Ensuring safe handoffs from the emergency department to the inpatient unit

Vizient Patient Safety Organization Safety Alert

February 2021

Background

Errors and omissions in communication when patients transition between departments or units, services or facilities are a common cause of medical errors and adverse events.[1] Approximately 30% of handoffs — in which the sending caregiver passes information about the patient to the receiving caregiver, who accepts responsibility for the care of the patient[2,3] — are incomplete, inaccurate or suboptimal.[4-6] Handoffs should occur in a timely manner, include the information necessary for the receiver to provide safe care, and provide an opportunity for questions and discussion.[2,3]

Intrahospital handoffs are complex and present unique challenges compared with intershift handoffs, such as unbalanced power; interprofessional differences[7]; or lack of established relationships, face-to-face interaction or awareness of the other unit's state.[7-9] The volume of intrahospital emergency department (ED) handoffs results in an increased risk of medical errors.[4,10] Various factors can impede the safety of ED handoffs, including unstructured communication; difficulty accessing information or inadequate or inaccurate clinical information; pending ED tests, results, consultations, orders or notes; ambiguous responsibility for patient sign out or follow-up; high workload, distractions and interruptions; overcrowding, pressure to move patients and boarding patients; poor safety culture; and health information technology limitations.[4,7,9,11-15] Although suboptimal handoffs can contribute to errors, they also present an opportunity to prevent or recover from an adverse event, as evaluation of the patient by another clinician provides a fresh perspective.[13]

Assessment

The Vizient® Patient Safety Organization (PSO) conducted a retrospective review of voluntarily reported near-miss and adverse events involving handoff communication issues when patients were transferred from the ED to an inpatient unit. Event reports were examined to improve our understanding of handoff issues and the factors that contribute to them. A text search was conducted for relevant event reports submitted during 2019 in applicable categories from our proprietary taxonomy and clinical locations. Of the approximately 1,400 event reports retrieved and reviewed, 860 were included in this analysis. About 70% of events involved nurse or provider (medical staff) handoff communication failures during care transitions from

the ED to the inpatient unit. Other events involved patient transport to the inpatient unit, handoff issues that occurred between sending and receiving nurses and transporters, and bed management or room readiness issues. Many of these events were reported as unsafe conditions or there was no harm to the patient; however, in other cases, substandard ED handoffs resulted in delays in care, additional room changes or transfers, omissions or errors in treatment, additional treatment, and rapid response intervention or codes.

Failure in handoff communication process

Nurse-to-nurse handoff

A total of 481 (56%) event reports involved failures in nurse-to-nurse handoffs; these were verbal, face-to-face, written or electronic, depending on the organization's process. In 195 of these events, the ED nurse did not provide a report to the unit nurse prior to the patient arriving on the unit. Sometimes, the unit staff were completely unaware of the admission until the patient arrived on the unit. In about 11% of these events, the verbal handoff did not occur because the unit nurse was either unavailable or did not take a report. In other cases, the ED nurse made no attempt to give a report prior to transfer and called after the patient was en route or had already arrived on the unit. In several cases, the unit nurse called the ED nurse to obtain a verbal report, but no one in the ED could give a report or answer questions because the nurse caring for the patient had left for the day. In 4% of cases, a face-to-face handoff was not conducted even when the patient's care needs required a nurse in transit to the unit, either because a nurse did not accompany the patient, had left the unit prior to giving the nurse-to-nurse report or the transporting nurse was not familiar with the patient. Any gaps in care discovered by the receiving nurse had to be addressed, sometimes urgently, when the patient arrived at the unit.

