

# Chapter 3

## Handoff and Care Transitions

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*“The single biggest problem in communication is the illusion it has taken place.”*

George Bernard Shaw

### Introduction

A *handoff* is a transfer of responsibility and accountability. Clinical handoffs transfer the responsibility for some or all aspects of patient care to another clinician or team, either on a temporary or a permanent basis [1]. Handoffs occur at transitions of care when patients move from one institution to the other, from one care setting to another (e.g., intensive care unit to floor) or at shift changes within a hospital. During handoff, clinicians exchange patient information and may jointly plan the next steps in care. Effective handoff is critical in ensuring care continuity and patient safety, as failure to communicate critical information during handoff can lead to uncertainty in decisions about patient care and result in suboptimal care.

Numerous published reports demonstrate that ineffective handoff and communication is a major contributor to adverse clinical events and outcomes. A 1994 report found that cross-coverage of medical inpatients among more than one clinician is associated with a fivefold increase in the risk of an adverse event [2]. In a review of 122 malpractice claims in which patients had alleged a missed or delayed diagnosis in the Emergency Department (ED), inadequate handoffs contributed to 24 % of the cases [3]. Another study of 889 malpractice claims found that communication failures during handoff were implicated as the cause in 19 % of cases involving medical trainees and 13 % of other cases [4].

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In the current landscape of decentralized and increasingly specialized and fragmented healthcare services, managing the quality of the handoff process is thus a critical component of any safety and quality initiative. The Joint Commission introduced “Effective handoff and communication” among staff as a National Patient Safety Goal in 2009 (<http://www.jointcommission.org>) and then subsequently, recognizing the vital importance of the issue, this goal was moved into a Joint Commission “standard” that all accredited hospitals must achieve (*Chapter: Provision of care, treatment, and services; Element of Performance 2*). However, getting the policy balance right is challenging. For example, recent attempts by the US Accreditation Council for Graduate Medical Education (ACGME) to cut extended shifts and reduce work hours for medical residents has a side-effect of increasing handoff rates [5].

In recent years, much effort and research have been directed at improving handoff practices. Still, reports of handoff failures continue primarily because handoff is a complex process, with many different potential failure points [6]. In this chapter, we present two case studies of patient harm events caused by ineffective handoff. Our goal is to examine some of the challenges faced by clinicians at handoff and to provide some insights into how these obstacles can be overcome.

## Case Studies

### *Case 1: Poor Management of Postpartum Hemorrhage*

#### Clinical Summary

*An emergency cesarean was performed on a 29-year-old patient, Ms. J, during which a healthy baby was delivered. A uterine tear occurred during the delivery resulting in excessive blood loss. The tear was repaired, and the wound was observed for a period of time to ensure there was no further bleeding. Ms. J was then transferred to the recovery room. In the recovery room, the care of the patient was delegated to a recovery nurse, who was also assisting with the cesarean procedure. At handoff, the recovery nurse was not informed of the uterine tear. Details of the surgery and postoperative care instructions were documented and given to the nurse. The nurse read the report, but not in its entirety. Within a short time after the admission to the recovery room, Ms. J started to bleed internally and her blood pressure progressively declined. Unaware that the patient had experienced postpartum hemorrhage during the cesarean section, the nurse failed to recognize the significance of the blood loss and changes in blood pressure. She felt that the priority was to clean up the blood and the patient. She was also unaware of the need to observe the patient’s fundal height and to perform fundal massage. Three hours after admission to the recovery room, an experienced nurse noticed the blood loss and notified the medical team immediately. Ms. J was transferred to the operating theater where she underwent further surgery. A large blood clot was removed from her uterus, which was found to be atonic. Ms. J had a cardiac arrest on the operating theater table. She was resuscitated, but died shortly after in the intensive care unit. The cause of her death was multisystem organ failure following postpartum hemorrhage.*

