

Serious Illness Care Research: Exploring Current Knowledge,
Emerging Evidence and Future Directions | Implementation Science

Implementation research in acute care settings

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- Editorial boards, *Global Implementation Research and Applications* and *Anesthesiology*



Objectives



- ▶ Describe inpatient serious illness research **challenges and opportunities**
 - ▶ Explain the utility of applying **human factors and systems engineering** to inpatient implementation research
 - ▶ Explain **ethical considerations** unique to inpatient-based implementation research
-

My lab uses implementation science to improve patient care



LANE-FALL LAB
ADVANCING PATIENT-CENTERED QUALITY CARE

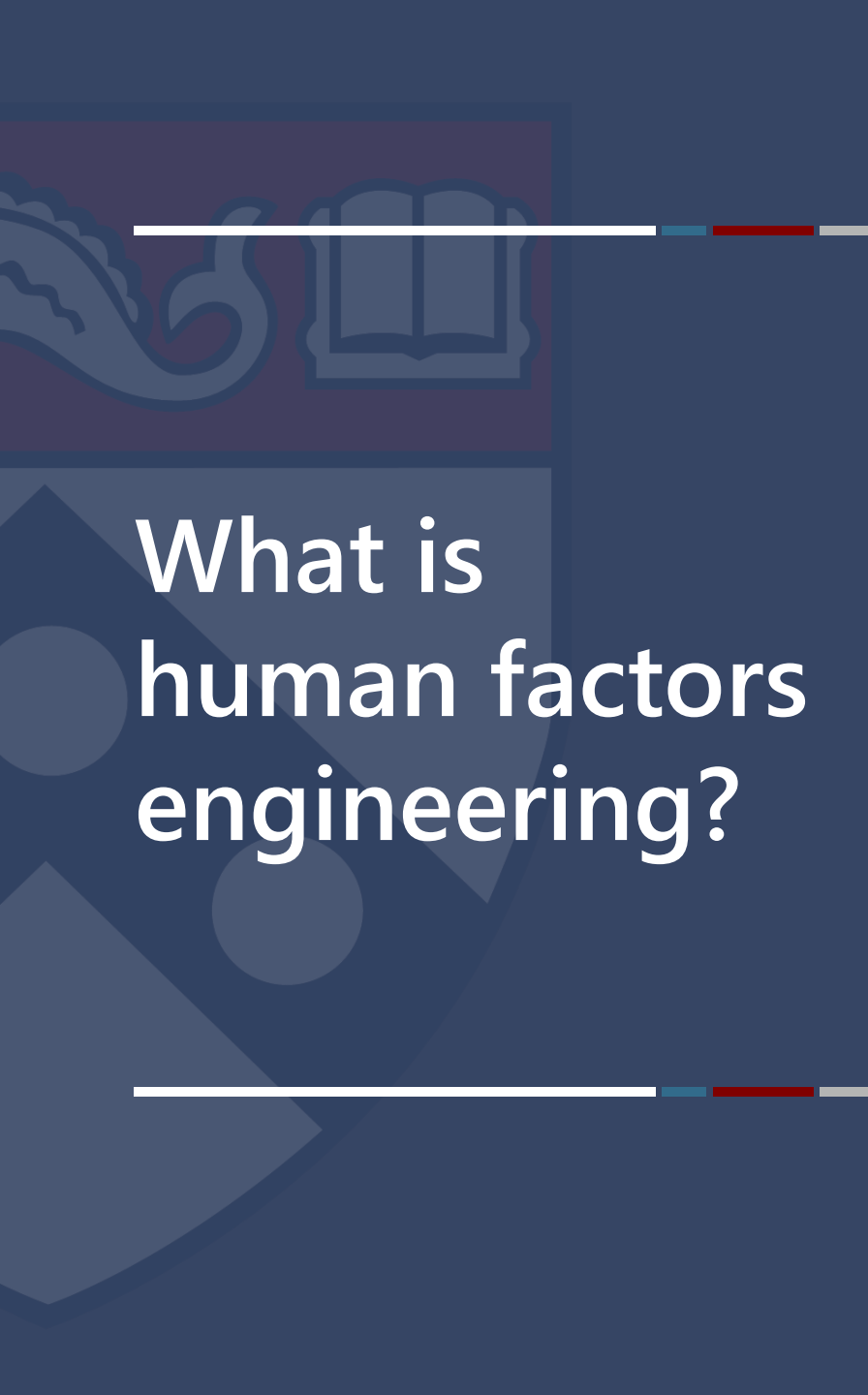




“Implementation science
is the study of **human
behavior change** under
organizational constraints”



