PSNet
PATIENT SAFETY NETWORK

A Room Without Orders

January 1, 2016
Vogelsmeier A, Despins L. A Room Without Orders. PSNet [internet]. 2016.
https://psnet.ahrq.gov/web-mm/room-without-orders

Case Objectives

- Review a common process for planned direct hospital admissions.
- Describe challenges of prioritizing day-to-day patient care activities with additional workload of patient admissions.
- Discuss poor communication as a potential underlying cause of safety risks, including missed nursing care.
- Identify strategies for improving communication to facilitate direct patient admissions, including reducing risk of missed nursing care.

The Case

A 56-year-old man with acute lymphoblastic leukemia and diabetes mellitus was admitted to the hospital for a scheduled cycle of chemotherapy. He had no acute complaints. The patient arrived directly to the medical unit on a busy afternoon and waited in a nearby area for his assigned room. At shift change, the patient's room was ready but the nurse who had initially greeted him on arrival had been replaced by a new nurse, who escorted the patient to his room. The nurse completed the usual check-in process later in the evening but did not contact the admitting provider, making the assumption this had occurred several hours earlier. Therefore, no admitting orders were written.

The patient spent the night in the hospital and took his own insulin, which he had brought from home. No evening meal was delivered; the patient thought that holding his food was part of his chemo regimen so he didn't question this. Since he wasn't complaining of any symptoms and takes few medications at home, he didn't prompt the need for any orders overnight.

The following morning, the new nurse (the third in his care so far) noted the patient was difficult to arouse. She went to review the existing orders and discovered they were completely absent. She paged the on-call team who immediately evaluated the patient and successfully treated him for symptomatic hypoglycemia, which had been caused by the patient's insulin taking effect in the absence of food intake. The case

prompted a formal review as, in addition to the preventable episode of hypoglycemia, the initiation of his scheduled chemotherapy was delayed.

The Commentary

The case presented highlights a series of errors that occurred during a planned direct hospital admission. According to the American Hospital Association, 35.4 million admissions occur annually in United States hospitals.(1) Among those admissions, approximately 16 million occur through the emergency department (ED) (2), suggesting that more than 19 million are direct admits. Direct admissions may be either unplanned or planned. For example, an unplanned direct admission may occur when an ill patient presents to a physician's office and the physician decides to admit the patient directly to the inpatient medical service instead of sending the patient to the ED for further evaluation. On the other hand, a planned direct admission may occur when a patient is pre-scheduled for a procedure requiring an inpatient stay (i.e., non-emergent surgery, scheduled chemotherapy administration). Many might assume that a direct, planned admission is an uncomplicated process. However, admitting a patient—whether planned or not—is complex and requires careful coordination among physicians, nurses, and others within the organization.

Direct Patient Admissions

In many hospitals, when a direct admission is scheduled, the ordering physician communicates to a nurse assigned to locate an appropriate bed for the patient (i.e., on the correct clinical service, appropriate for the patient's level of acuity). This nurse may be an admissions coordinator, responsible for triaging all hospital admissions, or a nurse supervisor, responsible on a shift-by-shift basis for overseeing hospital-wide patient flow including all admissions, discharges, and transfers. The nurse supervisor, frequently referred to as a "traffic-controller," is most often aware not only of patient flow and bed availability, but also of patient acuity and nurse staffing ratios to ensure that admissions can be accommodated safely and efficiently. Ideally, the physician or admissions coordinator/nurse supervisor has communicated with the patient to specify arrival date, time, and location.

When the patient arrives, the admissions coordinator/nurse supervisor may triage the patient to ensure appropriate bed placement and may then communicate with either a nurse manager or charge nurse on the assigned inpatient unit. Nurse managers/charge nurses are responsible for coordinating unit-level activities and typically assign a unit-based staff nurse to perform admission activities. These actions usually include verifying admission orders, obtaining an admission history, performing a physical assessment, and ensuring that the patient is safe, comfortable, and oriented to the hospital stay.

Thus, at first glance a direct admission seems to be a systematic process. However, while accepting a direct admission, staff nurses are simultaneously responsible for the care of patients already admitted to their unit, which involves myriad activities: performing daily assessments, administering medications, monitoring blood glucoses, changing dressings, teaching patients, ambulating patients, repositioning patients, and bathing patients. On top of that, nurses are also rounding with physicians, meeting with families, and supervising direct care staff such as licensed practical/vocational nurses and unlicensed assistive personnel. All of these activities demand the nurse's time and attention, which means that inserting an admission—even a planned one—into the mix is anything but simple.