## ***Case 2: Opioid-Induced Respiratory Depression in a Head Injury Patient***

### **Clinical Summary**

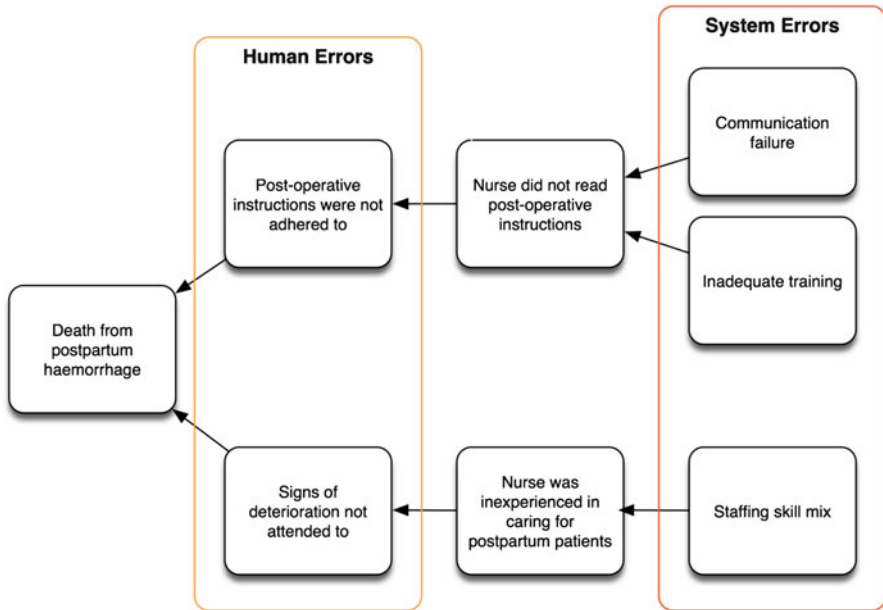
*A 16-year-old girl, Ms. A, was admitted to a neurosurgical unit after sustaining a closed head injury. On admission, she was examined by a neurosurgical fellow and diagnosed with a mild head injury. The fellow did not inform the on-call-attending physician of the admission. As a result, Ms. A's case was not reviewed by the attending physician on the day of admission. The following day, the attending physician attended the ward with a senior resident. On reviewing the patient, the attending physician formed the view that she had dural lacerations with bone fragments within the brain. Ms. A was scheduled for a surgery to elevate her skull the following morning. The attending physician further stated that he was constrained regarding the amount of analgesia that could be given to Ms. A and gave a verbal order that analgesia was to be determined by the attending physician or fellow. No medical notes were taken at this ward round, and the attending physician's instructions were not documented. After the ward round, the patient was left in the care of the neurology resident. Early that afternoon, in response to Ms. A's ongoing pain, the resident decided to alter the pain management regime. She did not discuss her decision with a senior member of the team. Later that evening, an anesthetic fellow reviewed Ms. A for a preoperative anesthetic consultation. In response to the patient's severe pain, the anesthetic fellow further increased the dose and frequency of pain relief, without consulting with the primary care team. Neurological observations of the patient through the early night remained stable. When observations were due again later in the night, the responsible nurse decided that it was not necessary as patient was "sleeping comfortably." Early next morning, Ms. A was found to be unresponsive and died shortly after unsuccessful resuscitation attempts. Coroner's inquest into the case indicated that the patient died from a respiratory arrest due to the depressive effect of opiate medication.*

### **Root Cause Analysis**

#### ***Case 1***

#### **What Happened?**

Ms. J's death resulted from the delay in the recognition and treatment of postpartum hemorrhage (PPH). PPH is a leading cause of preventable maternal death. Patients suffering from PPH can deteriorate quickly, unless immediate medical care is provided. Common causes of PPH include failure of the uterus to contract adequately after birth (atonic PPH), and trauma to the genital tract (traumatic PPH) [7]. After experiencing a uterine tear during an emergency cesarean, Ms. J was at risk of developing PPH. Appropriate postoperative care should have included the careful monitoring of fundal



**Fig. 3.1** Case 1: Poor management of postpartum hemorrhage—cause and effect diagram

height, and the massaging of the uterus to expel blood and blood clots. These were clearly specified in the postoperative notes. However, neither having read the notes nor having been alerted at handoff, the nurse failed to comply with these care instructions. Ms. J continued to bleed throughout her stay at the recovery room. Early signs of deterioration were not recognized, and the delay in treatment ultimately led to her death.

### Why Did It Happen?

Multiple human and systemic errors contributed to this unfortunate event (Fig. 3.1). On the outset, the death of Ms. J was caused by the nurse’s failure in adhering to postoperative instructions and in recognizing vital signs of deterioration. The underlying systemic causes of these errors were much more complex.

