

SECTION 7

Determining Transport Mode and Staff

When an interfacility transport is needed, the referring provider or designee (often in consultation with the receiving physician or designee, although this is not required) should identify the necessary mode of transport and appropriate personnel based on the patient's medical needs. Correctly matching the patient's acuity with the appropriate transport team ensures safe transport for the current patient and the reservation of more intensive resources for other patients. (See Figures 4 and 5 on pages 20 and 21 for information about choosing transport modes and guidelines.)

Any judgment should err on the side of caution in providing care at the level likely to be needed or potentially needed.

Patients can be transported on the ground via ambulance or in the air by fixed-wing (plane) or rotary-wing (helicopter) aircraft.²⁶ The mode of transport often depends on availability, geography (e.g., if there are mountains, distance to travel), equipment and personnel needed, weather (e.g., visibility, ice), and traffic patterns. Air transport, either by fixed-wing or rotary-wing aircraft, is commonly considered when speed is critical, long distances are involved, or traffic is an issue. However, the immediate availability of a ground team may be faster in some circumstances than a round trip made by helicopter.

Facilities and personnel should always match the patient's needs with proper provider knowledge and skills, equipment, and infrastructure. Any judgment should err on the side of caution in providing care at the level likely to be needed or potentially needed during interfacility transfer. The following considerations will help the referring provider determine which transport method to use when transferring a critically ill or injured child:

- Availability of critical care and/or specialty care transport teams within a reasonable proximity
- Modes of transportation and/or transport personnel available in the particular geographic area
- Specific circumstances associated with the particular transport situation (e.g., inclement weather, major event)
- Complexity of the patient's condition
- Anticipated degree of progression of the patient's illness or injury prior to and during transport
- Technology and/or special equipment to be used during transport
- The combined level of expertise and specific duties and responsibilities of the individual transporting team members
- Established state, local, and individual transfer service standards and/or requirements

The ideal interfacility transport team optimizes the roles and responsibilities specific to the needs of the patient with the least number of transport team members while maintaining patient safety and care quality.²⁷ Transport teams are typically staffed by a combination of registered nurses, respiratory therapists, paramedics, and emergency medical technicians (EMTs). The level of medical care anticipated generally determines the combination of staff. Some teams have physicians, nurse practitioners, or physician assistants who accompany them, but that is rare. Some states may require a registered nurse to be on board for a transport team to qualify as a critical care team. Outpatient facilities, freestanding EDs, and some rural areas may rely on local emergency medical services to transport patients to the receiving hospital or tertiary center. Because there can be variations from organization to organization, the referring hospital must verify the team configuration and available equipment to ensure the patient's needs are met.

When a registered nurse is part of the team that may potentially cross state lines, the nurse may be required to maintain licenses with adjoining states. EMTs at the basic, intermediate, and paramedic levels play key roles in interfacility transport as part of critical care teams and as freestanding teams for less acute transfers. When utilizing noncritical care teams, basic life support transport may only have two EMTs, whereas advanced life support transport will include a paramedic. The scope of practice for EMTs is determined by the state in which they work. Thus, the ability of transport teams that solely include EMTs can vary from state to state. In addition, some states certify critical care paramedics who have an advanced skill set, compared with those who have a standard paramedic certification.

Neonatal Transports

Additional considerations exist for the transport method and team when the team is transporting an infant or a neonate. Thermoregulation plays an important role in cases of neonatal hypothermia, which has been independently associated with poor outcomes in babies. The utilization of an Isolette® is recommended.

Appropriately trained and equipped neonatal transport teams provide resuscitation and stabilization support to maintain cardiopulmonary, metabolic, and thermal homeostasis during transport. The quality of care and safety during transport have significant bearings on neonatal survival and morbidity rates.²⁸

