

Frequency of Vital Signs and Physical Assessment

A Literature Review of the Evidence

Clinical Question: For adult hospitalized patients in a medical-surgical or intensive care unit, what is the quantity, quality, and consistency of the evidence for frequency of routine vital signs and physical assessment?

Conclusions: The evidence was scarce, inconsistent, and conflicting regarding how often clinicians should take a patient's vital signs (VS). While VS assessment remains a staple activity of acute care registered nurses (RN), evidence regarding frequency and effectiveness of vital signs measurements was scarce.^{1,2,3,5} Additionally, there were no benchmarked,² national or regulatory standards for frequency of VS assessment,^{2,4,6,7,8} or physical assessment.^{4,6,7,8} There was no evidence³ regarding physical assessment (PE) in the reviewed literature,¹⁻⁸ although one professional organization provided an ambiguous opinion for PE.⁶ Most studies were not designed to address the above clinical question, they had different questions, methods, settings and purposes.⁵

Routine VS underpin clinical decision-making and nursing practice.⁵ However, VS frequency routines varied widely² and were based on opinion, ritual, and tradition.^{2,5} The routine practice of VS measurement remains open to inquiry.⁵ One systematic review⁵ found only 28% of those patients who experienced adverse events had two or more abnormal vital signs.⁵ A better understanding of this routine nursing practice is needed to identify factors which promote or hinder effective patient observation to positively impact patient outcomes.³

Key Summary of the Evidence: The evidence outlined the structures and processes needed to obtain targeted patient and staff outcomes (See Table 1, Page 3).¹⁻⁶ Guidelines provided a roadmap in identifying and realizing the patient's full clinical picture.^{1,2,3} Policies for assessment can be structured to address patient needs and avoid impractical demands on nurses.^{3,4} Flexible adaptation of a patient-centric assessment allows nurses to use their clinical findings to prioritize and deliver care.⁴

Vital signs provide the clarity, information, and relevance nurses need to corroborate their clinical judgment^{3,5} and develop a holistic view of patient needs.³ The following information in this review provides the best available evidence to date for nursing leaders, frontline nurses, and the multidisciplinary team regarding this clinical area of inquiry. Review results may be applicable to other settings such as the emergency department.

- Increased frequency of VS measurement³ and EHR-based documentation² can impact nursing workload^{2,3}
- Setting minimum guidelines/standards for VS assessment can decrease variability² in patient care and improve monitoring of clinical status^{1,2,3,5} including identification of 1) deterioration,^{1,2,3,7} and 2) trends^{1,2,6}
- Establish minimum standards^{1,2,6*} for core VS (TRP, BP; consider O2 Sat, LOC)² to establish trends^{1,2,6} and avoid undetected deterioration²: (**Conflicting evidence*)

○ 12 hrs (min.) ^{2*}	○ 4 hrs ^{2,6*}	○ 8 hrs ^{6*}	○ 4 hrs for 24 hrs on admission/transfer	○ Reassess at discharge ²	○ Reassess abnormal VS ^{2,4} in 30 min. ²
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- The full potential of deterioration management cannot be realized until the issue of robust VS/PE and timely recognition of the patient's decline is resolved,³ particularly during high-risk situations such as admission, discharge, and transfer^{2,6}
- Algorithms^{1,2} and policies⁴ provided structured flexibility which allowed incorporation of patient-centered data^{1,2} (See 2, Page 4)
- The use of algorithms structured team member communication¹ and decreased nurses time for VS measurement and EHR documentation^{1,2}
- National standards for VS assessment/frequency have not been or are not established, due to the variability in patients, individual units, and organizations⁴
 - Organizations continue to develop individualized policies for assessment and documentation of hospitalized adults⁴

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Recommendations: Nursing leadership has the opportunity to develop realistic, clear, and nurse-owned/driven policies for vital sign and physical assessment documentation and clinical decision-making.^{2,3,4,5} An understanding of potential barriers and facilitators can provide additional context¹⁻⁸ (See Table 3, Page 5). Further investigation is warranted to evaluate the impact of routine VS on clinical outcomes,¹⁻⁵ patient safety,^{1,2,4,5} and nurse and patient satisfaction.⁴ The following recommendations are offered for nurse leaders, nurse educators, and frontline staff to consider as they work together to develop and drive policies for biophysical assessments:

