A Patient Safety Framework for Inter-hospital Transfers

Recommendations of the Inter-hospital Transfers Task Force

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The recommendations for Patient Safety Framework for Inter-hospital Transfers were developed under the auspices of the Academic Medical Center Patient Safety Organization (AMC PSO) Inter-hospital Transfer Task Force. These consensus recommendations are for informational purposes only and should not be construed or relied upon as a standard of care. The AMC PSO recommends institutions review these guidelines and accept, modify, or consider alternatives based on their own institutional resources and patient populations. Institutions should review and modify these recommendations as the field continues to evolve.
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DEFINITIONS
The Task Force agreed upon standardized terminology relating to inter-hospital transfers (IHTs). Throughout this document the following terms are used:

1. **Referring facility/clinician/team**: the party that initiates a request to transfer the patient
2. **Accepting facility/clinician/team**: the party that reviews and approves the transfer request
3. **Transporting team**: the party that physically transports the patient from one hospital to another
4. **Receiving facility/clinician/team**: the party that cares for the patient upon admission to the accepting hospital
5. **Inter-hospital transfer (IHT)**: the transfer of a patient between hospitals

GOALS OF THE INTER-HOSPITAL TRANSFER TASK FORCE
The Task Force set two primary goals: 1) to identify existing and emerging patient safety risks associated with IHTs, and 2) to develop effective mitigation strategies that can inform the care provided by clinicians involved in IHTs.

Specific aims of those goals included:

- Establish a framework to analyze known and emerging patient safety risks associated with IHTs
- Identify contributing factors in IHT workflows that may increase the occurrence of those risks
- Identify risk mitigation strategies to support safe and reliable IHTs
- Develop a guidance document to help to inform care of patients during IHTs
FRAMEWORK FOR REVIEW

The Task Force considered the following steps and processes related to IHTs:

- Decision to initiate a transfer request
- Roles of the referring and accepting clinicians
- Information exchange between referring and accepting clinicians during the IHT
- Use of shared, standardized communication and documentation templates, customizable for specialty services
- Identification and management of risks associated with patient transport, including transporter responsibilities during the IHT and the role of centralized transfer centers/processes during IHT
- Development of metrics to assess IHT quality improvement initiatives

The Task Force recognized that other important factors can affect the IHT process, including financial drivers to retain patients within a network, and insurance requirements that may limit transfer options. These challenges were determined to be out-of-scope for this guidance document.
Introduction

Hospital network consolidation and health system expansion have increased significantly in the United States.\(^1\) System expansion provides the opportunity to move patients more easily when they require more specialized care, but little attention has been given to the patient safety risks associated with inter-hospital transfer.\(^2\)

Inter-hospital transfers may provide benefits to patients who require a higher level of care, specialized diagnostic testing, or procedures unavailable at a community hospital, but they also introduce risks relating to discontinuity of care that may threaten patient safety. Data about who will benefit from transfer are not always clear.\(^2\) The Task Force limited its review to risks associated with transfers of inpatients between hospitals, while recognizing that risk mitigation strategies presented in this document may be adapted to other types of transfers, e.g., Emergency Department to inpatient hospital, long-term care to inpatient hospital, and intra-hospital transfers (for instance, from one service or unit to another).
Case Study

A 78-year-old woman with mild cognitive decline, type 1 diabetes, and hypertension was admitted to a community hospital for evaluation and treatment of a small ulcer on her left foot. On the evening of admission, the patient fell out of bed, sustaining a comminuted right hip fracture. The hospitalist at the referring hospital directly contacted an orthopedic surgeon at an academic medical center (AMC) who agreed to accept the patient in transfer the next day.

The following morning, the patient received her medications, including insulin, but very soon thereafter the ambulance arrived to transport her to the AMC, so she never ate breakfast. Upon arrival to the AMC, the receiving team found that the transfer note lacked any reference to the foot ulcer, the time at which her medications had been administered, or contact information for the referring team. The patient was unable to provide any information. Shortly after arrival on the floor, the nurse found the patient confused and diaphoretic. The AMC’s Rapid Response Team was activated and the patient required treatment for a low blood glucose level.