Anne Sales, PhD
University of Missouri

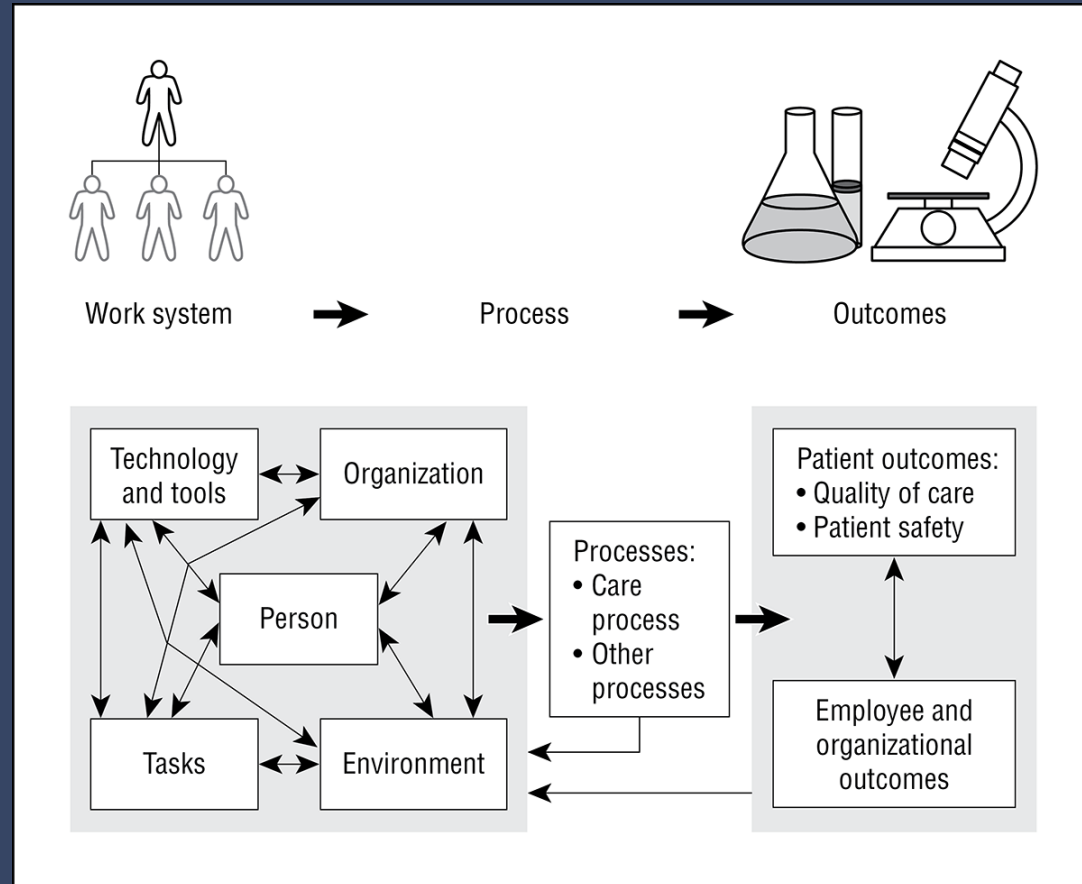


What is human factors engineering?

"Ergonomics (or human factors) is the scientific discipline concerned with the understanding of interactions among humans and other elements of a system, and the profession that applies theory, principles, data and methods to design in order to optimize human well-being and overall system performance."

