, preventing adverse events and improving outcomes (Burdeu et al., 2021).

VITAL SIGN DOCUMENTATION

Seton policy defines vital signs as:

- Heart Rate
- Respiratory Rate
- Blood Pressure
- Temperature
- SpO2



WHEN TO DOCUMENT VITAL SIGNS:

- On Admission or Transfer
- Per Unit Routine
- Per Provider Order
- Post-Procedure/Post-Operatively
- Change in Patient Condition



WHAT IS UNIT ROUTINE?

- Acute Care: Every 4 hours
- Critical Care:
 - Every hour if stable
 - Every 15 minutes if unstable or titrating a new drip



WHERE DO YOU DOCUMENT VS?

- COMPASS – Interactive View and I&O – Vital Signs
- Rapid Response and Code Blue vital signs must be documented in the 'Vital Signs' section, not in AdHoc or the Resuscitation Record.



IMPORTANT - DON'T FORGET THE RESPIRATORY RATE!

- Research shows that Respiratory Rate is the least frequently documented vital sign (Considine et al., 2023).
- Event Reviews of CRTs/Code Blues at ASW confirm this finding.
- Tachypnea and hypoxemia are the most accurate indicators of critical illness and the most sensitive predictors to in-hospital adverse events (Burdeu et al., 2021).

REFERENCES

Burdeu, G., Lave, G., Rasmussen, B., & Considine, J. (2021). Clinical cues used by nurses to recognize changes in patients' clinical status: A systematic review. *Nursing & health sciences*, 23(1), 9–28. <https://doi.org/10.1111/nhs.12275>

Considine, J., Casey, P., Ommalye, O., van Gulik, N., Allen, J., & Currey, J. (2024). Importance of specific vital signs in nurses' recognition and response to deteriorating patients: A scoping review. *Journal of clinical nursing*, 35(7), 2544–2561. <https://doi.org/10.1111/jocn.17099>

Appendix D

Pre-/Post-Test Questionnaire

Improving Vital Sign Documentation and Assessment

Introduction: Thank you for participating in this staff education program. Prior to and after providing education on improving vital sign documentation and assessment in the electronic health record (EHR), the pre-test/post-test will assess staff nurses' knowledge both before and after the intervention in the following areas:

- Vital sign documentation requirements.
- Unit policies and standards on the frequency of obtaining vital signs; and,
- Recognition of vital signs that may indicate patient deterioration.

After the educational session(s), the post-test will be redistributed to the staff nurses/program participants to determine whether knowledge has improved. For confidentiality, your name is not required on this document. A unique identifier (ID) will be provided to ensure your pre-test is aligned with your post-test. The pre-test/post-test is comprised of 12 multiple choice questions.

Demographic Information

1. Unique ID:
2. Unit:
 - a. Acute Care (3rd, 4th, 5th, 6S)
 - b. Critical Care (MICU, STICU)

Vital Sign Documentation and Assessment in the Electronic Health Record

Knowledge of Policies and Standards

3. According to policy, when obtaining vital signs, which vital signs are required to be documented? (**Select all that apply**)
 - a. Heart Rate (HR) *Correct Answer
 - b. Respiratory Rate (RR) *Correct Answer
 - c. Blood Pressure (BP) *Correct Answer
 - d. Temperature *Correct Answer
 - e. Oxygen Saturation (SpO2) *Correct Answer
 - f. Unsure

4. What is your unit's policy on the minimum frequency of obtaining routine vital signs for a stable patient? (**Acute Care**)
 - a. Every 4 hours *Correct Answer
 - b. Every 8 hours
 - c. Once per shift
 - d. Per provider order *Correct Answer
 - e. Unsure

5. According to unit policy, when should vital signs be documented after a patient is transferred from one care area to another? (**Acute Care**)
 - a. Immediately on arrival
 - b. Within 30 minutes
 - c. Within 1 hour *Correct Answer
 - d. Unsure

6. What is your unit's policy on the minimum frequency of obtaining routine vital signs for a stable patient? (**Critical Care**)
- a. Every hour *Correct Answer
 - b. Every 2 hours
 - c. Every 4 hours
 - d. Per provider order *Correct Answer
 - e. Unsure

Clinical Scenarios

7. A patient develops new-onset chest pain. How soon should vital signs be assessed?
- a. Immediately *Correct Answer
 - b. Within 30 minutes
 - c. At the next scheduled check
 - d. Unsure

8. A patient has returned to the unit after having surgery. Per policy, upon arrival to the unit, vital signs will be taken and documented a minimum of...? (**Select all that apply**)
- a. Every 30 minutes x 2 times, then every hour x 2 hours, then every 4 hours x 24 hours *Correct Answer
 - b. Temperature should be taken upon admission to the unit, one hour later, and then performed every 4 hours *Correct Answer
 - c. Per provider orders, nursing judgment, or patient's condition *Correct Answer
 - d. Unsure
9. A patient is receiving a blood transfusion. Per policy, vital signs should be taken and documented...? (**Select all that apply**)
- a. Pre-transfusion *Correct Answer
 - b. 15 minutes after beginning the transfusion *Correct Answer
 - c. Immediately post-transfusion *Correct Answer
 - d. Unsure
10. Where do you document vital signs obtained during a Critical Response (CRT) or Code Blue?
- a. Resuscitation Record (i.e., Code Blue Documentation Sheet)
 - b. COMPASS AdHoc Clinical Event Medical Status Change
 - c. COMPASS AdHoc Clinical Event Critical Results
 - d. COMPASS Interactive View and I&O Vital Signs *Correct Answer

Recognition of Patient Deterioration

11. If a patient's respiratory rate is not captured by an automated monitor, what is the correct action?

- a. Leave it blank in the EHR
- b. Document as "not assessed"
- c. Manually count and document respiratory rate *Correct Answer
- d. Unsure

12. Which vital sign(s), when abnormal, are considered the most accurate signs of critical illness and the most sensitive precursors to in-hospital adverse events?

(Select all that apply).

- a. Heart Rate (HR)
- b. Respiratory Rate (RR) *Correct Answer
- c. Blood Pressure (BP)
- d. Temperature
- e. Oxygen Saturation (SpO₂) *Correct Answer
- f. Unsure

Confidence and Barriers

13. How confident do you feel in recognizing when additional vital signs should be obtained outside of routine checks? (pre-test questionnaire only)

- a. Very confident
- b. Somewhat confident
- c. Not confident

14. What barriers, if any, make it difficult to obtain or document vital signs as required? (Select all that apply) (pre-test questionnaire only)
- a. Time constraints/workload
 - b. Equipment availability
 - c. Unclear policies
 - d. Other (please specify)

Program Evaluation (Post-test questionnaire only)

Likert Scale: 1 – Strongly Disagree to 5 – Strongly Agree

15. The presenter was effective in delivering the content and engaging participants.
16. The content was relevant to my clinical practice.
17. I have a better understanding of when and how often to obtain vital signs.
18. I know where to document vital signs after a rapid response or Code Blue.
19. The training has improved my awareness of accurate and timely vital sign documentation.