Did the inter-hospital transfer process contribute to this outcome?
Clinical Workflows that Create Risk in the IHT Process

The Task Force identified the following risk factors that contribute to adverse events during IHT:

• **Lack of a standard process about how transfer requests are initiated, reviewed, and approved** may lead to inadequate assessment of the risks and benefits of transfer. The results may include transfers that should have occurred, or should have occurred earlier, as well as transfers that did not need to occur but did, and thereby created inefficiencies or discontinuity in care.

• **Incomplete or inconsistent exchange of clinical information and patient data by clinicians** arranging the IHT may be exacerbated by the lack of interoperability between electronic health records (EHRs) at the referring and accepting institutions. Poor information exchange can contribute to the loss of important clinical data about patient history, prior imaging, diagnostic testing, previous care, and medication reconciliation. In addition, lack of timely notification to the receiving clinical team with pertinent clinical information may result in delays upon admission to the most appropriate unit, and slow the development of a care plan after arrival at the accepting institution.

• **Delay between the decision to transfer the patient and the patient’s arrival** at the accepting institution may lead to clinical deterioration and the patient arriving in a more acute state, requiring a higher level of care than expected.

• **Variability in the training and skill of transporters** to safely manage the patient’s care may contribute to clinical deterioration en route.

• **Timing of the transfer** may increase patient vulnerability to safety risks, especially during weekends and nights when staffing at the accepting facility may be reduced and other diagnostic and treatment modalities may not be readily available.
Decision to Initiate Transfer

RISKS AND BENEFITS OF TRANSFER
The first step in the IHT process requires an analysis of whether the benefits of transfer outweigh the risks. Reasons for transfer include access to a higher level of care, advanced diagnostic testing, and specialized procedures unavailable at the referring hospital, but wide variability exists for the reasons patients are transferred, and more research is necessary to identify and standardize criteria for IHT’s. IHT’s—like other transitions of care—can also introduce risks to patients suffering from complex or unstable medical conditions. The literature suggests that patients transferred to AMC’s—even after controlling for severity of illness—may suffer worse outcomes than non-transfer patients, including increased length of stay, increased risk of adverse events, and increased mortality.

Studies at the population level reveal similar findings. The reasons for differential mortality outcomes are not clear, but it appears that risks may vary by disease category, with possible mortality benefit among transfer patients with conditions for which there are clear management guidelines.

The Task Force agreed that the decision to transfer involves consideration of the potential stress of the transfer itself on the patient, and the possibility that complications during transport may lead to clinical deterioration upon arrival at the accepting facility. Medication errors, handoff failures, and equipment malfunctions are examples of transfer-related vulnerabilities that may place a transferring patient at increased risk.

Until recently, there have been few best practices to guide the transfer process, or to mitigate the inherent risks. We hope the analysis by Reichheld et al. of the key elements of safe and effective interhospital transfer and defining best practices to achieve them piques the interest of other researchers.

PATIENT AND FAMILY CONSIDERATIONS
Sometimes, the primary reason for transfer is a patient request. Patients may seek treatment by familiar providers at a tertiary/quaternary institution, even if they could receive excellent care at the community hospital where they are currently admitted. While honoring strong therapeutic alliances is an important principle when striving to provide high-quality, person-centered health care, it may need to be balanced with the reality of limited bed availability to ensure access to that expertise for patients who more clearly require it. Delayed bed availability at the accepting facility may disrupt timely completion of the IHT process. Insurance and network requirements also may create barriers to transfers requested by patients.