- Promote nursing ownership of the VS/PE assessment process^{2,4}
- Develop individualized policies for minimum frequency^{1,2,6} that incorporate patient populations, settings, acuity, and needs to determine least prescriptive frequency, rather than relying on rigid time frames.^{2,4,6*}
- Establish VS/PE guidelines that promote the following:
 - Allow for deviation based on nursing judgment with documented rationale^{2,4}
 - Improve monitoring of clinical status^{1,2,3,5}
 - Aid in the identification of deterioration^{1,2,3,7} and resulting trends^{1,2,6}
 - Avoid altering the nurses' workload and workflow related to increased VS monitoring³
- Incorporate more frequent assessments during high risk situations, such as admission, transfer, discharge, pre and post diagnostic or surgical intervention, and prior to medications likely to affect respiratory or cardiac function^{2,6}
- Standardize structures and processes with models/frameworks for VS frequency/nurse workflows that include the patient's clinical picture^{1,2,3,4} (See Tables 1 and 2, Pages 3 to 4)
- Heighten the value of VS trends during bedside shift-to-shift handoff² via a collaborative data review of VS trends^{1,2,6}
- Ensure the uploading of VS/PE documentation into the EHR is complete, accurate, and appropriate²
- Design and integrate VS/PE education into organizational/multidisciplinary systems^{3,5} to improve and sustain patient outcomes³

Further examination of current algorithms/models^{2,4} and VS/assessment practices is warranted to determine the impact of standardization on patient outcomes.^{1,2} Rigorous research studies are needed and include a) standardization of frequency of VS and reassessment,^{1,2} b) the use and effect of algorithms on nurses' workflow and decision making,^{2,4} and c) the examination of patterns/effects of days of the week and various unit types.³ The answers to these clinical questions can provide additional clarity regarding routine VS and physical reassessment.

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Table 1.

Nursing Implications for Frequency of Vital Signs and Physical Reassessment: Structures, Processes, and Outcomes

<p style="text-align: center;">Structures</p> <p style="text-align: center;"><i>Vital signs provide the foundation for nurses' daily workflows, practices, and clinical decision making⁵</i></p>	<p style="text-align: center;">Processes</p> <p style="text-align: center;"><i>Vital sign guidelines aid in the development of the patient's full clinical picture and the enhanced identification/response to abnormalities and possible patient deterioration^{1,2,3}</i></p>	<p style="text-align: center;">Outcomes</p> <p style="text-align: center;"><i>Better understanding of nursing surveillance practices is critical, as it can have a beneficial effect on patient outcomes¹</i></p>
<ul style="list-style-type: none"> • Clinical Experts^{2,4} <ul style="list-style-type: none"> ○ Nursing leadership² ○ Clinical Nurse Specialist (CNS)² ○ Frontline staff nurses² ○ Nurse managers⁴ ○ Nurse educators⁴ ○ Multidisciplinary team^{4,5,6} • Electronic healthcare record (EHR)² • Models/Algorithm for vital signs workflow^{1,2,4} <ul style="list-style-type: none"> ○ VS standardization^{1,2,4} ○ AACN Synergy Model⁴ • Policies/Guidelines^{3,4,5} • Education/Skills Training^{2,3,5} <ul style="list-style-type: none"> ○ Orientation² ○ Web-Based² • Nursing judgement^{4,5} • Multidisciplinary Communication³ 	<p><i>*Conflicting evidence</i></p> <p style="text-align: center;"><u>Policies/Guidelines:</u>¹⁻⁶</p> <ul style="list-style-type: none"> • Must be realistic, clear, and nurse owned & driven for assessment, documentation, & clinical decision-making^{2,3,4,5} • Permit deviation from standards based on nursing judgment, with documented rationale for actions⁴ • Set the least prescriptive frequency standard, with additional assessments as needed^{2,4} • Use unique patient populations/settings and individual needs to determine frequency, rather than rigid time frames^{2,4*} <ul style="list-style-type: none"> ○ Complete a comprehensive physical assessment,^{3,4} with additional documentation for status changes⁴ ○ Identify patient populations with pre-defined abnormal parameters² ○ At-risk patients should receive more frequent assessments^{2,4} • Establish minimum standard^{1,2,6*} for core VS (TRP, BP; consider O2 Sat, LOC)^{2,*}: <ul style="list-style-type: none"> ○ 12 hrs (minimum)^{2*} ○ 4 hrs^{2,6*} ○ 8 hrs^{6*} ○ Reassess at discharge² ○ Reassess abnormal VS^{2,4} in 30 min.² ○ Consider every 4 hours for 24 hours on admission/transfer to establish trends and avoid undetected deterioration^{2,6} • Medical/Surgical PE for 12-hr shifts: admission, new assignment, and within 6 hrs of prior assessment (not exceeding 8 hrs)⁶ <ul style="list-style-type: none"> ○ Focused reassessment for patient problems or changes per RN judgement⁶ • Base frequency on patient's complexity, stability, predictability,⁴ and stages of patient care² • Allow flexibility for uninterrupted sleep - limit VS/PE to skin temperature and anterior auscultation while asleep⁴ <p style="text-align: center;"><u>Nursing</u>²⁻⁶</p> <ul style="list-style-type: none"> • Nursing leaders/frontline staff must take ownership of the VS assessment process^{2,4} and use it to confirm intuitive reasoning³ • Ensure assessment documentation is uploaded into the EHR and is complete, accurate, and appropriate² • Incorporate collaborative data reviews of VS trends^{1,2,6} into bedside handoff at beginning of shift² • Prioritize and customize care⁴ while removing/reducing distractions³ • Heighten awareness of 4 areas of nursing practice related to at-risk or deteriorating patients:³ <ul style="list-style-type: none"> ○ Recognition³ ○ Recording & Reviewing³ ○ Reporting³ ○ Responding & Rescuing³ • Incorporate comprehensive VS/PE education/skills training into organizational/multidisciplinary systems^{3,5} <p style="text-align: center;"><u>Models/Algorithm</u>¹⁻⁴</p> <ul style="list-style-type: none"> • Incorporate patient data to calculate risk, instability, and prompts for clinical decisions¹ • Standardize and supplement VS workflow^{1,2} • Provide guidance for effective assessment,³ reassessment,² and multidisciplinary communication¹ • Use models/frameworks to standardize VS frequency/nurse workflow by evaluating the patient's clinical picture^{1,2,3,4} 	<p style="text-align: center;"><u>Nursing Care/Workflow</u></p> <ul style="list-style-type: none"> • Improved surveillance^{1,2} and identification of at-risk patients^{2,3} • Better understanding of surveillance practices of nurses^{1,2,3} • Reduced variability in care² • Increased frequency of monitoring during care transitions^{2,6} • Improved notification to and communication with providers^{2,3} • Reduced measurement/documentation time^{1,2} • Decreased workflow distractions³ • Identify opportunities for 1) improvement and 2) recognition of achievements² <p style="text-align: center;"><u>Patients</u></p> <ul style="list-style-type: none"> • Adaption of nursing care to actual customized needs of patients⁴ • Impact on critical illness, admission to ICU, and/or death^{1,4} • Reveal patient trends^{1,2,6}