In other events, a nurse-to-nurse handoff was conducted (n = 194); however, it was incomplete or missing important information, the information provided was inaccurate, or clinical documentation in the record or transfer notes was missing or inaccurate. Examples of such handoff information included vital signs, incorrect weights (which impacted medication dosing), blood glucose levels, level of consciousness, urinary status, neurological checks, isolation, fall or spinal precautions, 1:1 staff monitoring, behavioral issues, alcohol withdrawal assessment, medical equipment needs, a reconciled list of medications, medications administered along with times or abnormal laboratory results. In some cases, an updated report was not provided when a transfer was delayed. Although the report may have been inadequate, it still presented an opportunity to discuss any concerns and address gaps in care prior to transfer.

In other events, although a report was given, there was no opportunity for the nurse to ask questions — mainly in situations in which the handoff was sent via the electronic health record (EHR) or a voice messaging system. Thus, the patient arrived on the unit before the nurse had an opportunity to review the electronic report or recording and may have been unaware that a report had been sent. In some cases, the nurse who gave the verbal report was in a hurry and did not provide time for questions before hanging up the telephone or walking away; in others, the nurse was unfamiliar with the patient and so was unable to answer questions. In about 70 events, the receiving nurse asked the ED nurse to address specific patient care needs prior to transfer (e.g., establish intravenous [IV] access, treat hypertension or start ordered

antibiotics); requested transfer after the room was cleaned or patient-specific needs such as medical equipment were ready; or expressed concerns about the appropriateness of the patient for the unit. The requests were not addressed, however, and the patient arrived on the unit without notification. The electronic selection of auto dispatch of transport also contributed to premature patient transfers occurring prior to completing the handoff process.

Regardless of the type of handoff issue, common concerns voiced by the receiving nurse were that patients or their medical equipment were not adequately assessed, monitored or addressed. Examples included:

- Vital signs, neurological checks or blood glucose checks were often not completed despite previous abnormalities.
- Patients were hyperglycemic or became hypoglycemic when insulin administration was not adjusted based on blood glucose changes.
- Alcohol withdrawal assessments were not completed, resulting in missed treatment for withdrawal.
- Rashes or pressure ulcers were missed because skin assessments were not complete.
- Reassessments were not completed after medication was administered to evaluate its effect; for instance, whether nitroglycerin relieved chest pain or an antihypertensive lowered blood pressure.
- Urinary retention, incontinence or food intake for diabetic patients were not addressed.
- The patient's medical equipment was either not set up, was set up incorrectly or was not functioning properly (e.g., IV access or flow issues or the oxygen tank was empty).
- Orders for time-sensitive treatment (n = 92) — such as blood or medication administration, antibiotics for sepsis, insulin for diabetic ketoacidosis, electrolytes, antihypertensives or pain medication — were not initiated or were delayed prior to transfer, or errors in implementing orders were noted on arrival to the unit. Imaging or laboratory tests, such as blood cultures, troponin level or stat test orders, were not obtained before transfer.
- Some patients arrived on the floor with signs of deterioration (e.g., unresponsive, in respiratory distress or hypotensive) that were not reported or were unaddressed, requiring a rapid response team or transfer to a higher level of care.

Senders and receivers appeared upset and frustrated when their expectations about the handoff or care provided did not align. In some events, the individuals involved seemed uncooperative and lacked sensitivity to the other's workload. Nurses were abrupt, hostile or dismissed questions or concerns by ending the conversation or not addressing follow-up issues. Other factors impeding the efficacy of handoffs included clinical distractions, emergencies, increases in workload, staffing issues, handoffs or transfers during shift changes, and ED surge.

Provider-to-provider handoff

In 118 (14%) event reports, failures were described in provider-to-provider handoffs. Sometimes, there was no handoff communication and the receiving provider or team was unaware of the admission. In other cases, communication had been initiated, but the handoff was inaccurate or missing important clinical

information or documentation, or the status of the patient was not updated. Acceptance may have been conditional based on the findings of a test or consultation. Prior to transfer, assessments were incomplete or inaccurate, or updates or changes (including deterioration) in the patient's status or plan of care were not communicated. Laboratory or imaging tests, electrocardiograms, consultations or treatment were not ordered or completed, or the results or recommendations were pending at the time of transfer. Some test results impacted the urgency of treatment or level of care. For instance, signs and symptoms requiring time-sensitive care such as stroke, sepsis or myocardial infarction were missed or untreated; therefore, care was delayed or fell outside the window of treatment. Abnormal or critical test results (e.g., potassium, hemoglobin or hematocrit) were overlooked or unaddressed by the ED provider or were pending at transfer. Often high blood glucose and hypertension were untreated or inadequately treated prior to transfer.