#### Communication Failure

Communication breakdown between the operating theater and recovery room was a major contributor to the incident. While details of the cesarean procedure and postoperative care instructions were documented, the recovery room nurse was not verbally briefed on the patient’s condition and the care she required. Assumptions were made that since the nurse was present at the operation, the patient’s condition should have been obvious and being a nurse looking after a postoperative obstetric patient, the nurse would have been trained to provide appropriate care. Unfortunately, the

nurse had no prior experience in caring for a postoperative patient who had suffered a PPH. While she was present at the surgery, she was unaware of the amount of blood the patient had lost and appeared to have no specific recollection of the procedure to repair the uterine tear. Had a proper handoff been given, it may have been ascertained at an early stage that the nurse did not have the requisite skills to care for the patient. Further, had she been informed of the blood loss during the cesarean section, she might possibly have been more acutely aware of the need to closely monitor vital signs. The blood loss and the declining blood pressure that she observed may have resulted in her alerting the medical team straight away.

### Inadequate Training

If a staff member does not have the skills to deal with a particular crisis, they should at least be trained to identify it and seek assistance. The hospital had a formal protocol for treating PPH. However, it appeared that the nurse had never seen the protocol nor was she trained in the identification of symptoms of PPH. Her observations of the patient's declining blood pressure and increased blood loss should have resulted in an immediate call for assistance. However, not appreciating the gravity of the situation, her priority was to seek for assistance to clean the blood. Another nurse who came to assist recognized the urgency of the situation immediately, and the medical team was notified. However, by then, it was already too late.

### Poor Staff Allocation

An important contributor to this incident is the failure of hospital administrators in ensuring that rostered staff have the skills to identify and deal with a particular medical condition. Ms. J was entrusted to a nurse who was unskilled to provide the care required. On the day of the incident, resource constraint was not an issue, as there were other more experienced nurses in the hospital who could have assisted with caring for Ms. J. The recovery room was relatively quiet, and Ms. J was the only patient. Poor organization on the part of the hospital administrators meant that the patient was denied the best care that she could have received.

### How Can It Be Prevented?

The incident could have been prevented by adequate handoff communication during the transfer of care. The transferring team should not rely on written documentation alone to communicate patient information, since written notes are easily overlooked. Verbal handoff of critical information is vital to ensure that the receiving team understands the care required and is capable of providing it.

The need for better coordination of available resources is also evident. Hospital administrators have the responsibility to ensure that the rostered staff has the skills to provide the care required. Further, it is imperative that new staff members are introduced to the relevant hospital protocols. Deficits in skills or experience should

be identified early in the induction stage, so that appropriate training can be provided.

## ***Case 2***

### **What Happened?**

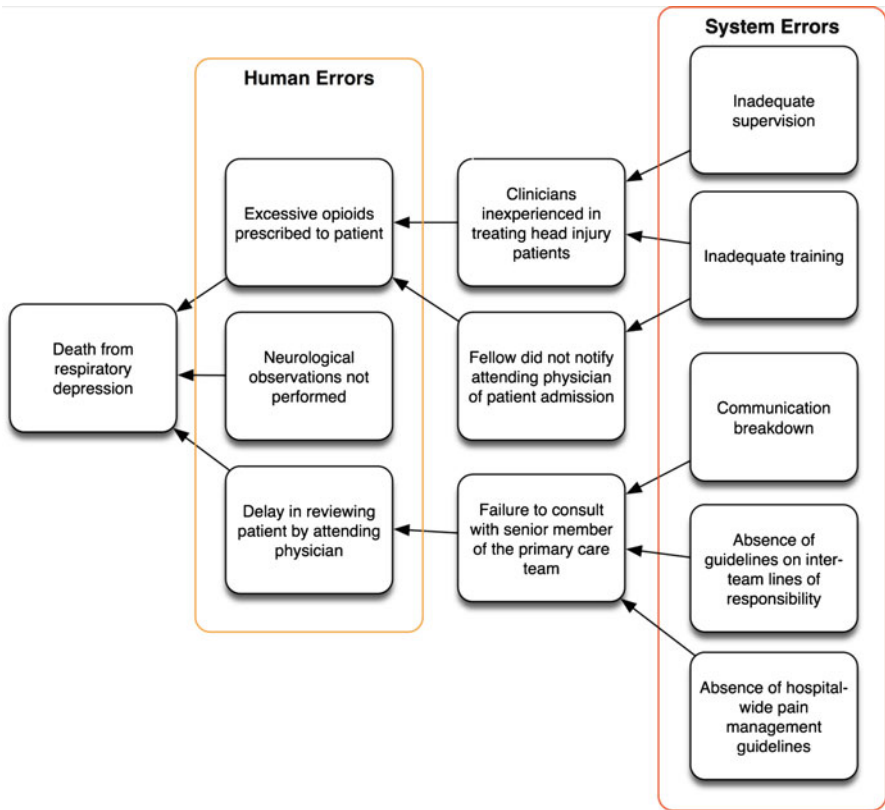
Ms. A's death was most likely a result of opioid-induced respiratory depression. Respiratory depression is recognized as a serious complication of opioid analgesic therapy. Opioids can impair central nervous system respiratory drive, resulting in alveolar hypoventilation and inability to adequately eliminate carbon dioxide, and eventually to adequately exchange oxygen [8, 9]. The respiratory depressant effects of opioids may be markedly exaggerated in the presence of head injury, due to the increased intracranial tension. Further, opioid-naïve patients (individuals who are not chronically receiving opioid analgesics on a daily basis) are far more susceptible to respiratory depression. In the case of Ms. A, both these risk factors were present. Being opioid-naïve and having sustained a head injury, Ms. A was at risk of developing opioid-induced respiratory depression. The amount of analgesia prescribed to Ms. A exceeded the usual dosage given to a head injury patient and was likely the cause of her sudden decline and eventual death.

