

# Risk Rx

Vol.12 No. 2 | April-June 2015

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## *Fixing Fumbled Handoffs: Let's not drop the ball!*

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The University of Florida has had a prize football team since 1906. The bronze statues of our Heisman trophy winners outside of the Swamp are a tribute to our best. John Heisman's famous quotes talk about how a football should never be fumbled. When we talk about fumbled handoffs in the healthcare setting, the connotation is very different. Perhaps comparing healthcare to football is not a fair comparison. While they are two very different settings, it is clear that fumbled handoffs are high stakes.

### **What are Handoffs?**

- Handoffs or handovers are the process for transferring responsibility for the care of patient: "a transfer of care involving a transfer of information, responsibility, and authority between clinicians."
- A transition occurs when 2 or more workers exchange mission-specific information, responsibility, and authority for an operation.<sup>1</sup>

There are multiple handoffs that take place every day in the healthcare setting. Anytime a patient comes from an outpatient setting to an inpatient setting there is a handoff. Within the hospital setting there are multiple handoffs between care-givers. A very important handoff occurs at discharge from the hospital. This is a vulnerable time for a patient as responsibility transitions from the inpatient team to the outpatient team.

### **Handoffs in the Hospital Setting:**

Multiple care providers take care of a patient in the hospital. There are transitions of care from the emergency room to the inpatient ward. While the patient is on the ward, there are multiple nurses and physicians taking care of the patient. If the patient needs to go to an ICU or to a different service, there are further transitions in care. Discontinuity amongst caregivers in the hospital is inevitable. No single care provider can work 24 hours a day and 7 days a week. Nurses typically work 8-12 hour shifts. A study showed that when nurses worked greater than 12 hours, the number of errors doubled.<sup>2</sup> In a teaching hospital, there are many handoffs on

the physician team to accommodate for the ACGME duty hours. On a hospitalist service, there are many handoffs as different physicians cover patients to provide 24 hour care. Handoffs are an inevitable reality of taking care of patients in the hospital.

### **How do Handoffs in the hospital contribute to adverse events?**

We know that handoffs in the hospital are inevitable. We also know that communication errors and discontinuity of care can contribute to adverse patient events. A study out of Australia analyzed 25,000-30,000 preventable adverse events that led to permanent disability. In this study it was noted that 11% of preventable adverse events were due to communication issues, in contrast to 6% due to inadequate skill levels of practitioners.<sup>3</sup> Retrospective reviews of malpractice claims in the ambulatory setting<sup>4</sup> and emergency department<sup>5</sup> showed that handoffs were a contributing factor in 20% and 24% of medical errors respectively. With frequent transitions in care, there is potential harm if key portions of the clinical data are omitted during handoffs.

### **What are some recommendations for effective Handoffs?**

The key to effective handoffs is standardization. If each healthcare provider chooses his or her own format there is bias in terms of what information is relayed. Additionally, in general conversation, we tend to overestimate peer comprehension of the information relayed.<sup>6</sup> Without a standard process and an opportunity for two-way communication, key clinical details are likely to be omitted.

The Joint Commission requires all health care providers to "implement a standardized approach to handoff communications including an opportunity to ask and respond to questions" (2006 National Patient Safety Goal 2E). The Joint Commission National Patient Safety Goal also contains specific guidelines for the handoff process, many drawn from other high-risk industries:

- interactive communication
- up-to-date and accurate information

- limited interruptions
- a process for verification

an opportunity to review any relevant historical data. In 2010, the Accreditation Council for Graduate Medical Education released its resident duty hours restrictions, requiring that faculty monitor their residents' patient handoffs to ensure that residents are competent in handoff communications. Standardized formats allow faculty to monitor information being relayed and assess clarity and comprehension. While some may argue that the progress notes in the Electronic Medical Record (EMR) are sufficient to utilize for information, this is not always the case. Often, the notes are updated later or not entered in the EMR (i.e. events that happen overnight). The other major thing that is lacking in daily progress notes is anticipatory guidance. That is the crucial information of "if this happens, do that" or "look out to make sure that this does not happen". In using only the progress notes, there is no ability to ask questions or clarify issues.