In about 100 (12%) events, the patient was admitted to an inappropriate level of care or unit, often due to omissions and errors in assessment or diagnosis. In some events, providers disagreed about the appropriateness of the patient for the unit and the plan of care. On arrival or shortly afterwards, patients decompensated (e.g., were unresponsive, were in respiratory or cardiac distress or arrest, or were oversedated, requiring a reversal agent) and needed a rapid response team intervention — and in many cases, an additional transfer to a higher level of care or specialty unit. Additionally, some boarder patients decompensated because their workup in the ED was inadequate.

Patients were transferred without appropriate provider handoffs or permissions due to care coordination or communication issues between ED clinicians or bed management. Patients who had pending tests or consultations were transferred to the unit without the ED provider's authorization. Although it was not always clear why the errors in transfers occurred, there may have been failures in communication between ED nurses and physicians about the transfer. Delays in treatment in the ED may have also been due to the nurse's failure to communicate the patient's abnormal signs and symptoms to the ED physician. Other delays in care occurred when consultations with specialists were not requested or failures in handoffs occurred between consulting services, ED providers and admitting providers. Similar to nurse handoffs, other factors contributing to provider-to-provider handoff issues included shift changes, clinical distractions, increases in workload or ED surge, and interprofessional differences.

In 45 events, patients were received on the floor without orders or important treatment orders were missing, which may have led to lengthy delays in care being provided. Factors contributing to orders not being written included the provider being unaware of the admission, the provider's assessment being delayed or health information technology issues preventing the entry of orders. Other events described conflicting orders between providers or failure of the ED provider to communicate order updates to the admitting provider.

A small number of reports involved failures in communication with patients or their families about the transfer, such as providers failing to communicate findings of an exam or ED workup, the diagnosis, or treatment plan to patients or their families, or the family not being informed where or when the patient was transferred. In other events, the family was reportedly upset that the patient's care needs were not addressed prior to transfer because the room was not clean, isolation precautions were not appropriately addressed, or an additional room or unit transfer was required due to errors in bed management.

Unsafe conditions and adverse events during transport to the unit

There were 149 (17%) event reports citing safety issues during transport of the patient to the floor; these events involved unsafe or inadequate care of the patient during transport to the inpatient unit. Examples include the following:

- The nurse failed to communicate important information to the transporter; for example, appropriate personal protective equipment was not donned for patients who had or were being tested for an infection that required contact, droplet or airborne precautions.
- Environmental safety needs for patients at risk of suicide, self-harm, substance use, elopement or violence were not addressed before transfer; therefore, patients had access to harmful articles or substances.
- Patients who required a 1:1 staff monitor arrived on the floor without staff, a plan for the provision of staff or communication that a 1:1 was ordered.
- Patients were transferred without their ordered equipment, such as respiratory or cardiac monitors or oxygen.
- Patients were transported without a nurse or respiratory therapist who was qualified to address their care needs.
- On arrival to the unit, patients were dropped off in their rooms without the nurse or other unit staff being notified. Patients were left unattended until someone noticed they were in their rooms.

Due to these omissions or errors in care, some patients were either received or found in their rooms in a decompensated state.