### **Why Did It Happen?**

A confluence of human and system errors resulted in this unfortunate event (Fig. 3.2). At the human level, poor clinical judgments were made by the neurosurgical resident and the anesthetist fellow in the prescription of opioids. Additionally, the nurse's failure to perform routine neurological observations meant that the patient's decline was left undetected. The neurosurgical fellow's failure in notifying the on-call-attending physician of the patient's admission, while not directly linked to the cause of death, had contributed to the unfolding of the events. Had the patient been reviewed by the attending physician on the day of admission, the surgery would have been scheduled earlier, and this unfortunate incident could arguably have been averted. Multiple systemic failures facilitated these human errors.

### **Poor Staffing Level and Inadequate Supervision**

Poor management of staff resources played a major role in the incident. On the day of Ms. A's admission, the neurosurgical unit was understaffed, as two fellows were on a training program. The remaining fellow was overburdened with heavy workload, which contributed to his failure to inform the on-call-attending physician of the admission. On the following day, due to lack of staff, a resident with little experience was placed in charge of the ward for the first time, merely 2



**Fig. 3.2** Case 2: Opioid-induced respiratory depression in a head injury patient—cause and effect diagram

weeks after she had commenced rotation there. The resident had no prior experience in managing patients with head injury. Based on her previous training at an orthopedic ward, she believed it was her responsibility to prescribe analgesic drugs without consulting with a senior member of the team. The general danger of narcotics in head injury patients was not appreciated. Poor staffing level left the inexperienced resident with little support from senior members of the team. The responsibility imposed on the resident was disproportionate to her level of knowledge and experience. Consequently, poor clinical decisions were made leading to adverse patient outcome.

## Communication Failures

A chain of communication failures resulted in the worst possible outcome for Ms. A. First, the on-call-attending physician was not informed of Ms. A's admission, leading to delay in reviewing the patient. Second, while the resident was present during the ward round with the attending physician, the attending physician's instruction not to alter the pain management regime did not appear to be understood. It was also the resident's responsibility to document the ward round, which she failed to do. As a result of the lack of documentation, the anesthetist fellow was not aware of the attending physician's order that analgesia was to be determined by a senior member of the neurosurgical team. When the anesthetist fellow discussed his decision to increase the doses of oxycodone hydrochloride with an attending physician anesthetist, he was advised to have the patient reviewed and the changes authorized by the neurosurgical team. Unfortunately, this advice was not followed. Thus, communication breakdown within the neurosurgical team and between the anesthetic and neurosurgical teams resulted in poor clinical decisions and a fatal outcome for the patient.

## Lack of Guidelines

At the organizational level, there was a lack of hospital-wide pain management guidelines. As a result, new staff members were unaware of the need to escalate to senior medical staff changes in pain management for patients with head injury. Further, the absence of inter-team lines of responsibility for treating pain and prescribing analgesia resulted in multiple team involvement in pain management beyond the primary care team.