When a transfer is being considered, discussion between the clinician and the patient about the reason(s) for this decision can facilitate the patient’s understanding and acceptance of the plan. This entails explaining the expected benefits of transfer and providing an opportunity for the patient to ask questions. With the patient’s consent, the referring clinician also can notify the patient’s family about the details of the planned transfer. Likewise, if the receiving team notifies the family when the patient has arrived at the accepting facility, this reassures them about the patient’s safety.
Roles of the Referring and Accepting Clinicians

The Task Force recognized that the referring team provides care until the patient leaves their facility. Following the decision for IHT, the referring clinician can take several important steps to provide a safe transition. These include developing a system to ensure that all significant information about the patient is reliably provided to the accepting team in a timely fashion:

- Establishing reliable information exchange from the referring to the accepting clinicians
- Developing closed loop communication between the referring and the accepting clinicians for updates about changes in the patient’s condition
- Completing transfer documentation
- Notifying the patient’s family about the transfer plan.

ESTABLISHMENT OF RELIABLE INFORMATION EXCHANGE DURING THE TRANSFER PROCESS

Reliable information exchange is an essential component of a safe inter-hospital transfer. This can be facilitated when the referring and accepting institutions share the same EHR. A shared EHR also creates an opportunity to develop and utilize standardized transfer templates. When there is a shared EHR, it is important for the referring clinician to write a discharge order for the patient in order for the accepting institution to access the patient’s record upon arrival.

When EHRs are not shared, it is important for the transferring team to identify and send all relevant data required by the receiving team, and to develop a standardized document or checklist for use during transfer. The use of shared checklists and algorithms by all parties to the transfer will promote consistent exchange of important information, and enhance the safety of the IHT. Updating the accepting team about any significant changes can improve the transfer process. This provides clinicians at the receiving institution with an opportunity to review patient information necessary to develop a treatment plan upon admission.

CLEAR COMMUNICATION BETWEEN REFERRING AND ACCEPTING TEAMS

The Task Force emphasized the importance of establishing standardized, closed loop communication processes to improve the safety of the transfer. This begins prior to the transfer, when referring and accepting clinicians engage in a collaborative effort to develop clear channels of communication. During the initial conversation between the referring and accepting clinicians, it is helpful to exchange contact information.

A checklist or other template may include the following elements of successful communication:

- Patient identification and date of birth
- Discuss the transfer with the patient or the surrogate decision maker (aka, health care proxy)
- Clear and succinct description of the patient’s current condition and the medical necessity driving the transfer at this time
- Contact information, including the cell phone numbers for a referring clinician, in the event of a question upon arrival at the accepting hospital
- Family notification upon departure from the referring hospital and upon arrival at the accepting hospital.
ARRANGING SAFE TRANSPORT
The transport team cares for the patient until s/he arrives at the accepting facility. Wide variations exist in the experience and training of transporters and transfer policies, creating risk even during non-emergency transport. One recommended practice is to involve a clinician on the referring team in arranging transport, in order to confirm that the transporter is able to meet the patient’s monitoring and equipment requirements. This is especially important when the patient is unstable or medically complex, or if the transfer has been significantly delayed.

COLLABORATING WITH THE TRANSPORT TEAM
Levels of transport are based on patient acuity and governed by state regulations, including protocols that define the limits of care each type of transporter may provide. Transporter options include:

- basic life support, which is ground transport provided by EMS staff
- advanced life support provided by paramedics
- critical care transport, which provides the highest level of transport care.

Critical care providers have the most advanced clinical training, and highly specialized equipment. In addition to ground transport, critical care transport may have access to helicopters or planes to provide more rapid transport when significant patient acuity and/or long distances are involved. Medical direction and oversight of transporters also are determined by state regulation. In Massachusetts and other states where medical directors supervise transporters, those transporters will contact their medical director in the event of significant clinical changes during the trip.

Some critical care transporters utilize a centralized communication center and are able to identify all available critical care beds within a region. Centralized transport systems have the advantage of a single control center to coordinate several communication and transfer decisions.

Clear channels of communication will facilitate a safe transfer when an unavoidable delay in completing the transfer occurs due to transport issues or an unexpected change in bed availability at the accepting hospital. If the delay is prolonged, then the receiving clinician who will treat the patient upon admission may not be the same person as the accepting clinician who was involved in the initial IHT communication with the referring clinician. The use of closed loop communication throughout the transport process, with standardized communication tools and documentation templates, can improve the safety of the transfer.