Competing Demands and the Risk of Missed Nursing Care

Staff nurses must balance providing care to existing patients with performing the tasks necessary for admitting, discharging, and transferring other patients. Sometimes, there is an assumption that planned direct admissions are stable as compared to admissions from the ED. Therefore, it is possible that the staff nurse assigned to perform admission activities in the case described above did not verify the admission orders because she was busy caring for other patients. The complexity of the health care environment and the high acuity level of patients require nurses to continuously reprioritize their list of tasks.(3)

Errors occur by either commission (doing the wrong thing) or omission (failure to do the right thing).(4) Missed nursing care (errors of omission) can result from the competing demands staff nurses face when caring for patients. Kalish and colleagues (5) found missed nursing care occurs frequently among staff nurses. Forty-four percent of nurse respondents reported missing assessment activities (i.e., patient assessments, monitoring, vital signs), 73% reported missing individual interventions (i.e., medication administration), and 73% reported missing basic care needs (i.e., ambulation, meal set-up, repositioning, bathing). Reported reasons for missed care included limited labor resources (85%), insufficient material resources (56%), and communication issues (38%).(5) Although the root cause of the errors described in this case is not known, inadequate communication and missed nursing care, including failure to verify admission orders and diet orders, undoubtedly contributed to the patient's hypoglycemia and delay in chemotherapy administration.

The nurse manager plays an important role in reducing the risk of missed nursing care. Responsibilities include ensuring adequate staffing to meet day-to-day care demands and facilitating effective nurse-to-nurse communication via huddles and shift report. With regard to this case, the nurse manager would have been responsible for making sure that the staff nurse received relevant information about the new admission. If the unit was particularly busy that night, the nurse manager might also have assisted the staff nurse by providing hands-on care to the new admission. Ideally, the nurse manager and staff nurses work together to implement processes that help systematize patient admissions such as admission checklists. The nurse manager is responsible for identifying factors that prevent staff from adhering to established workflow processes and for holding staff accountable when these processes are not followed.

Communication as a Contributor to Error

Inadequate communication is a well-established cause of safety issues that arise within the hospital—including missed nursing care—and likely played a significant role in this case. Although the details around the communication in the case described are unknown, below is a suggested list of communications that should occur with direct admissions to mitigate gaps that could lead to patient harm.

- Physician requesting admission communicates directly with admissions coordinator/nurse supervisor prior to the patient's arrival and discusses admission orders.
- Physician requesting admission provides clear instructions to the patient about the treatment plan (e.g., taking his or her own medications after admission) and shares this information with the admissions coordinator/nurse supervisor who is responsible for communicating this to unit where the patient will be admitted.

- Admissions coordinator/nurse supervisor communicates with the nurse manager/charge nurse about the planned admission (including anticipated time of arrival of the patient to the unit, reason for admission, anticipated admission orders and treatment plan).
- Nurse manager/charge nurse communicates planned admission patient details to the staff nurse so that he/she can plan workflow accordingly and continues to communicate with the staff nurse to offer assistance with workload demands.
- Off-going staff nurse communicates possible arrival of planned admission to oncoming nurse, including reason for admission and treatment plan.
- Oncoming nurse rounds on new patients and reviews treatment plan.

With regard to direct admissions, it is also important to address physician-to-physician communication, which may not be as streamlined as it is for patients admitted from the ED. When patients are admitted from the ED, the ED clinician is often quickly and easily able to identify and page the admitting clinician (who is typically physically in the hospital) directly to discuss the patient. In contrast, for direct admissions, the physician ordering the admission might be working in a busy outpatient clinic and may not know what time the patient will be admitted, or even the name of the physician who will be admitting the patient. Physician-to-physician communication is critical to facilitate a smooth transition, particularly for patients with complex chronic conditions.(6) Inpatient providers may be unfamiliar with a patient's medical history prior to hospitalization. (This unfamiliarity is particularly true now that most US hospitals use hospitalists, who usually will not have a preexisting relationship with, or knowledge of, the patient's history or the treatment plan.) Direct communication with the outpatient provider helps the admitting physician clarify the treatment plan and establish a relationship with the outpatient physician who will re-assume the patient's care after discharge. For all types of admissions, it is critical to communicate closely with patients to ensure they are aware of their treatment plan and know what to expect during their hospital stay.

Improving Processes to Reduce Risk of Error

A previous AHRQ WebM&M commentary described best practices for direct admissions, including patient triage at multiple points to ensure the patient is stable and admitted to the appropriate level of care.(7) In addition, the Institute for Healthcare Improvement (8) offers strategies for coordinating multidisciplinary communication, not only at the time of admission but throughout the patient's stay. Those strategies are included in Table 1.