## How Can It Be Prevented?

Following Ms. A's tragic death, several measures were implemented by the hospital to prevent similar incidents from occurring. These included the development of an acute pain management policy and procedure for use in the neurosurgery department, establishing that decisions regarding the prescription of analgesia outside the terms of the guidelines can only be made by a neurosurgical fellow or attending physician. Tutorial and orientation program were implemented to ensure that junior practitioners and new staff members were aware of these guidelines. In-house education for medical and nursing staff regarding pain management treatment was also introduced. Additionally, the hospital implemented a system for dealing with periods where there is reduced fellow coverage due to training requirement, pursuant to which the head of department is responsible for ensuring that adequate cover is documented.



## Discussion

The case studies presented in this chapter are classic illustrations of James Reason's Swiss cheese model, where multiple system and human errors cumulatively cascaded into an adverse event. In both cases, the trajectory of error began during the transition of patient care between providers. The first involves the transfer of care from the operating theater to the recovery room, and the second involves the transfer of care between a neurosurgical attending physician and a resident.

### *Transition of Care: A Point of Vulnerability*

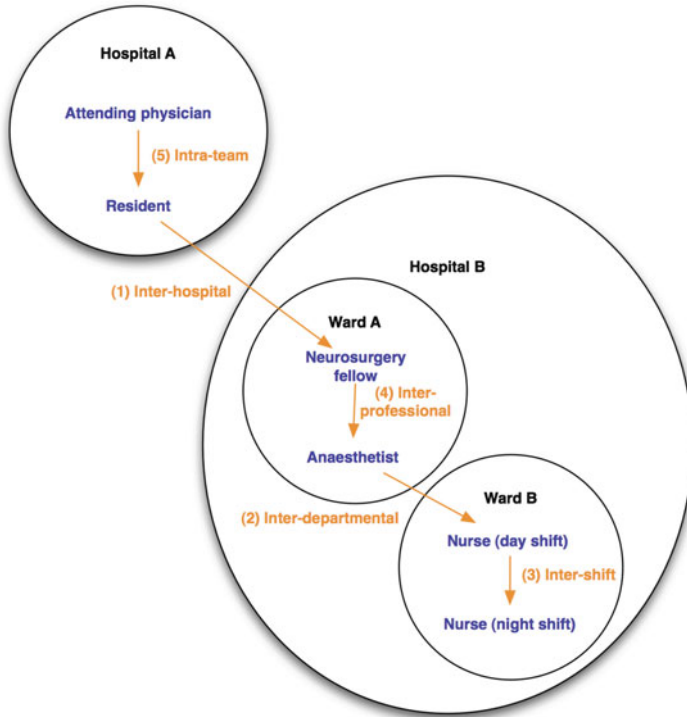
It is widely recognized that transition of care is a point of vulnerability in patient safety. There are five main types of transition (Fig. 3.3) (1) interhospital—the transfer of care when a patient is transferred from one facility to another; (2) interdepartmental—the transfer of care during an inpatient transfer; (3) inter-shift—the transfer of care during shift changes; (4) interprofessional—the transfer of care between medical teams; (5) intra-team—the transfer of care between members of the same team. During these transitions, there is a handoff of responsibility from one clinician to another that involves the transfer of rights, duties, and obligations for the care of patients [10]. Existing studies show that current handoff practices are deficient; handoffs are typically unstructured and highly variable in content and process. Thus, handoff failures during transitions of care are common, leading to poor clinical decisions and suboptimal patient care [6, 11].

### *Barriers to Effective Handoff Communication*

#### **The Diversity of Teams**

The prevalence of handoff failures is partially a result of the complexity of clinical interactions. Patient handoff often involves multiple teams, with differing expertise, work processes, and culture. Even within the same team, the level of knowledge and experience between team members can vary greatly. These differences can impede effective communication.

Information is interpreted differently by different individuals. The amount of information required to communicate a particular message depends on the degree to which the sender and receiver share mental models of the world or common ground [12]. The greater the common ground between the sender and receiver of a message, the less the message needs to contain, and the more that can be assumed. A message that contains more information than is required by an expert might be insufficiently



**Fig. 3.3** Transitions of care

informative for a novice. Failure to recognize or appreciate that others do not share a mental model or *common ground* is a major barrier to effective clinical communication [12, 13].