Transporters who conduct post-transfer debriefs, file transparent safety reporting, and post real-time safety alerts for unusual or near-miss events can play an important role in risk mitigation related to IHT. Involving transport in joint case reviews after a transfer-related adverse event is a valuable patient safety strategy. If the hospital is a member of a Patient Safety Organization (PSO), this may be accomplished through the privilege and confidentiality protections of the Patient Safety Quality Improvement Act of 2005. Transporters who update the accepting clinician about significant changes in the patient’s status en route can help the accepting clinician to prepare for a patient whose condition may have deteriorated upon arrival.
In addition to transport concerns for patients, potential safety concerns also exist for transporters, who have a higher risk for occupational injuries than that of the total worker population. Transporters face a risk of injury from violence during the inter-facility transport of patients with behavioral agitation or delirium, and who require careful assessment and preparation. An extended discussion of the risks to transport personnel from agitated patients during transport is beyond the scope of this document, but we note that inter-facility transport requires collaboration among facilities and transporters to maintain the safety of transporters and patients. Moskowitz et al. recommend consideration of the following to improve patient safety during transport:

• Create screening criteria for EMS personnel to triage patients to the appropriate facility
• Encourage partnership with telepsychiatry services to reduce the need to transfer behavioral health patients
• Standardize a best practices assessment prior to initiating transfer of a behavioral health patient
• Conduct a standardized huddle prior to departure from the referring hospital
• Understand state regulations and policies regarding restraint and sedation protocols during transport
• Suggest universal adoption of common equipment for safe restraint
• Create data sets to track the number of injuries and number of “rejected” transports from mental health facilities.

Members of the Task Force who provide transport emphasized that decisions about transfer should include consideration and management of appropriate allocation of community transport resources. Some delays in IHTs may occur if multiple, simultaneous transfer requests occur at times of peak demand for all forms of transport services. Collaborative efforts by hospitals to smooth patient flow by finding ways to discharge patients at staggered times, or earlier in the day, may help flatten peak demand, improve the supply of transporting resources, and thereby allow for more timely IHTs.

ANTICIPATING RISKS ASSOCIATED WITH DELAY
The Task Force noted that, on occasion, the time to complete the transfer takes longer than originally anticipated when the decision to transfer was made. If this delay has been prolonged, it may increase the potential for patient safety risks. Examples of such risks may include medication errors, such as a missed dose, or inadvertent duplication of time-sensitive drugs such as anticoagulants, antibiotics, or insulin.

Another potential vulnerability associated with prolonged delay is patient decompensation. This may occur at the referring hospital after the decision to transfer has been completed, but before the patient departs. The referring clinician should maintain awareness of the patient’s need for continued monitoring, evaluation, and treatment prior to the patient’s departure. Care teams at referring facilities may be reluctant to initiate changes in treatment plans after the transfer decision has been made, anticipating that, soon, the receiving teams for those patients will be assessing them and implementing new treatment plans. If there has been a prolonged delay before departure, reassessment of the patient by the referring clinician and updating the accepting clinician of any significant changes is recommended.
CENTRALIZED TRANSFER CENTERS
Use of centralized transfer centers by AMCs is an emerging best practice that promotes patient safety during IHT. While most central transfer centers are linked to AMCs within enterprise networks, other providers may improve patient safety by incorporating principles of central transfer into their practices.