Given the importance of problems with communication and limited human resources as underlying causes of missed nursing care (5), strategies to promote teamwork (9) are critical to reduce risk of error. Potential strategies include: (i) establishing routine shift-to-shift communication about admissions between the nurse supervisor, nurse managers/charge nurses, and staff nurses responsible for admission activities; (ii) establishing walk rounds to facilitate handoff communication at shift change, including a review of activities accomplished during the shift and what still needs to be completed (such a review should also ensure that those activities align with the patient's own goals of care); (iii) developing checklists for admission processes that integrate with nurses' daily workflow; (iv) fostering a collaborative environment so nursing staff work together to ensure nursing activities are carried out as assigned; and (v) including the patient in all aspects of their care so patients and staff work together to ensure patient safety.

Hospital-based Technology

Information technology and software offer tools that can enhance patient throughput and associated workflow and communication. Electronic bed board applications can facilitate tracking of patients through the hospital and the status of each inpatient bed, including whether the bed is occupied, the patient is discharged, the bed is not cleaned, etc.(10) Some have a "bed ahead" feature that enables patients to be assigned to specific beds that match their clinical needs before they arrive. Nurses have reported improved sense of control over their workload after using a LEAN process, which enabled them to prioritize transfers and decrease incidence of multiple patients arriving simultaneously.(11)

In addition, software applications are available that send user-defined alerts and notifications that can notify the inpatient physician of patient arrival. Pre-completed admission order sets for planned admissions for procedures and scheduled treatments such as chemotherapy can be entered into electronic health records (EHRs) prior to admission and initiated or activated by the inpatient physician to ensure the orders are appropriate for the current clinical status of the patient. EHRs available at the point of care provide access to review previous patient encounters, imaging, laboratory results, and provider orders, promoting improved information exchange during patient handoffs.

As with any new process, implementation of such electronic tools should be monitored for unintended consequences. For example, using alerts to notify staff of new admissions may inadvertently increase the risk of patient harm by contributing to alert fatigue and leading staff to disregard these and other notifications. Pre-implementation preparation should include both an understanding of the limitations of the electronic tool as well as the workflow process into which it is to be integrated. The ability of an EHR and associated tools to meet information and patient care needs depends on accurate, timely input of data as well as timely interaction with the technology by the clinician. Initiating pre-completed admission order sets without a function forcing patient assessment may lead to patient harm if the patient's clinical status has changed since the orders were first entered into the computer system.

While there are no perfect systems for such a complex environment, the process for a planned direct admission could be better systematized with the right technology and appropriate staff oversight. For example, an EHR system that permits a patient's outpatient provider scheduling a planned direct admission to enter preliminary admission orders into the patient's EHR would ensure an accurate and up-to-date outpatient medication list and provide a preliminary care plan. The inpatient provider could then assess the patient, review the pending orders, and initiate them when the patient arrives, expediting care.

On the day of admission, the admissions coordinator works with patient registration staff to assign the patient to a bed on the receiving unit based on information provided by the electronic bed board application (described above). When a bed is assigned to the patient, this triggers an electronic notification of the patient's impending arrival to the inpatient provider, the receiving unit's nurse manager/charge nurse, and the staff nurse assigned to admit the patient. In an ideal system, the electronic notification alert would continue automatically at scheduled time intervals until the pending admission orders are activated. A smart board listing all patients on the unit could function both to notify staff of the new admission and to remind the staff nurse that admission orders need to be initiated via an icon displayed next to the patient's name. A nurse manager/charge nurse would then be responsible to check the board hourly and follow up

with the staff nurse to address barriers to initiating the admission orders.

If nurses are changing shift during an admission, an ideal system would include standardized handoff at the patient's bedside including a review of current orders, review of the medication administration record, and inventory of medications the patient may have brought from home. Bedside shift handoff improves completion rates of nursing care including medication administration.(12) Medication reconciliation at the time of admission reduces adverse events during transitions in care (13) and is a required process.(14) Standardized handoffs decrease medical errors and adverse events (15) and are supported by The Joint Commission.(16)

Technological requirements for streamlining planned admissions include an interoperable EHR that can be accessed by physicians scheduling admissions from outside of the hospital, an electronic bed board application with display capabilities for both hospital and unit-level views, computers in each patient's room, mobile computer workstations for staff, and a process for sending important alerts directly to appropriate staff. Key personnel to consider involving when developing a system to streamline planned admissions are listed in Table 2.

A well-designed system would also include a contingency plan for times of unanticipated stress such as an increased number of admissions. The hospital could consider a triage plan that includes criteria for canceling elective admissions and specify that when possible, planned admissions should not arrive on the unit during the hours around shift change. The time surrounding shift change is frequently a time of increased nursing activity (17) in which tasks may be delayed or missed depending on perceived priorities.

Take-Home Points

- Planned direct admissions are complex processes involving information exchanges between clinicians at multiple points in time.
- Standardizing the patient throughput process by establishing specific communication checkpoints promotes effective, efficient information distribution.
- Information technology and software are likely to enhance patient throughput and communication, but must be integrated within the context of the clinician's workflow and closely monitored for unintended consequences.