Communication between senior clinicians and their junior counterparts is often plagued by this problem. More experienced clinicians tend to assume too much about the knowledge and skill level of their junior counterparts and fail to provide sufficient information during handoff of patient care [14, 15]. This is evident in both the case studies presented. In the first case, despite being a witness to Ms. J's cesarean section, the recovery nurse was oblivious to the events that occurred during the surgery. The obstetrician wrongly equated her presence at the surgery to an understanding of the patient's condition and therefore did not consider that a verbal briefing of surgical events was necessary. In addition, the obstetrician assumed that since the nurse assisted with the cesarean section, she was experienced in caring for postpartum patients. As a result, postoperative care instructions were not verbally communicated during the transfer of patient to the recovery room. Thus, wrong assumptions of the nurse's level of knowledge led to poor handoff communication.

In the second case, the neurosurgery-attending physician clearly instructed the resident not to change the patient's pain management regime without consulting a senior member of the team. Similarly, the anaesthetist fellow was advised by her

supervisor to discuss with the neurosurgery team her decision to increase the patient's analgesia. In both instances, the instructions were not complied with. The message was somehow overlooked due to their lack of appreciation for the risk of analgesia on head injury patients.

Communication difficulty between teams during care transitions can further be exacerbated by the ambiguity in roles and differences in work processes. Studies have shown that clinicians often report not knowing when the transfer of care takes place and to whom handoff should be given [16, 17]. Even within a team, poorly defined boundaries of responsibility are not uncommon [14]. Under such circumstances, tasks that are not explicitly assigned to an identified provider can easily get lost [18]. Problems can also arise when multiple clinicians assume responsibility for a task in the absence of well-defined inter-team lines of responsibility. This is evident in the second case study, where multiple team involvement in pain management of the patient resulted in the overprescription of analgesia.

### **Time and Resource Constraints**

Time and resource constraints compound the communication challenges. Clinicians are often expected to operate under limited resources. When workload is high, clinical communication becomes less interactive and rushed [19]. Communication failures also abound when clinicians are fatigued. This is evident in the second case study. Overburdened with the heavy workload, the neurosurgical fellow failed to inform the on-call-attending physician of Ms. A's admission, resulting in delay in reviewing the patient. Existing literature contains many examples of communication breakdown caused by time and resource constraints. For example, studies on handoff in the ED showed that patients are commonly transferred to an inpatient ward without adequate handoff, due to the urgency of treating emergency patients [19]. Even when handoff is provided, the information given is often outdated, as emergency physicians may not have time to review the patient again before the transfer, and are therefore unaware of new developments or current vital signs.

### ***Delegating Care: The Importance of Supervision***

A major contributor to these incidents was the lack of experience of the care providers. In both cases, patient care was delegated to an inexperienced practitioner, who was expected to perform beyond their level of competencies without adequate supervision. Consequently, poor clinical decisions were made, resulting in harm to the patient.

The healthcare system is often heavily reliant on physicians-in-training for the day-to-day provision of medical care. Balancing the need to provide medical training to junior practitioners and patient safety is a challenge. Ideally, junior practitioners should only carry out tasks within their competency and have a responsibility

to contact senior staff if they get out of their depth. Unfortunately, due to their lack of experience, junior doctors may fail to recognize when they need assistance. As a result, they may take on more responsibility than is appropriate, involving senior staff too late, or failing to contact them at all. This is evident in both case studies. In the first incident, the recovery room nurse failed to recognize that the patient was deteriorating. And in the second case, the neurosurgery resident and anesthetist fellow were unaware of the danger of analgesia in head injury patients. Thus, they failed to seek advice from a senior staff member. Indeed, several studies have shown that junior doctors often have difficulty in identifying their own clinical limitations [20–22]. A detailed discussion of the issue around graduate medical education and patient safety can be found in Chap. 4.

## *Improvement Strategies*

### **Standardization**

The need for strategies that support safe and reliable patient handoff is evident. A common mechanism for minimizing breakdowns in communication is to develop standard communication protocols. Standardization defines best practices and helps set normative standards for what is expected in a communication event. Message standardization leads to consistency in the message structure, reduces the opportunity for misunderstanding between medical teams, and assists in the detection of errors of omission. For example, ambiguity in roles and responsibilities can be managed by defining expectations for each team member [6]. Communication breakdown caused by differences in the level of experience and knowledge can potentially be diminished by standardizing the handoff protocol between senior and junior clinicians and providing guidelines for delegating care to junior clinicians. Several methods for standardization are summarized in Table 3.1.

