

Prescriptions for Excellence in HEALTH CARE

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Handoffs and Transitions in Care: An Inpatient Perspective

By Stephen A. Knych, MD, MBA

The Hard Facts

The 1999 Institute of Medicine (IOM) report, *To Err Is Human*, estimated that 98,000 people die from medical errors each year. The Institute for Healthcare Improvement's (IHI) 5 Million Lives Campaign calculated an approximate 15 million adverse medical events each year, 6 million of which cause harm to the patient that results in a significant deviation in the patient care process.¹

A study commissioned by the Society of Actuaries reviewed inpatient claims data (for the year 2008) for 24 million Americans and revealed that:²

- 6.3 million medical injuries occurred including 1.5 million resulting from medical error
- 7% of inpatient admissions resulted in some type of medical injury
- Collectively, errors cost the US health care system roughly \$19.5 billion in inpatient, outpatient, prescription drug, and other services and resulted in more than 2500 excess fatalities and 10 million excess days of work missed.

As the foregoing statistics attest, medical error resulting in patient harm is a real and present danger that is endemic to the current health care system. This article reviews the evidence suggesting that failure of communication and/or

failure in transitions in care are direct or contributing causes of medical errors and patient harm in the inpatient setting.

Scope of the Problem

How many times is the responsibility for a hospitalized patient's care transferred from 1 provider to another, or from one unit to another, in a given day? In his study of a teaching hospital environment, Vidyarthi calculated that as many as 4000 provider-to-provider handoffs occur daily.³ Patient care is handed off among care providers or transitioned from one unit to another during shift changes, surgical procedures, imaging tests, and therapy treatments. In fact, a patient experiences a transition in care even upon admission (ie, from the emergency department [ED] or surgical suite to an inpatient unit).

When surveyed, ED physicians reported that 29% of their patients experienced an adverse event or near miss when transferred from the ED to an inpatient unit.⁴ In a study concerning surgical errors, Riesenbergs discovered that communication breakdowns contributed to 43% of the errors observed, and that poor handoffs contributed to 66% of these communication breakdowns.⁵

The handoff and transition in care processes are clearly vulnerable to communication failures as illustrated by published reports and the experiences

of The Joint Commission (JC). In fact, breakdowns in communication are the leading cause of sentinel events reported to the JC and are identified as a root cause for two thirds of sentinel events.⁶

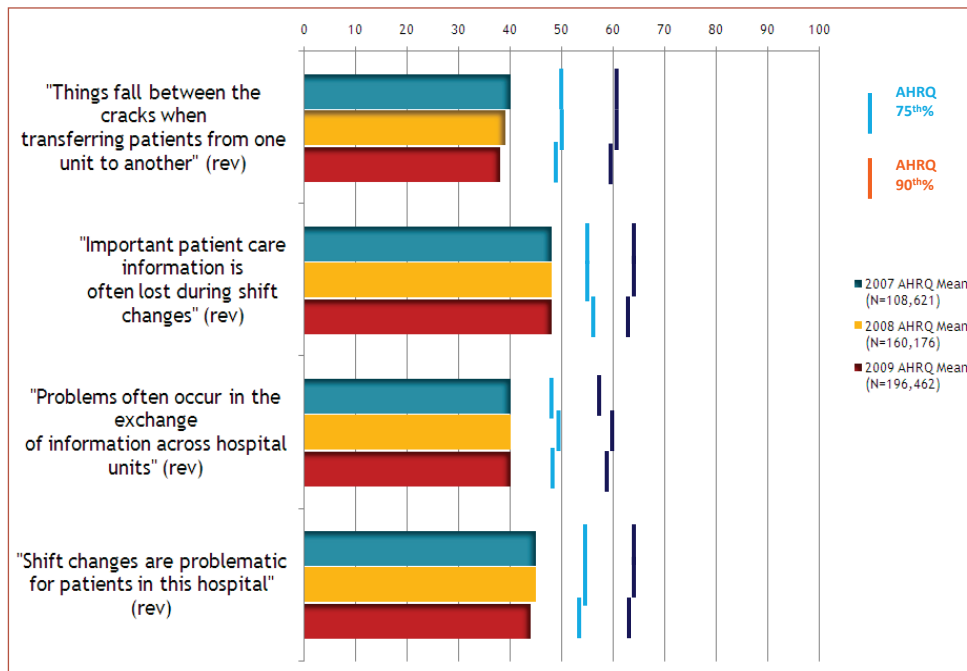
The Pennsylvania Patient Safety Authority, another prominent oversight organization, receives frequent reports of communication breakdowns during transitions in care to ancillary departments.⁷

The Agency for Healthcare Research and Quality (AHRQ) has designed and implemented the Hospital Survey on Patient Safety Culture (HSOPSC) to measure health care staff and physicians' perception of safety over 12 hospital domains. From 2007 through 2009, 108,000-196,000 health care providers in over 800 hospitals across the United States responded to this survey. The results indicate that if a mere 61% of respondents answer positively to questions regarding the processes of handoffs and transitions in care, their hospital ranks in the 90th percentile nationally (Figure 1). Sadly, where handoffs and transitions in care are concerned, our hospitals can receive an "A" ranking (90th percentile) with a score of "D" (61% positive).