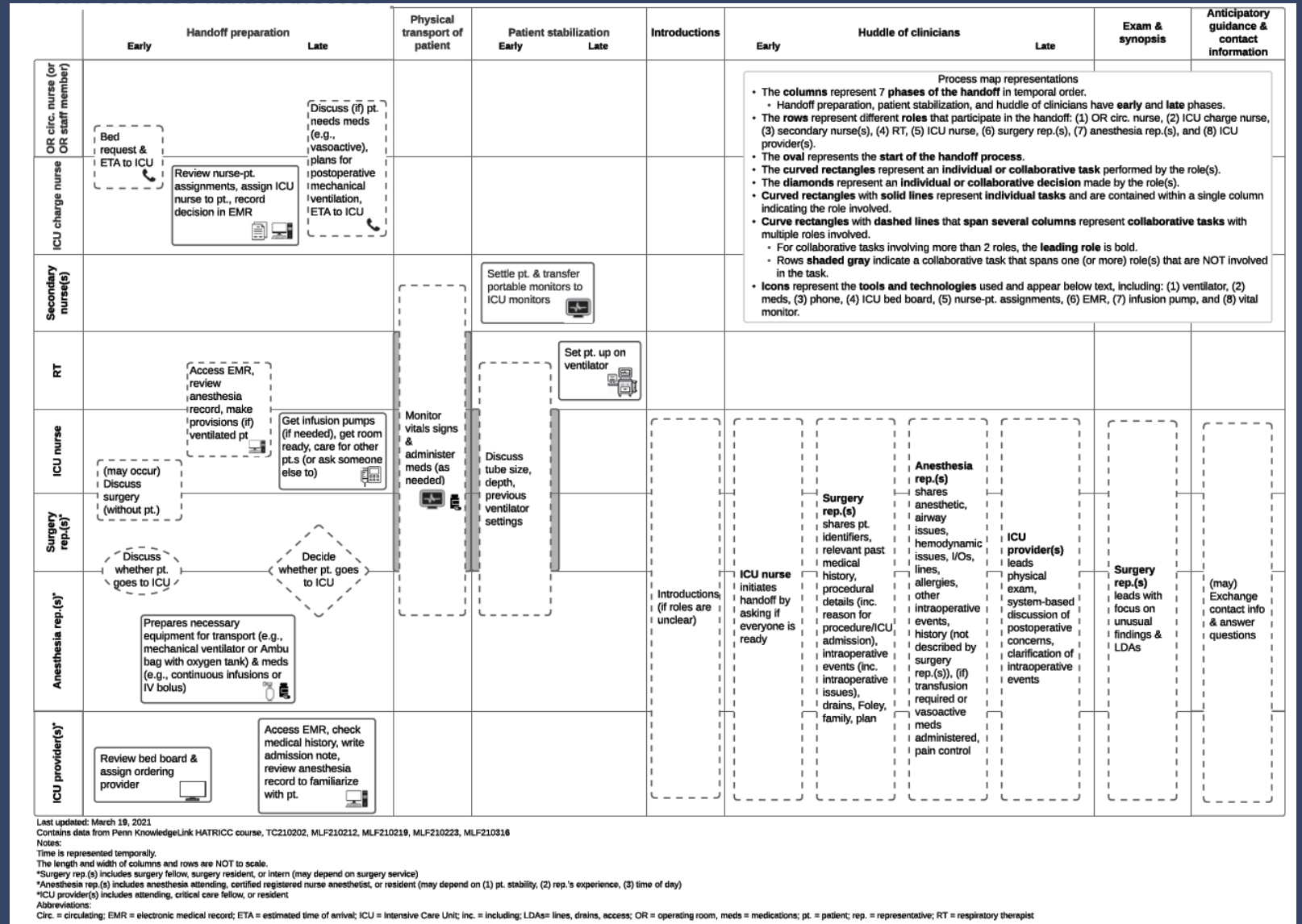
-International Ergonomics Association

Systems Engineering Initiative for Patient Safety




Carayon P *et al.* Work system design for patient safety: the SEIPS model. *Qual Saf Health Care* 2006;15(Suppl 1):i50-i58.