There are various tools that have been implemented in the EMR to guide handoffs such as checklists and standardized formats. However, these tools need to be used in the context of interactive communication.

### What are strategies to improve Handoffs?

The topic of standardized handoffs has been studied and a variety of mnemonics have been used. **SBAR** (Situation, Background, Assessment, Recommendation) is a standardized communication tool. This was originally developed by the United States Navy as a communication technique to be used on a nuclear submarine. It has been used in the health-care setting since the late 1990s. SBAR is a useful tool that is easy to remember. SBAR can be modified for a variety of settings. It can also be used across disciplines. It is used in both nursing and physician communication.

Another mnemonic that has been implemented and studied is the **IPASS** format. This study was published in the NEJM in November 2014<sup>7</sup>. The IPASS group conducted a multicenter prospective intervention study looking at resident handoffs. The intervention included a mnemonic to standardize oral and written handoffs. There were also structured handoff trainings. In 10,740 patient admissions, the medical-error rate decreased by 23% from the pre-intervention period to the post-intervention period. The rate of preventable adverse events decreased by 30%.

The mean duration of in-person oral handoff sessions did not change significantly after the intervention (duration before and after the intervention, 2.4 and 2.5 minutes per patient, respectively).

What this study showed is that structured handoffs can be done in a timely manner. Additionally, they can decrease



<b>I</b>	<b>Illness Severity</b>	<ul style="list-style-type: none"> <li>• Stable, "watcher," unstable</li> </ul>
<b>P</b>	<b>Patient Summary</b>	<ul style="list-style-type: none"> <li>• Summary statement</li> <li>• Events leading up to admission</li> <li>• Hospital course</li> <li>• Ongoing assessment</li> <li>• Plan</li> </ul>
<b>A</b>	<b>Action List</b>	<ul style="list-style-type: none"> <li>• To do list</li> <li>• Time line and ownership</li> </ul>
<b>S</b>	<b>Situation Awareness and Contingency Planning</b>	<ul style="list-style-type: none"> <li>• Know what's going on</li> <li>• Plan for what might happen</li> </ul>
<b>S</b>	<b>Synthesis by Receiver</b>	<ul style="list-style-type: none"> <li>• Receiver summarizes what was heard</li> <li>• Asks questions</li> <li>• Restates key action/to do items</li> </ul>

preventable adverse events.

### Handoffs from Inpatient to Outpatient

The handoff from the inpatient team to the outpatient team is perhaps the most important handoff of all. Complexities in the medical system, busy inpatient and outpatient providers and a lack of a standardized approach have made this a challenging handoff to achieve effectively. The American College of Physicians proposes standards of communication between the hospital team at the primary care team.<sup>8</sup> These include contacting and communicating with the primary care team at admission and during the hospitalization. At discharge a follow up appointment is to be made, additionally a discharge summary is to be sent in 24-48 hours. At the time of discharge the following information is recommended to be relayed to the primary care provider:

- Reason for inpatient admission
- Major procedures and tests performed during inpatient stay and summary of results
- Principal diagnosis at discharge
- Current medication list
- Studies pending at discharge (e.g., laboratory, radiological), AND
- Patient instructions

A recent editorial in the NEJM suggested that hospitalist and primary care physicians work together in a collaborative care model. In this model, the primary care physician is a consultant on the inpatient team.<sup>9</sup> Care transitions are extremely challenging and the primary care physician needs to have involvement, at the minimum, upon admission, at discharge and post-discharge. The challenge is to find a way to standardize this process which takes into account the primary care providers' and inpatient team's schedules and work flow.

**Summary**

Standardized handoffs reduce preventable adverse events and improve communication. Each institution should take steps to standardize handoffs in a way to provide clear communication and an opportunity for two way communication. There are a variety of tools in the published literature which can be modified, as needed, to meet institutional needs. Since faculty need to monitor resident handoffs, there are also tools to teach and evaluate effective handoffs.<sup>10</sup> The transition from inpatient care to outpatient care remains an extremely important handoff. This is a vulnerable time for the patient and more work needs to be done to standardize this handoff.