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Table 2.

Vital Sign Recommendations for Adult General & Progressive Care Patients via AACN Synergy Model

Table Framework for determining frequency of assessment based on characteristics of the patient as articulated in AACN's Synergy Model

Concept from Synergy Model	More frequent assessment	Less frequent assessment
Stability The ability to maintain a steady-state equilibrium	Patient admitted to intensive care unit with severe sepsis, who requires continuous or multiple bolus fluid administration or titration of vasoactive medications to achieve hemodynamic goals Patient on progressive care unit with non-ST-segment elevation myocardial infarction immediately after cardiac intervention	Patient who does not require fluids or vasoactive medications to maintain blood pressure Patient on progressive care unit admitted for observation of chest pain, no electrocardiographic changes, normal cardiac enzyme levels, requesting a good night's rest
Complexity The intricate entanglement of 2 or more systems	Patient in acute renal failure requiring continuous renal replacement therapy	Patient with end-stage renal disease who requires hemodialysis every 3 days
Predictability A characteristic that allows one to expect a certain course of events or illness	Patient after emergent cardiac surgery who is in cardiogenic shock	Patient 24 hours after uncomplicated coronary artery bypass graft, no variances on the clinical pathway
Vulnerability Susceptibility to actual or potential stressors that may adversely affect outcome	Patient in acute alcohol withdrawal, exhibiting signs of delirium	Patient with history of alcohol use who is alert and oriented several days after admission
Resiliency The capacity to return to a restorative level of functioning by using compensatory mechanisms; the ability to bounce back quickly from injury	Elderly trauma patient with history of chronic obstructive pulmonary disease and pulmonary contusion	Young trauma patient with pulmonary contusion

Schulman, C. S. & Staul, L. Standards for frequency of measurement and documentation of vital signs and physical assessments. Ask the Experts. Table. *Critical Care Nurse*. 2010;30(3):74-76.

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Table 3.