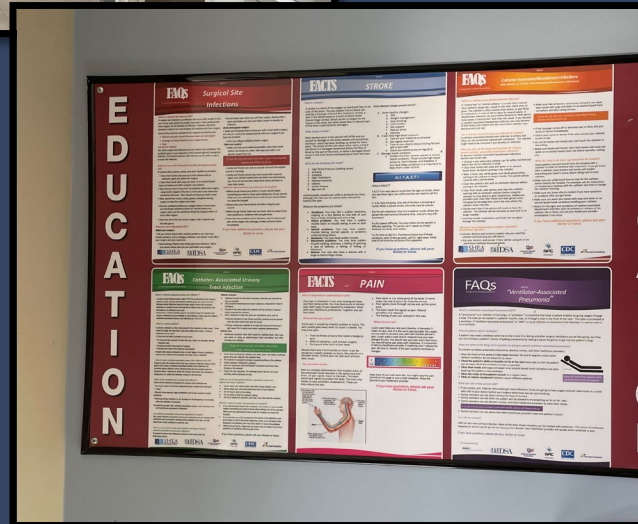
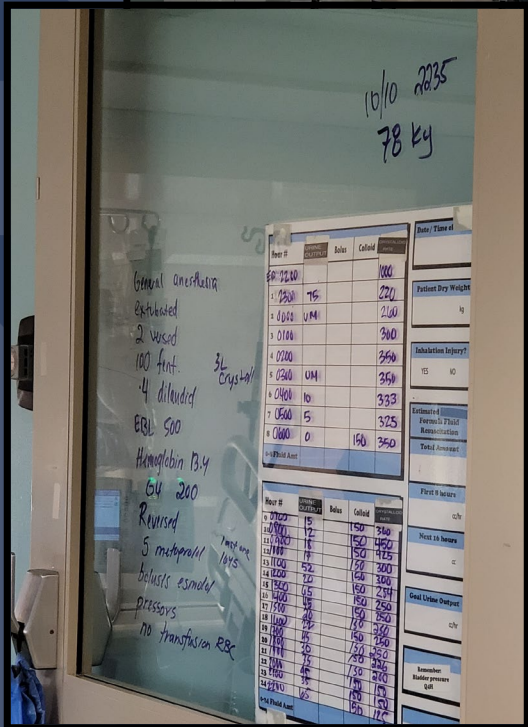
We need to understand workflow to change behavior



Bat-Zion Hose, PhD, for the Lane-Fall lab (unpublished data)



Daily Huddle Key Metrics		
Current 47%	CLABSI 1	FALLS 
Current	CAUTI 1	
Current	SKIN 23	
ORS	PREVENTION / INTERVENTION	PREVENTION / INTERVENTION
	OPERATIONS	FYI / UPDATES
PATIENT		