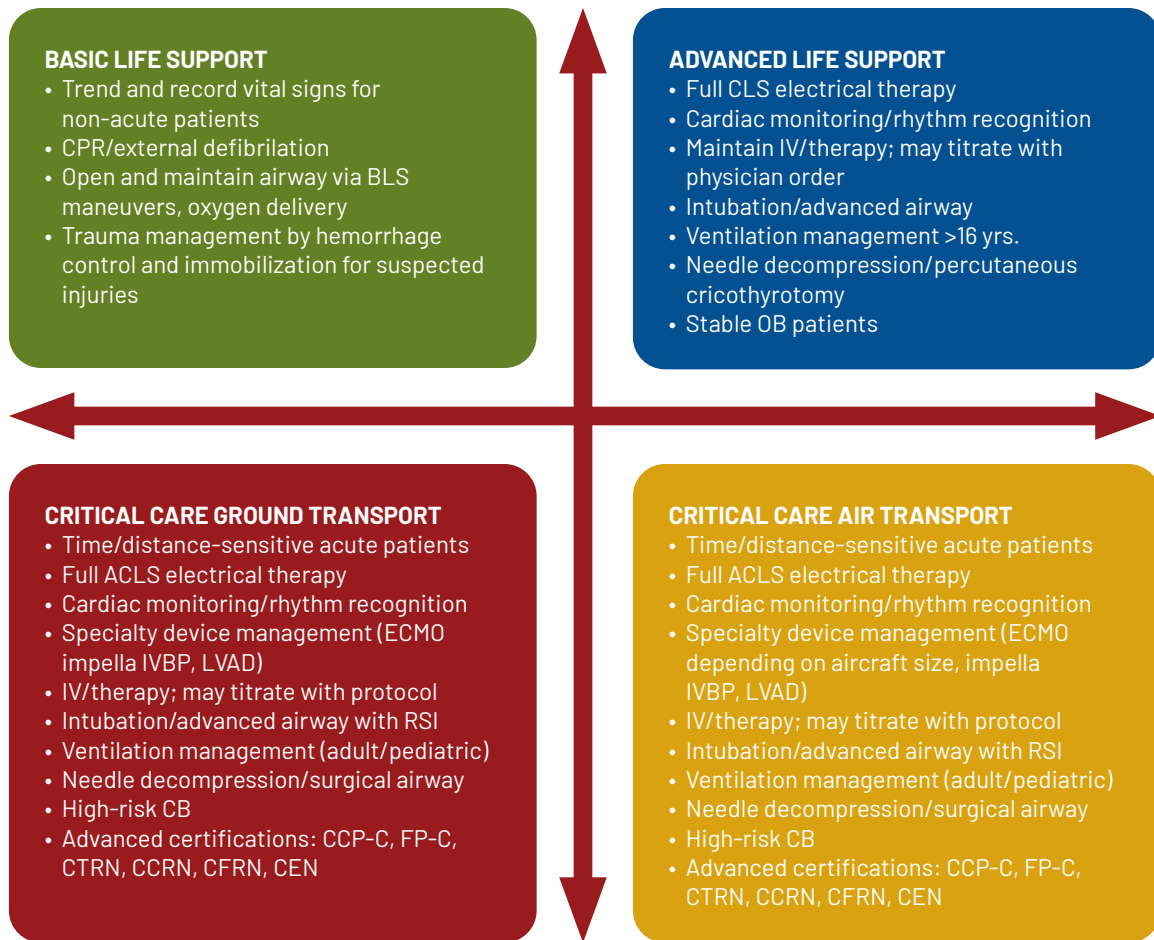
Previously, neonatal transport only took place from facilities with limited capacity to those with tertiary neonatal intensive care units (NICU). However, caring for premature and seriously ill infants who require prolonged hospitalization interferes with efficient NICU bed utilization, particularly for infants who need acute treatment such as respiratory support. One possible solution to this problem is to transport infants back to the referring facilities after their condition has been stabilized so that they can continue convalescent care closer to their homes.²⁹



Find printable versions of Figures 4 and 5 at <https://bit.ly/pedsIFTtransport>.







Figure 4. Considerations for choosing the appropriate transport method



University Hospitals, "Interfacility Transport Modes," (2019). Adapted with permission.