In 2005, Solet et al reported that only 8% of US medical schools taught a formal, didactic session on how to perform

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Figure 1. 2007-2009 Patient Safety Survey: AHRQ Handoff & Transitions



Source: Agency for Healthcare Research and Quality (AHRQ). Overall results. In: Hospital Survey on Patient Safety Culture: 2010 User Comparative Database Report. <http://www.ahrq.gov/qual/hospsurvey10/hosp10ch5.htm>. Accessed July 29, 2010.

patient handoffs. Physicians' opinions as to what information should be communicated in handoffs varied greatly.⁸

Impact of the Problem

The economic public health impact of faulty handoff communication and transitions in care has been demonstrated, but how is the impact felt in the medical liability community? Likewise, how do we measure the adverse impact of faulty transitions that have led to medical errors and harm to the population at large?

Reviews of malpractice claims showed that inadequate handoffs were a contributing factor in 20% of errors leading to claims in the ambulatory setting, and in 24% of errors leading to claims in the ED setting.⁷

In her article, "Patient Safety: A Patient Perspective," Linda Kenney conservatively estimated that, in the hospital setting, the IOM report of 98,000 deaths due to medical error each year would emotionally impact 12 million family members and 12 million health care providers.¹

Potential Solutions

In 2006, the JC established National Patient Safety Goal (NPSG) 02.05.01 that required all health care organizations to develop and implement a standardized approach to handoff communication. This goal does not specifically address standardizing a process for inpatient transitions in care.

In 2010, NPSG 02.05.01 was retired as a NPSG and became a part of the Provision of Care chapter of the *Accreditation Manual for Health Care Organizations*. Should the JC consider a NPSG to address a process for inpatient transitions in care?

Some researchers argue against standardization or "one size fits all" in the belief that, because the process of health care is often disparate among departments and caregivers, transitions in care should be approached in a customized fashion.⁹

In this sense, going from the ED to a medical/surgical unit (med/surg) is likely to differ from going from the ED to the

intensive care unit (ICU). Similarly, the process for moving an ICU patient to the imaging department is likely to be designed differently than the process for taking a med/surg patient to the imaging department.

Recognizing the complexity of this dilemma, the IHI in 2010 recommended designing workflows to minimize the number of handoffs and transitions in care that a patient experiences.¹⁰

What are the key design components for handoff communication and transitions in care? Generally speaking, the essential design elements to improve handoff communication and facilitate more effective, safe transitions in care include:

- *Physical Setting*: a location reasonably free from distractions, noise, interruptions ("sterile cockpit")
- *Safe Culture*: flattened hierarchy capable of open exchange of information and discussion of patient treatment issues
- *Functional Diversity*: enable effective exchanges between team members of different ethnic backgrounds and languages
- *Communications Mode*: face-to-face whenever possible (eye contact, facial expressions, body language)

A Case Study

In 2009, a large integrated health care system in southeastern United States began a comprehensive overhaul of handoffs and transitions in care practices, keeping in mind the core components listed above.

A common nurse (RN)-physician (MD) and MD-MD communications tab was created in the electronic health record. Communication processes were redesigned and are being implemented between the following core groups: MD-MD, MD-RN, RN-RN, RN-patient, and RN-patient transporter. RN care guidelines were embedded into a new "ticket-to-

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ride” transport handoff process that included closed-loop communication and documentation thereof upon return of a patient from a diagnostic or surgical procedure to the inpatient unit.

Figure 2 displays the recently published results of the initial research on team training in the operating room setting in one of our facilities.¹¹ One of the study’s aims was to use team training techniques to promote a flattened hierarchy and to facilitate more open exchange of information among all care providers.

This large integrated health care delivery system demonstrated an 11% improvement in the HSOPSC domain of handoffs and transitions in care on the 2009 AHRQ survey. AHRQ considers any improvement greater than 5% to be significant and meaningful per their established standards of measurement.