Bed management

Bed management and room readiness issues were described in 136 (16%) of events. The most common issues reported were that the patient arrived on the inpatient unit and the room was not clean or the bed or a specialty bed was not in the room, necessary medical equipment was not prepared in the room or the room was still occupied by another patient. In many of the events, patients arrived unannounced to unprepared, dirty rooms. This occurred because the nurse handoff had not been conducted, the patient was transported despite requests by the receiving unit to wait until the room was ready or transport services did not notify the unit staff that they were on their way. In some cases, the patient was dropped off in the dirty room, even when the previous patient had been on isolation precautions. Some patients were transferred before the room or patient was ready due to miscommunication through the bed management system; dirty beds displayed as clean to users or the incorrect patient status was selected. In some cases, transporters took patients to a unit without the ED physician’s or nurse’s knowledge or authorization for the transfer, but the reason for the miscommunication was not clear.

Sometimes patients were taken to the wrong room due to miscommunication or last-minute room changes, or patients requiring isolation precautions were not admitted to an appropriate room. Other patients were assigned rooms occupied by the opposite gender, or were admitted to the incorrect unit due to delays in updating orders or in notifying bed management of changes in the plan for admission. Depending on the issue, the patient had to wait in the hallway until the room was ready or had to be transferred to a different room or unit.

Recommendations

The Vizient PSO, in collaboration with an expert advisory team (Appendix A), developed recommendations to improve handoff communication from the ED. To ensure continual, safe patient care during transitions from the ED to the floor, the handoff recommendations focus on the following components:

- Leadership commitment to improving the quality and safety of ED handoffs
- A standardized process for ensuring patient care needs are addressed prior to transfer
- A standardized process for the format and content of the pretransfer handoff
- Standardized processes for handoff communication with bed management, transporting staff and on arrival to the unit
- Standardized education and communication training

Leadership commitment to improving the quality and safety of ED handoffs

Leaders should commit to improving the quality and safety of ED handoffs and promoting cultural norms by inspiring and supporting others who champion the work and providing necessary resources.[4,15-17]
A multidisciplinary oversight team(s) should be developed that includes subject matter experts from multiple clinical disciplines and departments, including nurses, physicians, pharmacists, respiratory therapists and social workers, as well as support staff from the ED and inpatient units, bed management and transportation services, and the quality and safety department.[10,18] Other team members might include patient advisors, psychologists, or communication or human factor experts.[13] The objectives and tasks of the oversight team may include:

- Evaluating the effectiveness of the handoff process by collecting information from senders and receivers, such as challenges with timing; gaps in care prior to transport; and adequacy of the handoff, follow-up or ability to ask and answer questions.[4,13]
- Identifying and developing targeted solutions to address the factors that contribute to handoff communication issues and barriers to improvement.[4,10,16,18,19]
- Obtaining consensus from all disciplines and stakeholders to expediate changes in practice and culture.[4,16,17,20]
- Addressing culture issues and defining performance expectations of senders and receivers.[15,19,20]
- Developing policies and procedures that address standardized processes, structure, content and location for handoffs based on the patient's needs and higher risk situations.[15,19,20]
- Considering accommodations for handoffs or transfers around the time of shift changes.[7,19]
- Developing staff education and training based on their roles and responsibilities.[13,15]
- Integrating handoff processes into the EHR that aligns with the clinical workflow.[8]
- Developing and implementing continual quality monitoring, measurement and improvement activities to mitigate patient harm.[7,13,15,16] Examples of ED handoff measurements are included in Appendix B.

Standardized process for ensuring patient care needs are addressed prior to transfer

Receiving inpatient clinicians commonly reported that unsafe handoffs and adverse events occurred after the patient was transferred from the ED due to inadequate assessments of patients, unaddressed patient care needs or changes in patients' status, or unordered or pending tests. To ensure a patient's care needs are appropriately addressed before transfer, organizations should develop a process and culture of accountability that ensures certain care needs are addressed prior to transfer and in high-risk situations. A mechanism for documenting and monitoring completion of these responsibilities should be developed.[6,21] An article by Benjamin et al includes examples in which senders and receivers used The Joint Commission Center for Transforming Healthcare's Targeted Solutions Tool to indicate deficiencies in the handoff process.[4]