Identified Barriers and Facilitators¹⁻⁸

<u>BARRIERS</u>	<u>FACILITATORS</u>
<p style="text-align: center;"><u>Nursing</u></p> <ul style="list-style-type: none"> • Clinical value of daily, routine VS was uncertain⁵ • Considered a low priority, routine task^{2,3} • Insufficient education/training time³ • Lack of recognition of VS changes² • Manual entry¹ and missed documentation^{1,3} <p style="text-align: center;"><u>Systems</u></p> <ul style="list-style-type: none"> • Arduous polices placing additional demands on nurses² <p style="text-align: center;"><u>Communication</u></p> <ul style="list-style-type: none"> • Inadequate team communication^{1,2} <p style="text-align: center;"><u>Policies and Standards</u></p> <ul style="list-style-type: none"> • No regulatory,⁴ state board,^{4,7,8} or evidence-based guidelines^{3,5,6} for VS or PE frequency or their abnormal parameters² • No clear definitions for routine or nonroutine measurements⁵ • Policies failing to accommodate patients needs⁴ 	<p style="text-align: center;"><u>Nursing</u></p> <ul style="list-style-type: none"> • Local leadership accountable for implementation and sustainability of practice change² • Improved education^{2,3} and support systems for nurses³ • Collaborative chart review to identify areas for improvement and opportunities for staff recognition² <p style="text-align: center;"><u>Systems</u></p> <ul style="list-style-type: none"> • Automatic upload of VS data in EHR¹ <p style="text-align: center;"><u>Communication</u></p> <ul style="list-style-type: none"> • RN handoff/end-of-shift report that incorporates VS trends² <p style="text-align: center;"><u>Policies and Standards</u></p> <ul style="list-style-type: none"> • Collaborate with clinical “experts” and an interdisciplinary team to develop organizational/unit standards and policies⁴ • Institute minimum standard for frequency of VS^{1,2}, and PE⁴ customized to patient needs^{4,6} • Supplemental documentation for changes in patient condition⁴ • An easily accessible standard², algorithm^{1,2} or model^{1,2} for guidance and nursing workflow¹⁻⁴

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Literature Review Articles

1. Cardona-Morrell, M., Prgomet, M., Turner, R. M., Nicholson, M., & Hillman, K. (2016). Effectiveness of continuous or intermittent vital signs monitoring in preventing adverse events on general wards: A systematic review and meta-analysis. *International Journal of Clinical Practice*, 70(10), 806-824. <https://doi.org/10.1111/ijcp.12846>
2. Derby, K. M., Hartung, N. A., Wolf, S. L., Zak, H. L., & Evenson, L. K. (2017). Clinical Nurse Specialist-Driven Practice Change: Standardizing Vital Sign Monitoring. *Clinical Nurse Specialist*. 31(6), 343-348
3. Odell, M., Victor, C., & Oliver, D., (2009). Nurses' role in detecting deterioration in ward patients: systematic literature review. *Journal of Advanced Nursing* (10), 1992. <https://doi.org/10.1111/j.1365-2648.2009.05109.x>
4. Schulman, C. S. & Staul, L. (2010). Standards for frequency of measurement and documentation of vital signs and physical assessments. *Critical Care Nurse*, 30(3), 74-76. <https://doi.org/10.4037/ccn2010406>
5. Storm-Versloot, M. N., Verweij, L., Lucas, C., Ludikhuizen, J., Goslings, J. C., Legemate, D. A., & Vermeulen, H. (2014). Clinical relevance of routinely measured vital signs in hospitalized patients: A systematic review. *Journal of Nursing Scholarship*, 46(1), 39-49. <https://doi.org/10.1111/jnu.12048>

Regulatory/Professional Organizations

6. American Association of Medical/Surgical Nurses. (2019). *Clinical Practice Q&A*. Available at <https://www.amsn.org/practice-resources/clinical-practice-qa>
7. American Association of Medical/Surgical Nurses. (2018). *Scope and Standards of Medical-Surgical Practice*, 6th Ed.
8. California Board of Registered Nursing. (2009). <https://www.rn.ca.gov/>

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Evidence Search Strategies: A literature review was conducted in July 2019 on the clinical question: “*For adult hospitalized patients in a medical-surgical or intensive care unit, what is the quantity, quality, and consistency of the evidence for frequency of routine vital signs and physical reassessment?*” The environmental setting was limited to the acute care setting medical-surgical and intensive care units. The population was restricted to adult patients 18 and over. The electronic database search included the years 2008-2019 and included PubMed, CINAHL, TRIP, EMBASE, Cochrane Library, ClinicalKey, Google Scholar and various professional organizations. Search included “vital signs,” “frequency,” “routine,” “physiologic assessment,” “physical reassessment,” “physical exam,” “routine assessment,” and “nurse” either alone or in combination. Searches for vital signs frequency and physical assessment were done separately. (See Database Search Methodology, Pages 9-14).

