

Improving Transitions of Care Handoffs from Cardiac OR to ICU



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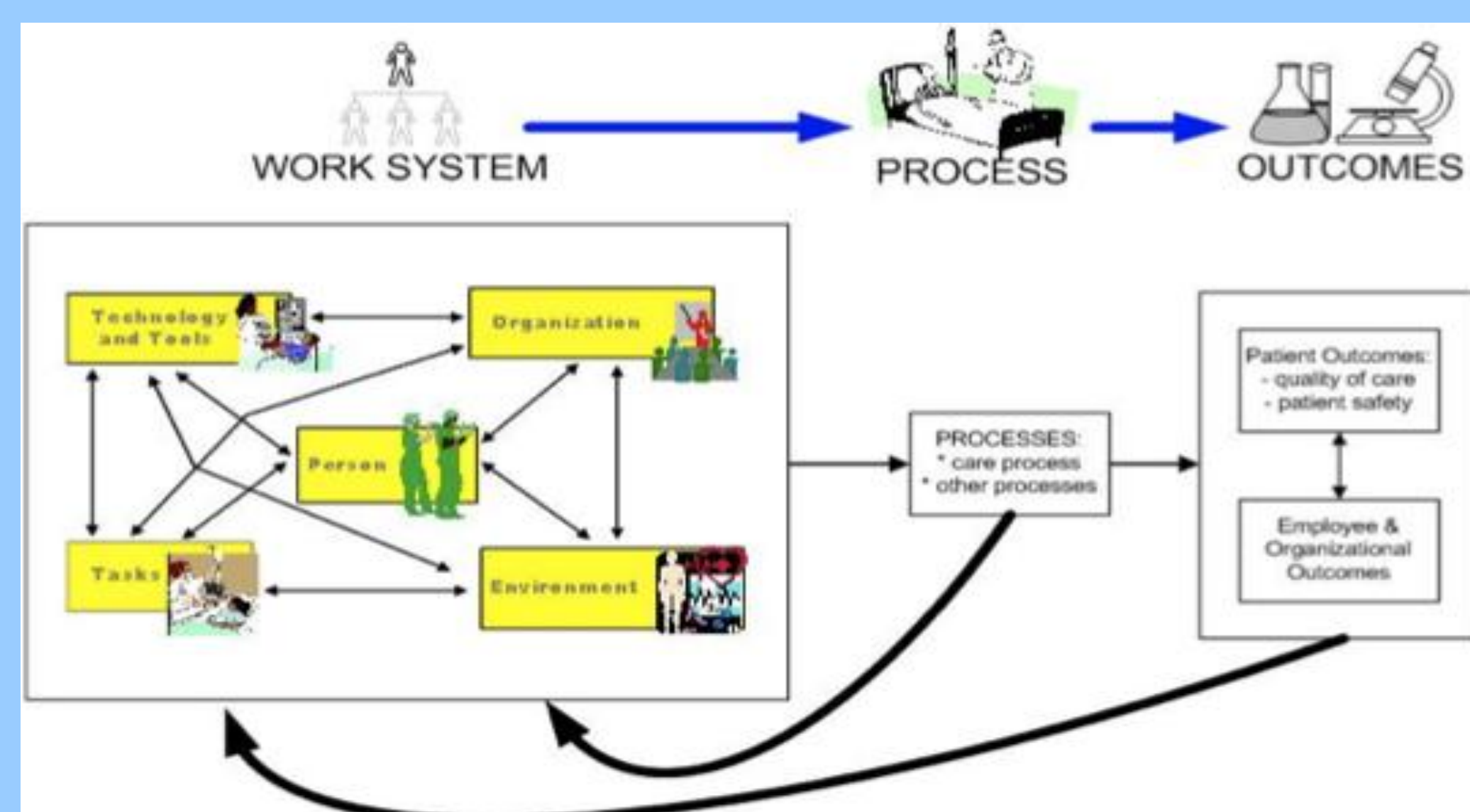
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1 Background

The Cardiac Surgery Translational Research Project (CSTS) is a quality improvement project through the Armstrong Institute that is seeking to reduce the mortality, morbidity, and costs of care related to cardiac surgery patients through the development of a unit-based model. The project is looking at a variety of factors related to cardiac surgery including surgical site infection rates, central line associated bloodstream infections, and safety hazards during patient handoffs from the operating room (OR) to the intensive care unit (ICU), ICU to inpatient cardiac unit, and inpatient cardiac unit to hospital discharge.