Standardized process for the format and content of the pretransfer handoff

Handoff format

Various methods and preferences for handoff communication exist, and each has advantages and disadvantages.[7] For example, face-to-face or videoconference interactions offer synchronous discussion and visual cues, but can be difficult to coordinate.[7] Communication by telephone provides an opportunity for discussion, but is not as rich and may be misinterpreted.[7] Electronic or written communication is convenient and simplifies connection, although it is less rich and does not provide an opportunity for dialogue.[7] The Joint Commission recommends that handoffs include both a paper or electronic and verbal format, with the preferred method being face-to-face verbal communication.[16,22] Verbal handoffs should be supplemented by access to written or electronic clinical documentation in the health record to prevent omissions or errors in verbal handoffs.[2,13,23] Stable, uncomplicated patients may require less synchronous handoffs, whereas a face-to-face handoff at the bedside would be essential for an unstable or critical care patient. High-risk situations such as an uncertain diagnosis, deviation from a typical diagnosis or treatment, pending consultations or test results, or unclear disposition may also require more frequent, synchronous handoff communication prior to transfer.[3,7,13,22] Multidisciplinary team communication prior to transfer for high-risk patients may serve as a countercheck to ensure patient readiness and safe transition.[13,24]

Factors identified by physicians as the most vulnerable during ED handoffs include unstable patients, disruptions and interruptions, lack of standardization, sequential handoffs, uncertain assignment of responsibility and patient boarding.[22,25,26] Multiple-tiered, sequential physician handoffs can lead to adverse events because they do not enable direct communication and the opportunity for questions between providers. Organizations that use intermediary triage providers should evaluate the risks from communication breakdowns and consider a direct provider-to-provider handoff process.[25] Effective handoffs require an environment free of interruptions and distractions to promote active listening by the receiving clinician and engagement in discussion when necessary. Because EDs are often noisy and hectic environments, there should be a quiet and dedicated space for handoffs that minimizes interruptions.[13,16,22] Policies should clearly address which provider is responsible for the care of the patient once the handoff is complete and the patient is in a boarding area.[7,11,20,25]

To improve the effectiveness and predictability of ED handoffs, health care organizations must define a consistent, standard approach to handoffs including format and content, location or media, and person-to-person versus multidisciplinary.[7,13,15] Regardless of the handoff location (e.g., bedside, work area or computer) or media used (e.g., paper, electronic, verbal, by phone or other wireless communication system, videoconference or in-person at the bedside), receiving clinicians must have the opportunity to ask the sending clinician questions. Communication should be timely and enable clarifications, sharing of perspectives, correction of omissions and errors, and preparation of the patient for the unit (e.g., necessary medical equipment).[13,15,16] The primary care clinician should provide the verbal handoff rather than someone who is not familiar with the patient.[19] When information is sent in a paper or electronic format, a mechanism should be established for the sender to confirm that the receiver obtained and reviewed the patient's information and had the opportunity to ask questions before patient transfer.

Standard handoff structure

To improve compliance and consistency, structure communication using standardized mnemonics, checklists or templates.[18,24,27] There are many different mnemonics for handoffs described in the literature (Appendix C).[15,24] Studies have shown that handoffs using structured tools improve the quality of verbal handoffs during transitions in care.[12,18,28-31] Examples of the benefits of using mnemonics are described below.