The database search resulted in 1222 relevant hits after de-duplication between databases. After examination, an additional 1198 were excluded, as they did not address the clinical question, were outside of the acute care medical-surgical or intensive care unit environment, included pediatric populations, or focused on concepts other than the frequency of vital signs or physical assessment. Twenty-four (24) articles were then selected for full text review. After further examination an additional 19 were excluded, as they contained little to no applicable evidence related to the clinical area of inquiry. Only 5 articles met final inclusion criteria;¹⁻⁵ professional organizations/standards^{6,7} and the California Board of Registered Nursing (BRN)⁸ provided additional evidence. The evidence was ranked using both the Academy of Evidence-Based Practice leveling system and the Johns Hopkins Evidence-Based Practice Appraisal Tools. The evidence strength resulted in a final grade of low to moderate quality (See Page 8).

Evidence Review Results: The evidence consisted of one systematic review with meta-analysis,¹ one systematic review,⁵ one literature review,³ one quality improvement project,² one expert opinion,⁴ and 3 professional nursing organizations.⁶⁻⁸ The evidence was inconsistent and conflicting in regards to the standardization for the frequency of VS and reassessment.¹⁻⁵ Algorithms and a model were used to format standardization and workflow related to VS.^{2,4} Although the clinical question included frequency, no article examined specific time elements related to vital signs or physical reassessment.¹⁻⁵ Regulatory agencies such as the Joint Commission⁴ and the California Board of Registered Nursing⁸ did not prescribe assessment/VS routines or timing. Limitations of this literature and systematic review included: limited relevant studies,^{1,5} heterogeneous study designs/patient populations^{1,5} and outcome measurements,¹ convenience sampling,¹ small sample size,^{1,3} and various methodological flaws, including cross contamination.^{1,5}

Although vital sign measurement has traditionally been accepted as routine and somewhat ritualistic,^{2,3,5} this clinical practice has been poorly studied.⁵ Current studies related to this clinical topic are generally of insufficient scale and limited quality.^{1,3,5} Further examination of current algorithms/models^{2,4} and VS/assessment practices is warranted to determine the impact of standardization on patient outcomes.^{1,2} Rigorous research studies are needed and include a) standardization of frequency of VS and reassessment,^{1,2} b) the use and effect of algorithms on nurses’ workflow and decision making,^{2,4} and c) the examination of patterns/effects of days of the week and various unit types.³ The answers to these research questions can provide additional clarity regarding routine VS and reassessment. Although sparse, the information in this review provides the best available evidence to date for nursing leaders and frontline staff to begin the discussion and start designing 21st century nursing care practices.

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Academy of Evidence Based Practice® (EBP) Evidence Leveling System (ELS)

LEVEL	DESCRIPTION	RELEVANT ARTICLES	EVIDENCE TYPE
A	Meta-analysis of multiple large sample or small sample* randomized controlled studies, or meta-synthesis of qualitative studies with results that consistently support a specific action, intervention, or treatment	0	
B	Well-designed controlled studies, both randomized and nonrandomized, prospective or retrospective studies, and integrative reviews with results that consistently support a specific action, intervention, or treatment	0	
C	Qualitative studies, descriptive or correlational studies, concept analyses, integrative reviews, systematic reviews, or randomized controlled trials with inconsistent results	3	#1: (systematic review and meta-analysis) #3: (literature review) #5: (systematic review)
D	Peer-reviewed professional organizational standards, with clinical studies to support recommendations	2	#6,#7: (professional organization + referenced standards)
E	Theory-based evidence from expert opinion or multiple case reports, case studies, consensus of experts, and literature reviews	2	#2: (quality improvement project) #4: (expert opinion)
MA	Manufacturer's recommendation; Anecdotes		
LR	Laws and Regulations (local, state, federal; licensing boards; accreditation bodies, etc.)	1	#8: California Board of Registered Nursing (BRN)
Total		8	

* A large sample has adequate power to detect the observed effect with confidence (as seen in significant Confidence Intervals). A small sample may lack confidence in the power of the desired effect (Polit & Beck, 2008)

Designed by Emma M. Cuenca and Cecelia L. Crawford, Academy of EBP; ©Kaiser Permanente SCAL Regional Nursing Research Program, May 2011

Adapted from AACN Evidence Leveling System (2009) and Canadian Medical Association & Centre for Evidence-Based Medicine, Levels of the Evidence (2001)

Johns Hopkins Evidence-Based Practice Appraisal Tools

High Quality: 0 articles

(Consistent, generalizable results; sufficient sample size for the study design; adequate control; definitive conclusions; consistent recommendations based on comprehensive literature review that includes thorough reference to scientific evidence OR expertise is clearly evident; draws definitive conclusions; provides scientific rationale; thought leader in the field)