Centralized systems serve to:

• Establish clear expectations of all providers about the use of centralized transfer practices
• Provide a dedicated clinical nurse or advanced practice practitioner who serves as an admissions facilitator to coordinate the entire transfer process, including the management of all transfer requests
• Standardize transfer processes, including expectation for calls, documentation, and communication tools shared by the referring facility, the transporter, and the accepting facility. Forms may be electronic and customizable for patients undergoing procedures and advanced diagnostic testing in specialty areas, such as Cardiology or Interventional Radiology.
• Align the IT infrastructure to support the above processes

Special Transfer Considerations

REPATRIATION TRANSFERS

The growth of the enterprise model of care has increased the use of the repatriation transfer. This occurs when a patient is temporarily transferred from one institution, usually a community hospital, to an AMC for a diagnostic evaluation or procedure that cannot be performed at the local facility. Typically, these admissions are intended to be provisional and time-limited, with a plan to return (i.e., repatriate) the patient to the original hospital.

While the previously described mitigation strategies for conducting a safe transfer should be employed, there are additional considerations for repatriation. When to return the patient to the original hospital is an important decision. Upon return from the AMC, completion of a formal handoff with the community hospital can reduce the opportunity for gaps in care. Community hospital staff may lack experience with specialized protocols employed at the AMC to manage post-procedure monitoring and care upon the patient’s return. The handoff should achieve situational awareness and include contingency planning, such as discussion about potential post-procedure risks, special monitoring requirements, follow-up care, and contact information for the clinician who provided care at the AMC. A transfer algorithm specifically designed for repatriation can facilitate follow-up monitoring and care required for the patient upon return from the AMC to the community hospital. When possible, create an opportunity for questions related to post procedural care.
Measuring Quality and Safety of the Transfer Process

The following metrics may be considered for ongoing assessment of the quality of IHTs:

- Number of transfers accepted, declined, and cancelled by accepting facility (i.e., accepted but then did not occur; for instance, if the patient improves clinically or is transferred to another facility)
- The reasons for transfers being declined or cancelled
- Patient death within 48 hours of transfer
- Changes in level of care, particularly leveling “up” from med-surg to ICU on arrival (i.e., ICU transfer from a med-surg unit within 24 hours)
- Length of time on the transfer list (# of days/hours)
- Development of safety reports that identify near-miss and adverse events in which transfer is a specific contributing factor
- Inclusion of transfer-related safety events as part of the morbidity and mortality review process
- Shared inter-institutional case reviews including all parties to the transfer, utilizing Patient Safety Quality Improvement Act privilege and confidentiality protections where providers are members of a Patient Safety Organization

Summary

System expansion and the growth of the enterprise model of care have increased the number of inter-hospital transfers. By developing standardized, shared transfer processes, and assessing their effects on quality of care, the AMC PSO hopes the risk mitigation strategies recommended in this guidance document will help to inform providers as they develop strategies to improve the safety of inter-hospital transfers.
References


About the AMC PSO

In 2009, the Patient Safety and Quality Improvement Act (PSQIA) was enacted to create a culture of safety by providing federal privilege and confidentiality protections for information that is assembled and reported to a PSO, or developed by a PSO, for the conduct of patient safety activities.

The act promotes the sharing of best practices and knowledge to continuously improve the quality of patient care. Before the PSQIA, legal protections for quality activities were limited in scope and existed only at the state level.

The PSQIA encourages voluntary reporting. Identification of common, systemic errors can be achieved more effectively through the aggregation of information reported from providers across the health care delivery system.

In 2010, The Risk Management Foundation of the Harvard Medical Institutions Incorporated formed a component entity, the Academic Medical Center Patient Safety Organization (AMC PSO) to function as a national convener of clinicians and health care organizations to collect, aggregate, and analyze data in a secure environment in an effort to identify and reduce the risks and hazards associated with patient care.

Our objectives:

• Create a bridge between themes driving malpractice activity and factors seen in real-time data with a particular focus on high severity/high significant events seen in root cause analyses
• Convene member organizations in response to real-time events and bring context to patient safety issues by providing a secure venue for discussion
• Translate learnings gleaned from our convening sessions and data analyses into focused clinical interventions that can improve quality, reduce costs, and decrease liability
• Reach beyond data reporting and generate actionable responses that can inform the development of best practice recommendations
• Inform institutional patient safety efforts by pinpointing the areas of highest risk and vulnerability to help guide organizational patient safety initiatives