Handoffs are inevitable. A standardized approach presents an opportunity to decrease adverse events. We can all work together to avoid fumbled handoffs!

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## The Handoff: A Critical Point of Vulnerability

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Over the past decade, communication failures have become widely recognized as a leading safety hazard in health care. In root cause analyses, nearly 80 percent of serious medical errors involve miscommunications.<sup>1</sup> The Joint Commission, the National Quality Foundation, and the Department of Defense Patient Safety Center have each called for the development of high-quality communication tools and processes with a goal toward ensuring the critical patient information gets appropriately transmitted and received.<sup>2-4</sup>

The “handoff,” i.e., the transfer of patient information and responsibility between health care providers, is an especially critical point of vulnerability to communication error.<sup>5-7</sup> Handoffs occur at every hospital shift change, and whenever patient changes locations. Omissions of critical information—as well as provision of outdated or frankly erroneous information—occur frequently.<sup>8</sup> Exacerbating this problem are: 1) the rising acuity of hospitalized patients; 2) the need for complex teams of primary providers and sub-specialists to care for sicker patients; and 3) resident-physician work hour reductions.<sup>9-12</sup>

Discontinuities in care pose a risk to safety, but only a few studies have qualified those risks, and even fewer have evaluated the use of communication technologies to improve the handoff process (and, thus, patient safety). Some examples:

- Researchers investigating resident work hour reduction in New York State found that the presumed increase in discontinuity caused by the institution of night-float systems resulted in delayed test ordering and an increase in hospital complications.<sup>13</sup>
- Petersen et al evaluated potentially preventable adverse events were much more likely to occur if the patient was under the care of a physical from a “non-primary” team (e.g., the cross-covering or night-float intern).<sup>14</sup>
- Similarly, in a military setting (specifically, a university-affiliated Veterans Administration Hospital) Patients admitted by resident night-floats had longer lengths of stay and increased laboratory testing.<sup>15</sup>
- Investigators affiliated with Harvard Medical School have been involved in a number of studies that



have shed further light on this issue. The first was a randomized trial of a scheduling intervention that eliminated 24-hour shifts and reduced office hours while at the same time introducing an additional handoff in care (due to reduced work hours).<sup>16</sup> The intervention did result in a significant overall reduction in serious diagnostic errors—however, avoidable miscommunications were still reported. That study has led to a strong interest in developing communication tools to assist with scheduling interventions.

- In a recent study of handoffs from the operating room to the ICU, communication errors occurred in 100 percent of sign-outs; most contained multiple errors.<sup>17</sup> Many of those errors could have been prevented with the use of a simple, computerized sign-out tool.
- In a focus group study of residents from Boston's Brigham and Women's Hospital (BWH) and two other academic centers, it was found that a wide variation occurred both in the process and content of sign-out.<sup>18</sup> At BWH in particular only 52 percent of residents provided written and oral sign-out on every patient, and only 86 percent updated the written sign-out on a daily basis. Only 55 percent of night-float residents reported that the relevant information was available in the sign-out at night when needed.<sup>19</sup>

To date, the adoption of computerized sign-out tools has been slow, in part due to a limited availability of high quality commercial or widely disseminated products. An enhanced, structured computer sign-out has been found, in one study,

to reduce the risk of adverse events associated with cross-coverage of patients by house staff less familiar with them.<sup>20</sup>

As noted, some preliminary studies indicate that improved sign-out processes and tools hold promise of further improving care. But, before wide spread implementation can occur, further evidence of their effectiveness is needed, as is refinement for use in diverse environments.

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## *Transitions of Care: The need for a more effective approach to continuing patient care*

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This paper is the first of many planned communications that will report on new developments from The Joint Commission enterprise about work underway to address the problems related to transitions of care. This paper defines the problem and highlights the elements of some current evidence-based transitions of care models being researched by the enterprise.