Moderate Quality: #1, #3, #5 = 3 articles

(Reasonably consistent results; sufficient sample size for the study design; some control, and fairly definitive conclusions; reasonably consistent recommendations based on fairly comprehensive literature review that includes some reference to scientific evidence OR expertise appears to be credible; draws fairly definitive conclusions; provides logical argument for opinions)

Low Quality: #2, #4, #6, #7 = 2 articles/2 professional organization items (BRN regulations not included)

(Little evidence with inconsistent results; insufficient sample size for the study design; conclusions cannot be drawn OR expertise is not discernable or is dubious; conclusions cannot be drawn)

Final Summary Evidence Grade = Low to Moderate Quality

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Electronic Database Search Methodology – Vital Signs

Date(s): 7/8/2019; 7/12/2019; 7/18/19

Literature search topic/clinical question: For adult hospitalized patients in a Medical-Surgical or Intensive Care Unit, what is the quantity, quality, and consistency of the evidence for frequency of routine vital signs and physical reassessment?

Database	Key Word(s) and/or Controlled Vocabulary Terms [#]	Total References Identified (hits)	No. of Relevant References	No. of Total Duplicate Articles	No. of Articles Selected for Review	No. of Articles Excluded	Final Total Relevant References
Name: PubMed “Initial” Years: 2008-19	Vital Signs AND frequency NOT emergency department NOT surgery	13,608 (top 100)	4	1	3	3	0
Name: PubMed #1 Years: 2008-19	Vital Signs AND frequency AND acute care AND adult	100	2	0*	2	2	0
Name: PubMed #2 Years:2008-19	“vital signs”[tiab] OR “vital signs”[Mesh] AND Frequency	191	1	0	1	1	0
Name: PubMed #3 Years:2008-19	("vital signs"[MeSH Terms]) AND routine OR "vital sign* frequency" NOT pregn* NOT Obstetric* NOT "emergency department" NOT clinic NOT ambulatory NOT "early warning" NOT "end of life" NOT cancer NOT oncolog* AND nurs*) AND "last 10 years"[PDat] AND Humans[Mesh] AND English[lang] AND adult[MeSH]) NOT preop*) NOT intraop*) AND "last 10 years"[PDat] AND Humans[Mesh] AND English[lang] AND adult[MeSH]) OR "vital sign* routine") AND "last 10 years"[PDat] AND Humans[Mesh] AND English[lang] AND adult[MeSH]) AND (med-surg OR medical-surgical OR "critical care" OR ICU) Sort by: Best Match Filters: published in the last 10 years; Humans; English; Adult: 19+ years	94	1	0	1	1	0
Name: CINAHL Years: 2008-19	Routine vital signs - Adult	16	1	0	1	0	1
Name: CINAHL (Librarian Search) Years: 2009-2019	Vital Signs	13	0	0	0	0	0

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Database	Key Word(s) and/or Controlled Vocabulary Terms #	Total References Identified (hits)	No. of Relevant References	No. of Total Duplicate Articles	No. of Articles Selected for Review	No. of Articles Excluded	Final Total Relevant References
Name: TRIP Years: 2008-19	Routine Vital Sign NOT emergency, children, clinic, pediatric	7	1	1	0	0	0
Name: Google Scholar Years: 2008-19	Routine "Vital Sign" frequency	7	0	0	0	0	0
Name: AHRQ #1 Years: Unlimited	Vital Signs	4425 (top 40)	4	0	4	3	1
Name: Cochrane Years: 2008-2019	Vital Signs (title, abstract, keyword)	19	0	0	0	0	0
Name: Cochrane Years: 2008-2019	physiologic assess* AND frequency (title, abstract keyword)	43	0	0	0	0	0
Name: PubMed #3 (Librarian Search) Years: 2009-19	((("Vital Signs"[MAJR]) AND ("time factors" OR timing OR interval OR frequency) AND ("critical care unit" OR "intensive care" OR "ICU" OR "medsurg" OR "med-surg" OR "medical-surgical") AND nursing	17	0	0	0	0	0
Name: EMBASE (Librarian Search) Years: 2008-19	('vital sign'/exp OR 'vital sign') AND ('time factors'/exp OR 'time factors' OR 'time'/exp OR time OR 'timing'/exp OR timing OR interval OR 'frequency'/exp OR frequency) AND ('med-surg' OR 'medical-surgical' OR 'intensive care unit'/exp OR 'intensive care unit' OR 'critical care unit'/exp OR 'critical care unit') AND ('nursing'/exp OR nursing OR 'nursing process'/exp OR 'nursing process') AND [2009-2019]/	25	1	1	0	0	0
Name: ClinicalKey Years: N/A	Vital Signs frequency	4193 (2 pages = top 38)	2	1	1	0	1
TOTALS		710	17	4	13	10	3

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Electronic Database Search Methodology – Physical Assessment

Date(s): 7/22/2019; 7/23/2019; 7/24/19; 7/29/19

Literature search topic/clinical question: For adult hospitalized patients in a Medical-Surgical or Intensive Care Unit, what is the quantity, quality, and consistency of the evidence for frequency of routine vital signs and physical reassessment?