The mnemonic I-PASS (Illness severity, Patient summary, Action list, Situation awareness and contingency planning, and Synthesis by the receiver) was developed in response to the Accreditation Council for Graduate Medical Education requirement that resident training include handoff communication skills.[3,7,30] Mnemonic handoffs and curriculum such as I-PASS[30-32], SIGNOUT (Sick, Identifying data, General hospital course, New events, Overall health status, Upcoming possibilities and Tasks),[28,29,33] and SBAR-DR (Situation, Background, Assessment, Responsibilities & Risk, Discussion & Disposition and Read-back & Record)[12] improve the quality (e.g., complete, accurate, disposition plan) of communication and skills, promote comfort with handoffs without negatively impacting workflow,[28,30,31,33] and have been associated with reductions in medical errors and adverse events.[18,29-32]

Standard handoff content

Prior to the handoff, the sending clinician should reassess the stability of the patient and synthesize patient information from different sources.[7,15,24] A complete and concise handoff should contain standard content that can be formatted as part of a mnemonic for nurse or physician handoffs, such as[1,3,7,13,15,16]:

- The sending clinician's name and contact information[16,24]
- Highlights of the history and physical, including events leading up to illness[7,13,21]
- Condition of the patient, including severity of illness, stability of condition, whether the patient is high risk and why[1,7,13,24]
- Working diagnosis with degree of certainty and rationale[7,13]
- Summary of ED course, including diagnostic tests, therapeutic interventions and patient's response[6,11]
- Results and analysis of key tests with dates and times[1,7,13]

- Pending test results or tasks, rationale and who will be responsible for follow-up[1,7,13,24]
- The plan of care and to-do action list or work list[1,3,13]
- Contingency plans[1,3,13]
- Disposition[1,3,13]
- Advance directives, code status and legal status[7,13]
- Allergy list, medication list, IV access/fluids, blood transfusion ordered with administration dates and times and any that are upcoming or past due, and medications brought from home
- Vital signs with dates and times
- Weight (actual, not a stated weight for weight-based medication orders) and height
- Neurological status, urinary status, pain assessment and skin assessment with dates and times obtained[21]
- Point-of-care testing (e.g., blood glucose) with dates and times obtained
- Equipment (including settings) and monitors, such as lines, tubes, drains, airways, oxygen, monitoring equipment (e.g., cardiac, pulse oximetry), specialty bed, restraints/seclusion and assistive devices
- Confirmed or potential communicable disease
- Developmental issues, behavioral health issues, special precautions, observation needs (e.g., suicide or violence), safety measures (e.g., belongings checked) or alcohol withdrawal assessment scores[7,13]
- Precautions (e.g., isolation, fall or spinal)[2] and orders for 1:1 staff monitor
- Other content can include information about diet, whether there are swallowing issues and language barriers[7,13]

Handoffs should include a review of orders to address any continuations or duplications; orders that were unable to be carried out in the ED should also be reviewed. The clinician should stress key, critical patient information when talking with the receiver, but avoid unnecessary detail.[7,13,15] The handoff should be read back or synthesized by the receiver.[3,24] The patient and family should be involved in the handoff at the bedside or the physician and nurse should review the handoff information with the patient and family.[7,16,17]

Asynchronous, electronic handoffs

Asynchronous, standardized electronic handoffs with the option to request verbal communication have been implemented safely, with positive outcomes. Clinicians have rapidly adopted the process and reported the format was more efficient and preferred over mandatory verbal handoffs. The use of electronic, standardized handoffs has resulted in decreased boarding time and increased bed flow efficiency.[21] Additionally, the rate of reported adverse events and the number of unplanned transfers to the intensive care unit (ICU) have remained similar before and after implementing electronic handoffs.[21,34,35]

Organizations should leverage the EHR to enhance handoffs between senders and receivers.[16] For easy access by the receiving clinician, a centralized repository or handoff template in the EHR can pull many of the essential elements of the handoff automatically, such as medications, vital signs with the time of administration, tests results and times, or pending studies or treatment.[8,11,18,25] To prevent communication

failures, free-text sections in the template enable clinicians to elaborate on additional important information.[34] Standardized electronic key phrases assist in structuring the narrative content, and deviations from stereotypical narratives should be highlighted.[13,15] When developing an asynchronous structured electronic handoff process for admissions from the ED, there should be a mechanism for the receiver to mark that the electronic handoff information was reviewed, with an option to request verbal communication after review of the electronic handoff information.[34,35]

Another electronic communication strategy that prevents ambiguity in the assignment of physician responsibility is to note the physician responsible in the template so it is visible to the patient care team.[11,12,34] By defining characteristics of high-risk or vulnerable ED patients, the EHR can be configured to flag patients who meet these high-risk criteria and proactive processes can be implemented to ensure safe care transitions. Clinicians must use their best medical judgement to determine when it is necessary to verbally escalate concerns, identify special or ambiguous circumstances, and seek clarification or request verbal handoff.[13] Electronic functionality such as chatting securely can be also used to facilitate interactive communication.