Learning from seeing

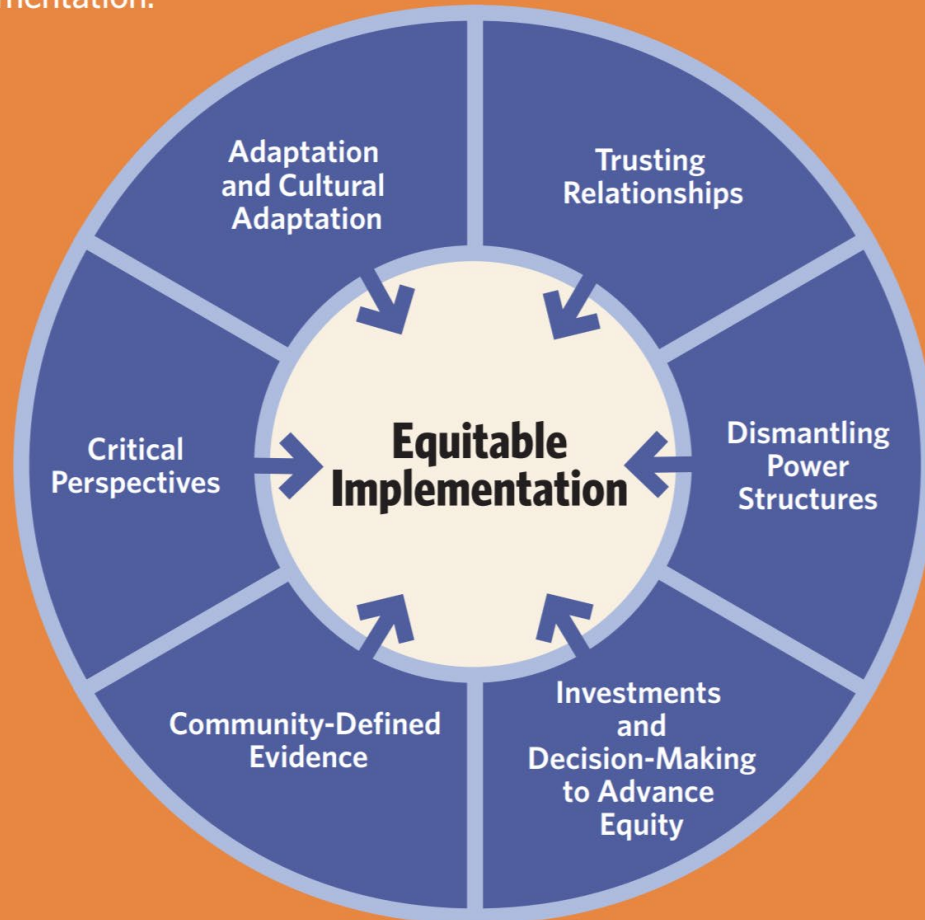


Ethics of implementation in acute care

- ▶ Who serves as a gatekeeper to the setting?
- ▶ Who provides consent?
- ▶ How do participants opt out of research?
- ▶ How is retaliation prevented?

Elements of Equitable Implementation

Six factors have proven essential in successful equitable implementation.



Loper A, Woo B, Metz A. Equity is Fundamental to Implementation Science. Bringing Equity to Implementation. Stanford Social Innovation Review, Summer 2021.



Engaging stakeholders
in research

Transitions in Critical Care (HATRICC) study

OR to ICU handoff process

RESULTS

requiring intensive care are a cause they are **complex**, involving patients at **high risk of compromise**.

operative handoff process in clinical settings to **improve patient outcomes**.

Studies have not reported standardized OR to ICU handoffs.

Table 1. Clinicians participants, by data type.

Clinician type	Interview	Focus group	Survey	OR	ICU
Anesthesia (n=13)	X	X	X	X	X
Surgery (n=22)	X*	X*	X	X	X
CRNAs (n=18)	X	X	X	X	X
NPs, PAAs (n=6)	X	X	X	X	X
ICU nurses (n=18)	X	X	X	X	X
Attending physicians	X	X	X	X	X
Anesthesia (n=4)	X	X	X	X	X
Surgery (n=5)	X*	X	X	X	X

Table 2. Supporting factors and barriers to effective handoffs.

Supporting factors:

- Standardized process
- Clear communication
- Time
- Education
- Support
- Resources
- Teamwork
- Leadership
- Feedback
- Continuous improvement

Barriers:

- Time constraints
- Communication barriers
- Staffing issues
- Education gaps
- Resource limitations
- Team dynamics
- Leadership challenges
- Feedback loops
- Continuous improvement

TAKE HOME POINT

ICU clinicians have different priorities and informational needs during OR to ICU handoffs. Standardized OR to ICU handoff processes should incorporate the perspectives of multidisciplinary team members in order to complement their workflow.

Figures 1&2. Handoff process (left) and information template (right).

POST-OP HANDOFF PROCESS

1. Identification of patient
2. Identification of patient's condition
3. Description of condition
4. Description of patient's history
5. Description of patient's current status
6. Description of patient's current status
7. Description of patient's current status
8. Description of patient's current status
9. Description of patient's current status
10. Description of patient's current status

POST-OP HANDOFF INFORMATION

who: []
what: []
when: []
where: []
why: []
how: []
plan: []

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A decorative graphic on the left side of the slide. It features a stylized book at the top and a gavel below it, both in white. The background is a dark blue gradient with faint geometric shapes and a horizontal line with a small blue and red segment in the center.

Conclusions & limitations

- ▶ Inpatient settings are characterized by a fast pace and competing priorities
- ▶ Human factors engineering holds promise to characterize workflow & complement implementation
- ▶ There are unique ethical considerations to doing implementation research in acute care



Thank you!

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