Database	Key Word(s) and/or Controlled Vocabulary Terms [#]	Total Identified (hits)	No. of Relevant References	No. of Total Duplicate Articles	No. of Articles Selected for Review	No. of Articles Excluded	Final Total Relevant References
Name: Google Scholar Years: 2008-19	Physical reassessment frequency nurs* “medical surgical” OR “critical care”	18,100 (top 60)	8	0*	8	6	2
Name: PubMed #1 Years: 2008-19	“physical exam*” AND last 10 years AND Humans AND adults 19+ AND English	17	0	0	0	0	0
Name: PubMed #2 Years: 2008-19	Routine nurs* assessment AND last 10 years AND Humans AND adults 19+ AND English	21	0	0	0	0	0
Name: PubMed #3 Years: 2008-19	"physical assess*" AND nurs* AND (hospital* OR "acute care" OR ward) AND ("critical care" OR ICU OR Med-surg or medical-surgical or "medical surgical") NOT mobility AND (assess* [Title/Abstract] OR exam[Title/Abstract])) NOT (Maternal OR infant OR bonding)) NOT "early warning"[Title/Abstract] NOT (fetal[Title/Abstract] OR pregn* [Title/Abstract])) NOT pain[Title]) Filters: published in the last 10 years; Humans; English; Adult: 19+ years	156	2	1	1	1	0
Name: CINAHL #1 Years: 2008-19	“physical exam*” OR “physical assess*”	59	0	0	0	0	0
Name: CINAHL #2 Years: 2008-19	“physical assess*” AND nurs*	36	4	3	1	1	0
Name: Cochrane Years: 2008-19	physical assess* (title, abstract keyword)	0	0	0	0	0	0

[#]Controlled vocabulary (subject terms, MESH terms, tagged terms specific to database)

*Use the first database as the main comparison for subsequent database searches and identifying duplicate articles

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Database	Key Word(s) and/or Controlled Vocabulary Terms #	Total Identified (hits)	No. of Relevant References	No. of Total Duplicate Articles	No. of Articles Selected for Review	No. of Articles Excluded	Final Total Relevant References
Name: EMBASE (Librarian) Years: 2008-19	'physical assessment' OR 'physical reassessment') AND ('timing'/exp OR timing OR 'frequency'/exp OR frequency OR interval OR 'time factors'/exp OR 'time factors') AND (icu OR 'intensive care unit'/exp OR 'intensive care unit' OR 'critical care unit'/exp OR 'critical care unit' OR 'med-surg' OR 'medical-surgical'	9	0	0	0	0	0
Name: AACN Years: unlimited	Vital Signs frequency	1	1	1	0	0	0
Name: AALNC Years: unlimited	Vital Signs frequency	3	1	1	0	0	0
Name: AHRQ Years: unlimited	Vital Signs frequency	0	0	0	0	0	0
Name: AHRQ Years: unlimited	“physical reassessment AND nurse”	160	1	0	1	1	0
Name: AMSN Years: unlimited	Vital Signs frequency	0	0	0	0	0	0
Name: Calif BRN Years: unlimited	Vital Signs frequency	0	0	0	0	0	0
TOTALS		522	17	6	11	9	2

#Controlled vocabulary (subject terms, MESH terms, tagged terms specific to database)

*Use the first database as the main comparison for subsequent database searches and identifying duplicate articles

Total Articles Included in Literature Review: 5
Professional Organization: 2
California BRN: 1
TOTAL: 8