Currently, The Joint Commission enterprise (The Joint Commission, Joint Commission Resources, and the Center for Transforming Healthcare) is in the first year of a three-year initiative to define methods for achieving improvement in the effectiveness of the transitions of patients between health care organizations, which provide for the continuation of safe, quality care for patients in all settings. All three components of The Joint Commission will offer various interventions and resources that are designed collectively to improve transitions of care. The interventions would apply to The Joint Commission’s accreditation programs for hospitals, critical access hospitals, behavioral health care, home care, long term care, and ambulatory care settings.

The Joint Commission currently has standards, National Patient Safety Goals, survey activities, and educational services that address transitions of care. However, these mechanisms have limited utility or reach. For example, the current standards and survey process address certain transitions of care concerns within a health care setting, but neither “cross settings,” nor do they address what happens to patients after they leave a health care setting.

### **The problem: Ineffective transitions of care**

The following vignettes illustrate why health care organizations need to improve transitions of patient care.

- An 80-year-old retired school teacher visited the emergency department four times in a month for exacerbations to a mild heart failure condition, twice requiring hospitalization. When provided with discharge instructions, she is able to repeat them back accurately. However, she doesn’t follow through with the instructions after returning home because she has not yet been diagnosed with dementia.<sup>1</sup>
- A 68-year-old man is readmitted for heart failure only one week after being discharged following treatment for the same condition. He brought all of his pill bottles in a bag; all of the bottles were full, not one was opened. When questioned why he had not taken his medication, he began to cry, explaining he had never learned to read and couldn’t read the instructions on the bottles. 1
- After falling at home, a 78-year-old woman received three new prescriptions from her primary care physician because during the exam her blood pressure was 164/90. The doctor instructed her to start taking the new medication for hypertension the same day, and to stop taking her current blood pressure medication the following day. The physician also arranged for a home care nurse to come to her home and check on her in a few days. When asked whether she had any questions about the new medications, she replied that she understood and didn’t have any questions. Two days later, the home care nurse came to see her. The patient complained of a headache and dizziness, and the nurse noted that she had a blood pressure of 190/96. When the nurse asked what medications she was taking, the patient said she had stopped taking her “old blood pressure medicine, like the doctor told me to.” When the nurse asked about her new medication for hypertension, the patient became upset, and said that she didn’t have them yet. When the nurse asked her why, the woman’s husband said, “because we don’t have the money to get them, that’s why!” The woman was on Medicare, but they did not have enough

money for the co-pay amounts for the new medications.

These patients left the care setting without the ability to care for their conditions, due to inadequate risk assessment, communication or education breakdowns, or false assumptions made by care providers.

## What are transitions of care?

“Transitions of care” refer to the movement of patients between health care practitioners, settings, and home as their condition and care needs change. For example, a patient might receive care from a primary care physician or specialist in an outpatient setting, then transition to a hospital physician and nursing team during an inpatient admission before moving on to yet another care team at a skilled nursing facility. Finally, the patient might return home, where he or she may receive care from a visiting nurse or support from a family member or friend.<sup>2</sup> The scope of the Joint Commission transitions of care initiative encompasses transitions of patients between health care settings. For example, from a nursing home to a home care agency.

Unfortunately, these transitions do not always go smoothly. Ineffective care transition processes lead to adverse events<sup>3,4</sup> and higher hospital readmission rates

**One study estimated that 80 percent of serious medical errors involve miscommunication during the hand-off between medical providers.**

and costs.<sup>4</sup> One study estimated that 80 percent of serious medical errors involve miscommunication during the hand-off between medical providers.<sup>5</sup> Problematic transitions occur from and to virtually every type of health care setting, but especially when patients leave the hospital to receive care in another setting or at home, according to experts on this issue. To reduce both readmission rates and adverse events, hospitals must improve the effectiveness of transitions of care in which they play a role. The federal government has taken notice: Hospitals with unacceptably high readmission rates for Medicare and Medicaid patients will soon face financial penalties under the Patient Protection and Affordable Care Act.