Standardized processes for handoff communication with bed management, transporting staff and on arrival to the unit

A process should be developed that aligns patient readiness, pretransfer handoff and room readiness within the workflow.[21] Bed management systems have demonstrated improvements in interdepartmental communication, care coordination and the bed turnover process.[36] Before transport, the stability of the patient should be reassessed (e.g., vital signs) as well as the proper application and functionality of equipment (e.g., cardiac or physiologic monitors, oxygen, intravenous lines and catheters).[26,37,38] Findings should be verbally communicated to the transporter during the handoff, with an opportunity to ask questions.[38] Policies and communication processes should address situations that may prevent the safe acceptance of the ED patient on the inpatient unit, such as emergency situations, shift changes or multiple admissions.[21]

Policies for safe transport from the ED to the inpatient unit should address qualifications and clinical experience, education and training, and handoff communication tools. Transport staff must be qualified to address the patient's needs; therefore, define situations (e.g., unstable, cardiac-monitored patients or patients undergoing a blood transfusion) in which the patient must be accompanied by an appropriate level caregiver(s) and when a verbal face-to-face handoff is required between caregivers. Clinicians involved in the transport of patients should be relieved of other obligations. Specialized intrahospital transport teams with trained personnel and standardized protocols and policies have been effectively used at organizations for transporting unstable or cardiac-monitored patients to prevent adverse events.[39]

Standardized handoff trip slips or tickets have been successful in improving communication between senders, transporters, and receivers and reducing adverse events. The ticket may indicate that:

- The patient has been assessed prior to transfer
- The patient's identity has been verified

- Medical equipment has been checked
- Patient-specific information (e.g., allergies, precautions, activity, fall risk, medical equipment and mentation) and destination information has been noted
- Scripts for involving the patient in the handoff and signatures verifying the handoff occurred have been obtained[37]

During transport, staff should have a means of communicating with the destination unit to inform it that the patient is in transit or when any changes in the patient's status occur.[26] On admission of the patient to the inpatient unit, policies should address the handoff requirements between transporters and receiving staff, including identifying the responsible receiver, notifying the receiving team of their arrival, reassessing the patient's physical status and the proper connection and functionality of medical equipment, and completing face-to-face handoff communication. The receiving team should be fully prepared to take over care of the patient before the transporting staff leaves.[26]

Standardized education and communication training

All staff involved in the handoff process, such as nurses, physicians, transporting and bed management staff, should receive standardized education and communication training for ED handoffs. Components of handoff education and training should include[11]:

- Expectations for ensuring a patient's care needs are addressed prior to transfer, including medical equipment and processes for ensuring accountability.
- How to conduct a successful handoff including the structure, content, tools, and location, using different modalities such as didactic, role-play simulation training with feedback, computer learning and illustrative videos.[13,15,18,20,27,30,33] Education should align across different disciplines and physician groups.[30]
- Factors that increase the risk of failures during handoffs and adverse events.[7,13]
- The timeliness of a handoff discussion (not a dumping of information) that enables opportunities for questions and answers, clarifications, correction of errors, adequate preparation for a patient's needs and read-back by the receiver.[7,13,15]
- The policy that addresses the patient conditions or levels of care that require less or more synchronous communication; however, clinicians must use their best medical judgement to determine which situations require verbal communication.[7]
- The importance of trust, respect, and collegial and collaborative communication during handoffs.[7]
- How to successfully share and appreciate the other's perspective (interprofessional differences), make shared decisions on a patient's plan of care, and assign responsibility for pending tasks based on a patient's needs, best interests and the conditions in each care area.[7,13]
- A competency assessment.[24]