Frequency of Vital Signs and Physical Assessment

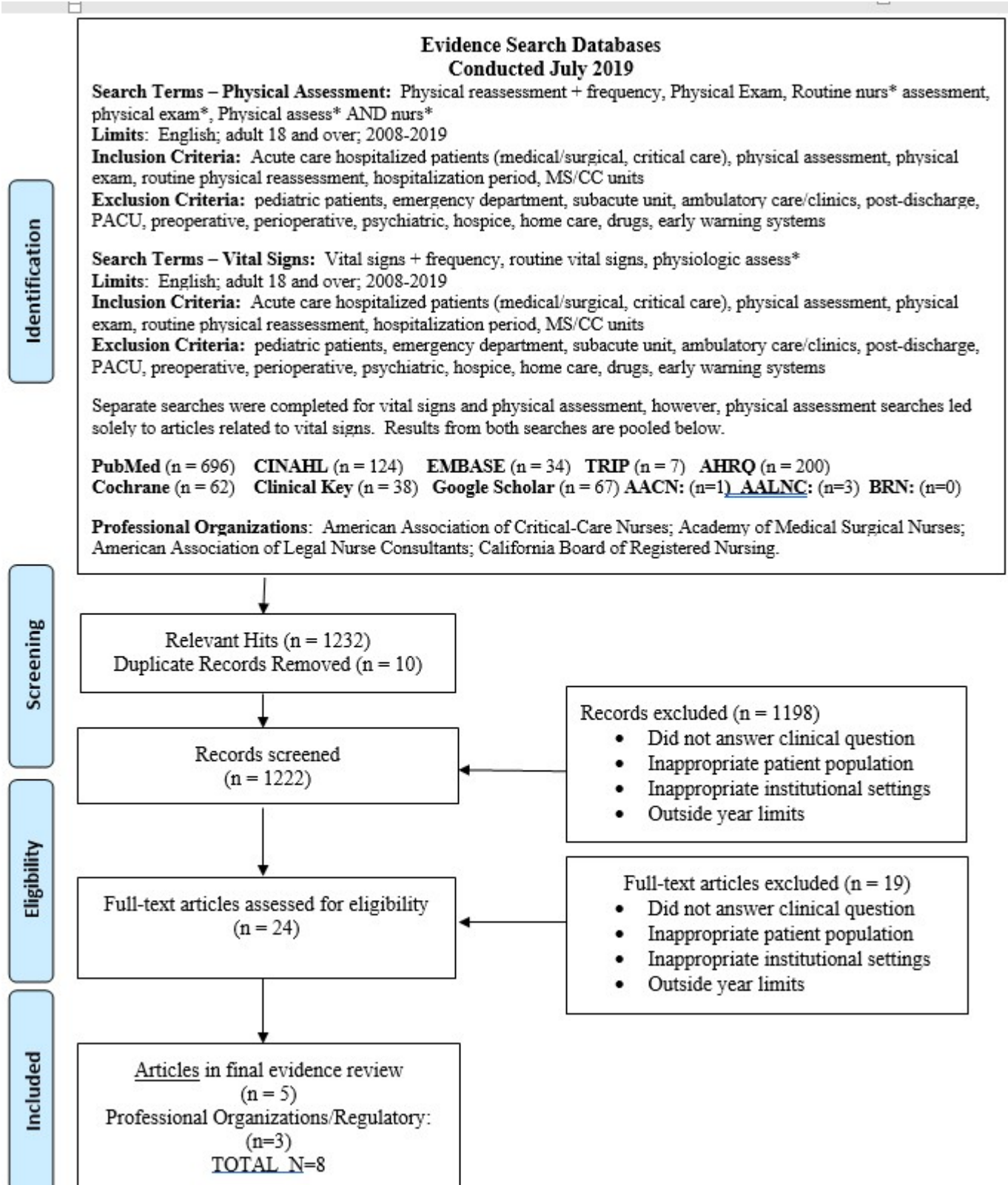
A Literature Review of the Evidence

Clinical Question				
Population and/or Patient(s)	Interest Area	Comparison Intervention (Often current practice)	Outcomes	Time Period
○ P: Hospitalized adult patients in medical-surgical or intensive care units	I: Frequency of Vital Sign and Physical Assessments	C: Current Practice	O: As revealed by the evidence	T: Hospitalization
Final Clinical Question: For adult hospitalized patients in a medical-surgical or intensive care unit, what is the quantity, quality, and consistency of the evidence for frequency of routine vital signs and physical assessment?				

Searchable Question
Key Search Terms: “vital signs,” “frequency,” “routine,” “physiologic assessment,” “physical reassessment,” “physical exam,” “routine assessment,” “nurse,” <i>(may change due to control vocabulary during search per database)</i>
Inclusion Criteria: adult hospitalized patients, routine vital signs frequency, physical assessment, routine physical reassessment, hospitalization period, Med-Surg/Intensive Care units.
Exclusion Criteria: pediatric patients, ED, subacute unit, ambulatory care/clinics, post-discharge, PACU, preop, hospice, home care (Drugs)
Limitors: 2008-2019, adults, and English language.
Databases: PubMed, CINAHL, TRIP, EMBASE, Cochrane Library, ClinicalKey, Google Scholar, and various professional organizations

Frequency of Vital Signs and Physical Assessment

A Literature Review of the Evidence



From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097

Frequency of Vital Signs and Physical Assessment

A Literature Review of the Evidence

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Frequency of Vital Signs and Physical Assessment

A Literature Review of the Evidence

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