Handoff protocols should cover both verbal and written communication of patient information. Verbal handoff facilitates interactive questionings between providers, during which patient care plans can be clarified, and the ability of the receiving team to manage the patient can be assessed. Written handoff ensures there is a persistent copy of critical information, which is not “lost in translation,” and can be time effective, as there may be limited opportunity for communication between clinicians after a shift change or transfer.

### **The Role of Information Technology**

Time and resource constraints often preclude adequate handoff between clinicians [6]. Information technology such as electronic health records (EHR) can facilitate the access to patient information in a distributed manner. Using an EHR, patient information can be consolidated into a single system that can be accessed

**Table 3.1** Methods for standardizing handoff communication

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|  |   |
|--|---|
| <i>Read-backs:</i>   | Read-back requires the recipient of a message to repeat back the information to the communicator. By ensuring closed loop communication, the method can ensure critical information is not missed or heard incorrectly [23]. The use of standard read-back protocols can minimize the misinterpretation of communicated information between two parties [24]. In one study, read-back was implemented for telephone reports of critical laboratory results and detected and corrected errors in 3.5 % telephone exchanges [25]                  |
| <i>Standardized sign-out templates:</i>                          | Written sign-out information can be presented in a predefined structure. This might include critical fields that need to be filled out, such as allergy status, medication history, and preference for treatment. Simple sign-out templates have been shown to be effective in ensuring critical information is communicated during care transitions [26, 27]   |
| <i>Structured goals:</i>   | The use of a structured daily goals form in the intensive care unit produced a significant improvement in the percentage of residents and nurses who understood the goals of care for the day and reduced ICU length of stay [28]. At baseline, less than 10 % of residents and nurses in the study understood the goals of care for the day. After implementing the daily goals form, greater than 95 % of nurses and residents understood the goals of care for the day. The ICU length of stay decreased from a mean of 2.2 days to 1.1 days |
| <i>SBAR (Situation, Background, Assessment, Recommendation):</i> | Communication can be improved by imposing a standardized structure, such as SBAR. The structure of SBAR consists of a brief description of the situation, followed by the background and the clinician's specific assessment and complete recommendation [29]. By providing a common framework for information sharing, ambiguity in handoff communication can be minimized [30, 31]  |

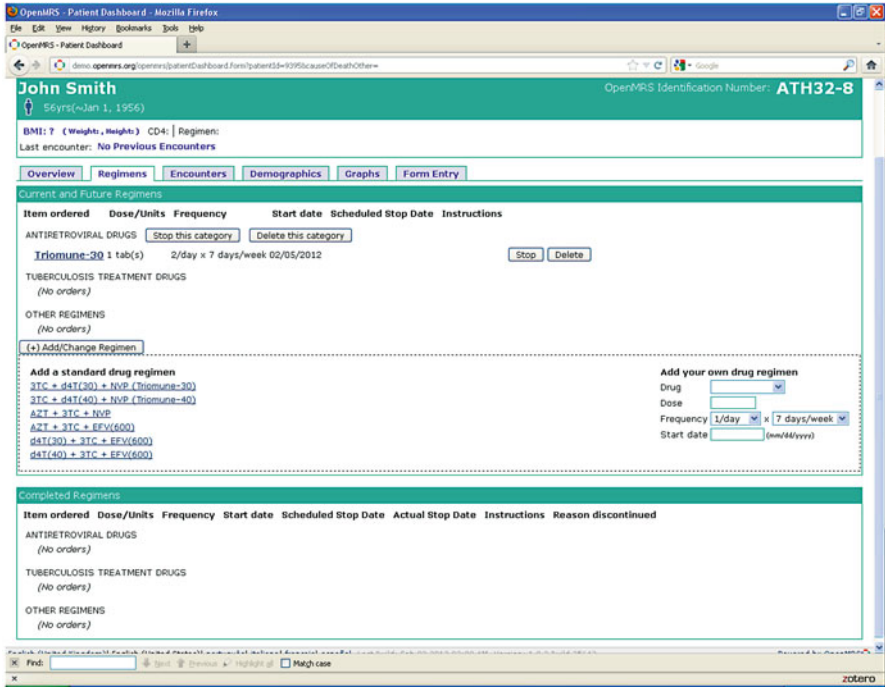
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anytime, in different localities, and by different team members. Improving the electronic availability of critical information can decrease misinformation, facilitate recognition of clinical changes, and increase the transparency of responsibility changes to other specialties [19]. There is an increasing body of work demonstrating the benefits of information technology in facilitating information exchange. In one study, the implementation of a computerized handoff system reduced the overall number of patients missed on resident rounds by half [32]. In another study, computerized handoffs reduced the rate of preventable adverse events from 1.7 to 1.2 % [5].