- For unlicensed hospital transport personnel, the competencies necessary to safely transport the patient, such as cardiopulmonary resuscitation certification, how to intervene in unexpected patient decompensation during transport, how to activate a rapid response team and a code, and how to contact the receiving nurse.[38]

Champions and coaches can serve as role models and reinforce standard handoff processes.[30] Nurse managers or supervisors and attending physicians or senior residents should provide real-time performance feedback or just-in-time training to address deviation from process and culture expectations.[15,20,33]

For more information, contact Tammy Williams or Ellen Flynn.

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Appendix B. Examples of ED handoff measurements

Measures involving transfers from the ED	Month											
	J	F	M	A	M	J	J	A	S	O	N	D
Volume												
Number of ED admissions												
Number of hours on bypass/diversion												
Average daily ED census												
Average ED length of stay for admitted patients												
Process												
Percentage of transfers without a nurse handoff												
Percentage of transfers without a provider handoff												
Percentage of nurse handoffs without required data elements												
Percentage of provider handoffs without required data elements												
Percentage of nurse handoffs without opportunity for questions												
Percentage of provider handoffs without opportunity for questions												
Number of patients transferred without cardiac monitor												
Number of patients transferred without other necessary equipment or supplies												

Measures involving transfers from the ED	Month											
	J	F	M	A	M	J	J	A	S	O	N	D
Number of equipment-related events during transport												
Number of patients transferred to room in violation of policy												
Number of patients transferred without isolation precautions implemented, communicated or available												
Number of patients transferred without suicide precautions implemented, communicated or available												
Number of patients transferred without initiating stroke protocol												
Number of patients transferred without administering first antibiotic dose for infection (e.g., sepsis, meningitis or pneumonia)												
Outcome												
Number of reported near misses or no-harm events involving ED handoffs												
Number of reported adverse events involving ED handoffs												
Unplanned transfers to ICU within 24 hours of admission[a]												
Transfers to another unit within 12 hours of admission												
Rapid response within 12 hours of admission[a]												
Number of cardiac resuscitations within 24 hours of admission[a]												
Percentage of receivers satisfied with handoff												
Percentage of senders satisfied with handoff												
Number of patient and family complaints re: transfer												
Number of staff or provider complaints re: transfer												
Number of complaints re: professionalism during transfer												
Number of bounce backs to the ED[a]												
Percentage of patients transferred greater than 30 minutes after order written and bed ready												
Percentage of patients transferred greater than 45 minutes after order written												
Percentage of patients with admission orders written greater than 1 hour after unit arrival												

[a] Measure only applies to non-ICUs.
Abbreviations: ED = emergency department; ICU = intensive care unit.

Appendix C. Mnemonics examples

Mnemonic	
ANTICipate	Administrative data, New clinical information/update, Tasks (what needs to be done), Illness, and Contingency planning/code status
HANDOFFS	Hospital location, Allergies, Name, DNR, Ongoing problem, Fact about hospitalization, Follow-up and Scenarios
I PASS	Introduction, Patient name, Assessment, Situation and Safety concerns (a shortened version of original PASS the Baton)
SBAR	Situation, Background, Assessment and Recommendation
SBAR-DR	Situation, Background, Assessment, Responsibilities & Risk, Discussion & Disposition and Read-back & Record
SBARR	Situation, Background, Assessment, Recommendation and Read-back
SHARQ	Situation, History, Assessment, Recommendation and Questions
SIGNOUT	Sick, Identifying data, General hospital course, New events, Overall health status, Upcoming possibilities and Tasks
SOAP	Subjective, Objective, Assessment and Plan

Abbreviation: DNR = Do Not Resuscitate.