Amy Vogelsmeier, PhD, RN
Associate Professor
Sinclair School of Nursing
University of Missouri

Laurel Despins, PhD, RN
Assistant Professor
Sinclair School of Nursing
University of Missouri

Faculty Disclosure: Dr. Vogelsmeier and Dr. Despins have declared that neither they, nor any immediate member of their families, have a financial arrangement or other relationship with the manufacturers of any

commercial products discussed in this continuing medical education activity. In addition, the commentary does not include information regarding investigational or off-label use of pharmaceutical products or medical devices.

References

1. Fast Facts on US hospitals. Chicago, IL: American Hospital Association; January 2015. [Available at]

2. FastStats: Hospital Utilization. Atlanta, GA: Centers for Disease Control and Prevention; 2011. [Available at]

3. Ebright PR. The complex work of RNs: implications for healthy work environments. Online J Issues Nurs. 2010;15:Manuscript 4. [Available at]

4. Reason JT. Human Error. New York, NY: Cambridge University Press; 1990. ISBN: 9780521314190.

5. Kalish BJ, Landstrom G, Williams RA. Missed nursing care: errors of omission. Nurs Outlook. 2009;57:3-9. [go to PubMed]

6. Naylor MD, Aiken LH, Kurtzman ET, Olds DM, Hirschman KB. The care span: the importance of transitional care in achieving health reform. Health Aff (Millwood). 2011;30:746-754. [go to PubMed]

7. Kulkarni NS, Williams MV. Is it safe to be direct? AHRQ WebM&M [serial online]. May 2008. [Available at]

8. Real-Time Demand/Capacity Management to Improve Flow. Cambridge, MA: Institute for Healthcare Improvement. [Available at]

9. Kalish BJ, Lee KH. The impact of teamwork on missed nursing care. Nurs Outlook. 2010;58:233-241. [go to PubMed]

10. Tortorella F, Ukanowicz D, Douglas-Ntagha P, Triller M. Improving bed turnover time with a bed management system. J Nurs Adm. 2013;43:37-43. [go to PubMed]

11. Vose C, Reichard C, Pool S, Snyder M, Burmeister D. Using LEAN to improve a segment of emergency department flow. J Nurs Adm. 2014;44:558-563. [go to PubMed]

12. Kerr, D, Lu, S, McKinlay, L. Bedside handover enhances completion of nursing care and documentation. J Nurs Care Qual. 2013;28:217-225. [go to PubMed]

13. The high 5s assuring medication accuracy at transitions in care: Medication reconciliation standard operating procedure. Geneva, Switzerland: World Health Organization; September 2014. [Available at]

14. Using medication reconciliation to prevent errors. Sentinel Event Alert. January 25, 2006;(35):1-3. [Available at]

15. Starmer AJ, Spector ND, Srivastava R, et al. Changes in medical errors after implementation of a handoff program. N Engl J Med. 2014;371:1803-1812. [go to PubMed]

16. Improving transitions of care: hand-off communications. Oakbrook Terrace, IL: Joint Commission Center for Transforming Healthcare; June 2012. [Available at]

17. Shaw NT, Ballermann M, Hagtvedt R, Ho S, Mayes DC, Gibney RTN. Intensive care unit nurse workflow during shift change prior to the introduction of a critical care clinical information system. eJournal of Health Informatics. 2011;6:e5. [Available at]

Tables

Table 1. Strategies for Coordinating Multidisciplinary Communication.

- Convening a 10- to 15-minute morning huddle with key staff to communicate about planned admissions, discharges, and transfers; include discussion about unit activities and assistance staff nurses might need with the additional workload.
- Instituting a centralized bed management system in which a single person or entity is assigned to process admissions and transfers so efforts are well coordinated.
    - Responsible for coordinating morning huddles to ensure follow up (i.e., admission orders are obtained and initiated at the unit-level as indicated).
    - Responsible for communicating with patients about the admission process.
- Instituting daily multidisciplinary rounds to discuss new admissions, discharge readiness, and anticipated discharge dates, as well as potential transfers and planned admissions.

Table 2. Key Personnel When Developing a System to Streamline Planned Admissions.

- EHR vendor
- Computer science and software engineers
- Patient registration administrators
- Pharmacy administrators
- Nurse executives
- Admissions coordinators

- Unit managers
- Bedside nurses
- Information technology support staff

This project was funded under contract number 75Q80119C00004 from the Agency for Healthcare Research and Quality (AHRQ), U.S. Department of Health and Human Services. The authors are solely responsible for this report's contents, findings, and conclusions, which do not necessarily represent the views of AHRQ. Readers should not interpret any statement in this report as an official position of AHRQ or of the U.S. Department of Health and Human Services. None of the authors has any affiliation or financial involvement that conflicts with the material presented in this report. View AHRQ Disclaimers