My work has focused on analysis of OR to ICU handoffs through qualitative analysis of observations conducted over the past year at four hospitals throughout the country. The analysis was conducted utilizing the Systems Engineering Initiative for Patient Safety (SEIPS) model which focused our analysis on organizational factors, environmental components, technology/tools, tasks and persons (Carayon et al, 2006). Nvivo, a qualitative coding software package, was utilized for data input and analysis. Through coding and analysis common themes were identified and utilized in the development of a standardized safety tool intervention package to be pilot tested in participating hospitals.

The SEIPS Model



Carayon, P., Hundt, A. S., Karsh, B. T., Gurses, A. P., Alvarado, C. J., Smith, M., & Brennan, P. F. (2006). Work system design for patient safety: the SEIPS model. *Quality and Safety in Health Care*, 15(suppl 1), i50-i58.

2 Methods

We utilized a multiple case study design from a sub-sample of four hospitals from the CSTS study. Seventy-seven observations were collected and transcribed. Currently forty-eight observations have been coded. Nvivo was utilized to analyze the observations through qualitative coding. Good practices and hazards were identified in the areas of organization, task, person, environment, tools and technology, and communication.

3 Results

Common themes identified from current coding 48 of 77 observations:

Good Practices	Hazards
Use of checklists assist with recall and transfer of content information	High workload decreased care provider's ability to acknowledge detail of patient status and transfer
Constant, clear coordination between units on patient status throughout procedure and transfer	Lack of full participation during verbal handoff by all members of healthcare team due to distractions leading to multiple individual handoffs and inconsistent information transfer
Interdisciplinary team participation and respect affected morale and coordination with patient transfer	Healthcare team role confusion during transfer and availability of staff is often inconsistent
Availability and reliability of tools and technology	Lack of standardization of tools and technology across units

4 Conclusions

From the themes emerging, improvement of care coordination is a large, multifaceted problem that requires systems intervention on a variety of levels.

The team developed an Assessment of Care Transitions checklist to be tested and administered as a customizable assessment tool for coordination of care based on themes identified from hazards and good practices.

6 References

Carayon, P., Hundt, A.S., Karsh, B.-T., Gurses, A.P., Alvarado, C.J., Smith, M. and Brennan, P.F. "Work System Design for Patient Safety: The SEIPS Model", *Quality & Safety in Health Care*, 15 (Suppl. 1): i50-i58, 2006.

Hospital Survey on Patient Safety Culture. June 2012. Agency for Healthcare Research and Quality, Rockville, MD. <http://www.ahrq.gov/qual/patientsafetyculture/hospindex.htm>

Joint Commission Perspectives on Patient Safety (2006). Improving Handoff Communications: Meeting National Patient Safety Goal 2E,

Pippins, J, et. al. (2008). Classifying and Predicting Errors of Inpatient Medication Reconciliation. *Journal of General Internal Medicine*. 23-9, pp 1414-1422

5 Future Directions

Coding analysis is currently ongoing. General trends have been identified to assist in the development of the safety intervention tool package. This Assessment of Care tool is currently being pilot tested in one hospital in Texas. After this initial stage it will be re-designed and re-evaluated to insure usability and effectiveness. The safety tool intervention package will then be implemented with the continued collection of feedback to the Armstrong Institute from users to improve and refine.

Assessment of Care Transitions Checklist Sample

	Yes	No	N/a
Pre verbal handoff assessment			
31. Was all required equipment ready, waiting and functional for the patient at the receiving unit?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32. Were the monitors and/or cables, sent with the patient compatible with the monitors and/or cables at the receiving unit?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33. If lines, tubes and cables were transferred to a new monitor, were key vital parameters transferred and zeroed first?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34. Was the patient situated, stable and comfortable at the receiving unit prior to the verbal handoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35. Were there unexpected interruptions in stabilizing the patient at the receiving unit?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Verbal handoff assessment			
36. Were there delays in convening all key players involved with the handoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
37. Was there an identified leader who initiated and directed the verbal handoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38. Were both the bedside nurse AND the primary receiving practitioner present for the verbal handoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
39. Were there any other nurses or practitioners from the receiving unit present during the verbal handoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
40. Did all the key players in the verbal handoff explicitly introduce themselves and identify their roles?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
41. Did the bedside nurse and primary practitioner at the receiving unit explicitly acknowledge readiness for the verbal handoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
42. Was the patient introduced by the transfer team?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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