Another advantage of gathering information through information technology is the ability to standardize information to ensure completeness and legibility. For example, computerized physician order entry (CPOE) can be structured so that each medication order includes a dose, route, and frequency [33]. Additionally, *forcing functions* (features that restrict how a task may be performed [34]) can be implemented to ensure that critical information is provided by clinicians (Fig. 3.4).

### The Role of Supervision During Handoff

There is much room for improved trainee supervision. Currently, medical training often involves throwing trainees into the deep end. Supervision is largely “reactive,” where assistance is provided when requested. This approach is inadequate, as junior



(\* [www.openmrs.org](http://www.openmrs.org))

Fig. 3.4 Screenshot of an open source EHR system, known as the OpenMRS (<http://www.openmrs.org>). Common drug regimens are listed to facilitate correct prescription based on the recommended practice

practitioners often do not have a realistic understanding of their own clinical limitations. It is imperative for supervisors to know the competencies of their trainees when handing patient care. Junior practitioners working in a new specialty should be provided with close supervision with regular checking. As they gain experience, more responsibilities can be given with less supervision.

There is also a need to provide support to senior practitioners in their supervisory roles. Senior practitioners are under ever-increasing pressure and are often not supported to pass on their skills to junior colleagues. Despite the implications of poor supervision on patient safety, the supervisory responsibilities of attending physicians are poorly defined. The skills necessary to supervise junior practitioners have either never been taught or taught suboptimally. An audit carried out by The Royal College of Anaesthetists found that fewer than half of department provided written guidance on attending physician supervision for trainees [35]. Further, most attending physicians found conflicting demands of service and supervision difficult. Unless these systemic issues are addressed, the risk posed by inexperienced practitioners will continue to persist.

## Conclusion and Key Lessons Learned

In this chapter, we explore some of the challenges with patient handoff through two case studies. Several organizational issues contributed to the adverse outcome in these case studies. We have addressed the problems with communication failures and inadequate supervision during transition of care. Other systemic issues featured in the case studies include poor resource coordination, which resulted in inexperienced practitioners being imposed responsibilities that were beyond their level of competencies, and the lack of training and induction program provided to new staff members. Some strategies for addressing these issues are summarized in Table 3.2.

Unfortunately the problems identified in our case studies have existed for a number of years and regrettably the same errors are likely to recur. Many strategies to improve handoff failed to translate into safety for patients, due to lack of compliance on the part of the clinicians. Clinicians can become desensitized to risky practices. Daily violations become routine, and since everyone is doing the wrong thing, no one can be held responsible. This phenomenon is known as *normalization of deviance* [36]. Ultimately, safe patient handoff can only be achieved when there is an unwavering commitment and dedication from all levels in the organization to create a culture of safety and collaboration.

**Table 3.2** Key issues identified and recommended improvement strategies

| Key issues  | Improvement strategies   |
|---|--|
| <i>Policy standards</i>   |  |
| Absence of guidelines and inter-team lines of responsibility            | Standardize critical clinical processes (e.g., pain management) and inter-team lines of responsibility         |
| Staff members unfamiliar with hospital protocols and escalation process | Induction program to ensure all new staff members are familiar with relevant protocols                         |
| <i>Work environment</i>   |  |
| Poor staffing levels and mix of skills                                  | Provide adequate supervision for junior staff members  |
| Workload and resource constraints                                       | Better coordination of available resources, including early identification of deficits in knowledge and skills |
| <i>Teamwork</i>   |  |
| Communication failure caused by diversity in expertise and expectations | Standardize handoff communication, including both verbal and written handoff                                   |
| Poor availability of information  | Provide digital access to patient information so as to facilitate distributed information transfer             |

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