Figure 5. Emergency Medical Services for Children (EMSC) transport guidelines for providers

	DIAGNOSIS	OPTIONS	ACTIVATION
<p>LEVEL 1 Immediate threat to life or limb +/- Hemodynamically unstable</p>	<p>STAT NEEDS</p> <ul style="list-style-type: none"> • Impending or full respiratory failure • Cardiac arrest or ROSC • Hypotensive shock • Multisystem trauma or threatened limb • Acute or persisting AMS or status epilepticus 	<p>Activate pediatric critical care transport teams on child's arrival to your ED.</p>	<p>Ground > Air time</p> 
<p>LEVEL 2 Potentially UNSTABLE</p> <p>Requires acute intervention</p>	<p>EMERGENT NEEDS Child requires constant bedside attendance and/or ongoing input from pediatric specialists.</p> <p>Examples</p> <ul style="list-style-type: none"> • Anticipated interventions: dialysis, emergent endoscopy, or surgery (e.g., rigid abdomen, magnet ingestion, T&A bleed) • Sensitive patients: organ transplant complication, child with special health care needs or dependence on medical technology, child with severe congenital anomalies (e.g., cardiac) • Additional diagnoses—concerning burns, worsening neuro status (eg. unstable DKA), extremity trauma with neurovascular compromise 	<p>Use children's hospital transfer centers to co-manage patient with subspecialist or PEM team.</p> <p>Recommend use of the pediatric critical care teams for transport.</p>	<p>Estimated round-trip ground transport >120 minutes</p>  <p>Estimated round-trip ground transport <120 minutes</p>
<p>LEVEL 3 Hemodynamically STABLE and requires any of the following:</p> <ul style="list-style-type: none"> • Urgent intervention • Subspecialty care • Further diagnostics 	<p>URGENT NEEDS Child requires urgent pediatric evaluation.</p> <p>Examples</p> <ul style="list-style-type: none"> • Rule out surgical abdomen/appendicitis, stable DKA, neonatal fever, respiratory monitoring, stable post-ictal state, or unstable extremity fracture. 	<p>Use children's hospital transfer centers to co-manage patient with subspecialist or PEM team.</p> <p>Consider pediatric critical care team vs. ALS.</p>	 <p>Estimated round-trip ground transport < 3.5 hours</p>
<p>LEVEL 4 Hemodynamically STABLE and requires ongoing care or observation (i.e., not offering much more than they can do in their ED).</p>	<p>PEDIATRIC CARE REQUESTED The child is stable, but pediatric care is needed.</p> <p>Examples</p> <ul style="list-style-type: none"> • Subspecialist consultation is needed, or is conducted at the family's request. 	<p>Use children's hospital transfer centers to co-manage patient with subspecialist or PEM team.</p> <p>ALS vs. BLS</p>	 <p>Estimated round-trip ground transport < 3.5 hours</p>

Connecticut EMSC State Partnership Program, "EMSC Transport Guidelines for Providers" (2021). Adapted with permission.

SECTION 8

Patient- and Family-Centered Care

Family-centered health care involves mutually beneficial collaboration among patients, families and caregivers, and health care professionals. According to the nonprofit organization Family Voices, “[family-centered health care] honors the strengths, cultures, traditions, and expertise that families and professionals bring to this relationship.”³⁰

Familial caregivers should be allowed to remain with the pediatric patient during their entire stay, including transfer. Practicing family-centered care is paramount when caring for a pediatric patient. Taking the following steps can help facilities create a family-centered environment:

- Address language barriers by ensuring that credentialed interpretive services are available in person or virtually.
- Consider the cultural, social, and religious needs of the child and the familial caregiver.
- Encourage information-sharing to promote shared medical care decision-making and help family members retain a sense of control as a child receives emergency medical care.
- Maintain frequent communication with families regarding transfer arrangements.
- Have a discussion with the transport team about the opportunity for the family to be present during care.
- Consider the needs of the familial caregiver (e.g., if they are caring for other children as well, if they need transportation to the facility, if they require help getting home after the patient is discharged).

Research shows that cultural considerations are important because biases can lead to different treatments based on a patient’s race, age, gender identity, or other characteristics, resulting in poor outcomes.³¹ “Cognitive bias” is defined as a bias that causes misinterpretation of information. Patients and families may also present with their own biases based on past treatment. Facilities should develop a process that staff can use to assess and continually look for opportunities to minimize biases.³²



Find patient- and family-centered care resources at <https://bit.ly/pedsIFTfamily>.