## Root causes of ineffective transitions of care

Many factors contribute to ineffective transitions of patient care, and these root causes often differ from one health care organization to another.<sup>6</sup> The root causes most often described in medical literature and by experts include:

- **Communication breakdowns.** Care providers do not effectively or completely communicate important information among themselves, to the patient, or to those taking care of the patient at home in a timely fashion.<sup>5,6,7,8</sup> The communication method – whether verbal, recorded, or written – is ineffective. For example, the Center for Transforming Healthcare’s hand-off communication project<sup>6</sup> found these risk factors among those relating to communication:
  - o Expectations differ between senders and receivers of patients in transition
  - o Culture does not promote successful hand-off (e.g., lack of teamwork and respect)
  - o Inadequate amount of time provided for successful hand-off
  - o Lack of standardized procedures in conducting successful hand-off, e.g. use of SBAR (situation, background, assessment, recommendation)
 The full list of root causes and solutions is available on the Center website.

- **Patient education breakdowns.** Patients or family/friend caregivers sometimes receive conflicting recommendations, confusing medication regimens, and unclear instructions about follow-up care. Patients and caregivers are sometimes excluded from the planning related to the transition process. Patients may lack a sufficient understanding of the medical condition or the plan or care.<sup>9,10</sup> As a result, they do not buy into the importance of following the care plan, or lack the knowledge or skills to do so.

- **Accountability breakdowns.** In many cases, there is no physician or clinical entity that takes responsibility to assure that the patient’s health care is coordinated across various settings and among different providers.<sup>10,11</sup> Providers – especially when multiple specialists are involved – often fail to coordinate care or communicate effectively, which creates confusion for the patient and those responsible for transitioning the care of the patient to the next setting or provider. Primary care providers are sometimes not identified by name, and there is limited discharge planning and risk assessment.<sup>12</sup> Steps are not taken to assure that sufficient knowledge and resources

will be available – either at home or at the next setting – to the patient upon discharge.<sup>13</sup>

### Current transitions of care models

Several evidence-based transitions of care models have been developed to improve patient outcomes. These models include the Care Transitions Intervention (CTI),<sup>14</sup> Transitional Care Model (TCM),<sup>15</sup> Better Outcomes for Older Adults through Safe Transitions (BOOST),<sup>16</sup> The Bridge Model,<sup>17</sup> Guided Care,<sup>18</sup> Geriatric Resources for Assessment and Care of Elders (GRACE),<sup>19</sup> and Project RED (Re-Engineered Discharge).<sup>20</sup> These models include many or all of the following elements, which are being researched as part of The Joint Commission enterprise transitions of care initiative:

- **Multidisciplinary communication, collaboration and coordination – including patient/caregiver education – from admission through transition.** A care team – including a physician, nurse, pharmacist, social worker, and others as appropriate – communicates, collaborates and coordinates effectively.<sup>10,15,20,21</sup> The team begins to take steps at admission and continues them through the patient's hospital stay to assure a successful transition.<sup>20</sup> In addition to daily roundings/meetings, these steps include actively teaching patient and family/friend caregivers to learn and practice self-care and to follow the care plan,<sup>9,10,12,14,15,20</sup> including how to self-manage medications.<sup>14,22</sup>

- **Clinician involvement and shared accountability during all points of transition.** Both sending and receiving clinicians are involved in and accountable for a successful transition.<sup>10,22,23</sup> They are identified by name and exchange information electronically or by fax or telephone during the time of transition.<sup>24</sup> At every point during the transition, the responsible coordinating clinician (such as a primary care physician or nurse practitioner) is identified for the patient.<sup>10</sup>

- **Comprehensive planning and risk assessment throughout hospital stay.** Each patient and family/friend caregiver has a discharge risk assessment completed during the hospital stay, usually within the first 24-48 hours of admission. Discharge planning begins immediately after admission. During the hospital stay, patients are assessed for risk factors that may limit their ability to perform necessary aspects of self-care.<sup>12</sup> Such risk factors include low literacy, recent hospital admissions, multiple chronic conditions or medications, and poor self-health ratings.<sup>15</sup> Also, clinicians begin to assess risks that may be present

at the receiving setting. For example, the clinician should confirm that the patient will have access to medications he or she needs at the next setting, as the pharmacy formulary there may not have the medications, or the ability to compound medications as ordered.