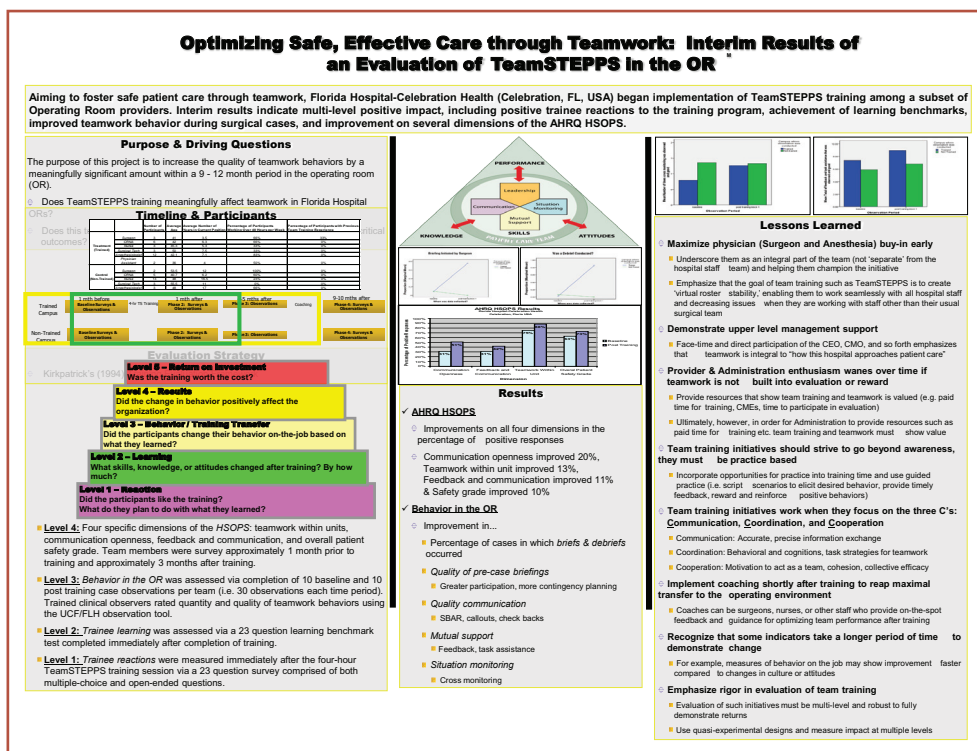
Is this a blueprint for success?

Conclusion

In reference to health care systems, Jim Conway, IHI Senior Fellow and the former Vice President and Chief Operating Officer of the Dana-Farber Cancer Institute, has been quoted as saying, “Our systems are too complex to expect *merely extraordinary people* to perform perfectly 100 percent of the time. We as leaders have a responsibility to *put in place* systems to support safe practice.”¹² It is our responsibility to our patients, to our staff, and to the US health care system to use the foundational elements listed above to create handoff communication processes that facilitate safer, more effective inpatient transitions in care.

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Figure 2. Optimizing Safe, Effective Care through Teamwork: Interim Results of an Evaluation of TeamSTEPS in the OR



For more information, see: Weaver SJ, Rosen MA, DiazGranados D, et al. Does teamwork improve performance in the operating room? A multilevel evaluation. *Jt Comm J Qual Patient Saf.* 2010;36(3):133-142.

References

- Kinney LK. Patient safety and patient perspective. *Prescriptions for Excellence in Health Care.* 2010;9(Summer):3-5.
- Clark C. The top ten most costly, frequent medical errors. www.healthleadersmedia.com/content/PHY-254873/Top-10-Most-Costly-Frequent-Medical-Errors. Accessed September 1, 2010.
- Vidyarthi A. Triple handoff. <http://www.webmm.ahrq.gov/case.aspx?caseID=134>. Accessed July 29, 2010.
- Horwitz LI, Meredith T, Schuur JD, Shah NR, Kulkarni RG, Jenq GY. Dropping the baton: a qualitative analysis of failures during the transition from emergency department to inpatient care. *Ann Emerg Med.* 2009;53(6):701-710.
- Riesenberg LA, Leitzsch J, Massucci JL, et al. Residents' and attending physicians' handoffs: a systematic review of the literature. *Acad Med.* 2009;84(12):1775-1787.
- Riesenberg LA, Leitzsch J, Cunningham. Nursing handoffs: a systematic review of the literature. *Am J Nurs.* 2010;110(4):24-34.
- What We are Seeing Failed Handoffs: Reports to ECRI PSO. PSO Navigator. 2010 Aug;2(3):1-8. Available at www.ecri.pso.org or email: info@ecri.pso.org. Accessed July 28, 2010.
- Solet DJ, Norvell JM, Rutan GH, Frankel RM. Lost in translation: challenges and opportunities in physician-to-physician communication during patient handoffs. *Acad Med.* 2005;80(12):1094-1099.
- Behara R, Wears RL, Perry SJ, et al. A conceptual framework for studying the safety of transitions in emergency care. In Henrickson K, Battles JB, Marks ES, et al, eds. *Advances in Patient Safety: From Research to Implementation.* Vol 2. Rockville, MD: Agency for Healthcare Research and Quality; 2005.
- Institute for Healthcare Improvement. Improve workflow: minimize handoffs. <http://www.ihl.org/IHI/Topics/Improvement/Improvement Methods/Changes/IndividualChanges/Mimimize+Handoffs.htm>. Accessed July 29, 2010.
- Weaver SJ, Rosen MA, DiazGranados D, et al. Does teamwork improve performance in the operating room? A multilevel evaluation. *Jt Comm J Qual Patient Saf.* 2010;36(3):133-142.
- Conway J. *Leadership Guide to Patient Safety.* Cambridge, MA: Institute for Healthcare Improvement; 2005.