Standardized transition plans, procedures and forms. The following components are included in a written transition plan or discharge summary: active issues, diagnosis, medications, required services, warning signs of a worsening condition, and whom to contact 24/7 in case of emergency.<sup>2,10,20</sup> Plans are provided in the patient's preferred language and use pictures for patients having low literacy.<sup>12</sup>

- **Standardized training.**<sup>6</sup> The organization begins by defining what constitutes a successful transition. Staff are taught the necessary steps to complete a successful transition and are engaged in real-time performance feedback. Successful transitions are made an organizational priority and performance expectation. Medical schools incorporate risk assessment, collaboration, care planning, and medication management relating to transitions of patient care into their curricula.<sup>25</sup> Nursing schools and educational programs for all other health care disciplines include training on what transitions are, the risk associated with transitions, and how they can contribute to a safe patient care transition.

- **Timely follow-up, support and coordination after the patient leaves a care setting.** Organizations develop a process that provides for timely post-discharge follow-up with patients. Telephone or in-person follow-up, support, and coordination by a case manager, social worker, nurse, or another health care provider 24-48 hours after discharge helps patients achieve successful recoveries.<sup>12,15,20</sup> A 24/7 call center provides a recently transitioned patient or family member with information or reassurance after regular clinic hours.<sup>12</sup> Having a transitional care nurse accompany the patient to the first follow-up outpatient visit can improve the health outcome,<sup>15</sup> as can scheduling home care visits for the patient.<sup>14</sup>

- **If a patient is readmitted within 30 days, gain an understanding of why.** Readmissions within 30 days of discharge can often be prevented by providing a safe and effective transition of care from the hospital to home or another setting. Convene a meeting of the care team, including the attending physician and other key staff, and the patient and family members. Ask the patient questions about what happened after discharge. Find out if there were financial or transportation barriers, and whether or

not home caregivers were unavailable.<sup>12</sup> This important information can be used by organizations to improve care transitions for patients and family/friend caregivers.

- **Evaluation of transitions of care measures.** Monitor compliance with standardized forms, tools, and methods for transitions of care. Use surveys and data collection to find root causes of ineffective transitions and to identify patient and caregiver satisfaction with transitions and their understanding of the care plan. For example, this three-item survey queries patients about key aspects of a care transition:<sup>26,27</sup>

1. The hospital staff took my preferences and those of my family or caregiver into account in deciding what my health care needs would be when I left the hospital.
2. When I left the hospital, I had a good understanding of the things I was responsible for in managing my health.
3. When I left the hospital, I clearly understood the purpose for taking each of my medications.

The problem-solving resources and interventions from the project were pilot tested at several other organizations and in a variety of care settings, producing measurable improvement in the ability to effectively care for patients as they transition from one care setting to another.

**Interventions and new resources**

Most recently, the Joint Commission Center for Transforming Healthcare (a 501(c)3 not-for-profit affiliate of The Joint Commission) launched its Targeted Solutions Tool (TST)<sup>™</sup> for Hand-off Communications – a customizable tool that measures the effectiveness of hand-offs within an organization or to another facility, and provides proven solutions. The TST provides a tested and validated measurement system that produces data that support and drive the need for improving the current hand-off communication processes. The solutions are based on the work of the original 10 participating health care organizations working with the Center’s Hand-off Communications Project. The problem-solving

resources and interventions from the project were pilot tested at several other organizations and in a variety of care settings, producing measurable improvement in the ability to effectively care for patients as they transition from one care setting to another. The TST for Hand-off Communications is available at no added cost to Joint Commission accredited organizations.

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