SECTION 9

Considerations for Special Patient Populations

Children and Youth with Special Health Care Needs

Children and youth with special health care needs have — or are at increased risk for — chronic physical, developmental, behavioral, and emotional conditions.³³ Their complex medical and behavioral health care needs often necessitate complex interventions that general EDs might not be prepared to manage. These patients often require transfer to a tertiary or quaternary children’s hospital that may not be local to their homes.³⁴

1 in 59
children with special
health care needs
are diagnosed with ASD.

In addition, approximately 1 in 59 children with special health care needs are diagnosed with autism spectrum disorder (ASD), a neurodevelopmental disorder.³⁵ Children with ASD and their caregivers can experience high stress levels during ED visits and proceeding interfacility transfers. As a result, children with ASD may require ED and transport staff to use a variety of interventions, including diversion techniques, comfort positions, and sensory interventions (e.g., distraction kits, headphones, books, videos, and comfort toys).³⁵

In a family-centered model of care, facilities and health care providers should share complete and timely information with a child’s caregiver to foster shared decision-making. These transfers can be stressful for the child and cause hardship for caregivers. In compliance with state laws, providers should ensure that the caregiver understands the reason for the child’s transfer and the most appropriate means of transport. The referring facility should facilitate clear and frequent communication among the emergency care provider, the primary care specialist, and the caregiver. It is also important to ensure that all equipment and supplies brought from the child’s home accompany the patient to the receiving facility.

300%+
increase in ED visits
to treat instances of
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between 2007 and 2016.

Mental Health

Between 2007 and 2016, ED visits to treat instances of deliberate self-harm increased by more than 300%, with further increases observed during the COVID-19 pandemic. Hospital admission rates for adult and pediatric patients with mental health conditions have increased concurrently.³⁶ The growing prevalence of mental health conditions, in tandem with a national shortage of mental health professionals, has contributed to an increasing number of youth presenting to hospitals with mental health crises.³⁶ Many of these children require an interfacility transfer for definitive care. The decision to transfer a child experiencing a mental health emergency is based on the patient’s objective clinical needs and the available resources.³⁷ The logistics of interfacility transfer include challenges associated with determining bed availability, getting insurance approvals, and arranging transportation.³⁶

Interfacility mental and behavioral health transfers are complex, especially when they are assigned to basic life support teams that may lack training and experience. Interfacility teams, in collaboration with the referring provider, decide if the patient should be transferred in restraints or if sedation is indicated.³⁸ The National Association of EMS Physicians, in collaboration with several other national organizations, published a joint position statement that says physical restraint and pharmacological management and sedation should only be used to protect the patient, the public, and emergency responders from injury; facilitate assessment; or allow for the treatment of life-threatening injury or illness.³⁹

To keep staff and patients safe during transport, the transferring facility should take the following steps:

- Provide a thorough patient history during handoff, including any history of violence.
- Provide early notification of the transfer to the patient.
- Transport the patient on a stretcher.
- Ensure that transferring staff have clear protocols about when restraint and medication can be used.

Infection Control

Communicating information about necessary infection control measures during each patient transfer can help prevent the spread of organisms between transport staff and health care facilities. Visit the Centers for Disease Control and Prevention's Guidelines and Guidance Library at www.cdc.gov/infectioncontrol/guidelines/ for more information, and check state and local requirements for an interfacility infection control transfer form. By staying up-to-date on the most relevant information, facilities can ensure that staff members know how to respond and that employees, patients, and family members remain safe while an interfacility transfer takes place.



Find resources on special patient populations at
<https://bit.ly/pedsIFTspecial>.

SECTION 10

The Importance of Monitoring Quality



FOUR KEY PRINCIPLES OF QUALITY IMPROVEMENT (QI)

1. QI work is work on systems and processes, taking the resources (inputs), activities (processes), and results (outputs or outcomes) of a health care system into account.
2. The measure of quality is the extent to which a system meets patient needs and expectations.
3. A team approach is essential when systems are complex, involve multiple disciplines and work areas, and need creative solutions and when effective solutions require commitment and buy-in from multiple stakeholders.
4. Data is the touchstone of the work, as a baseline; as a method of monitoring implementation; as a method of measuring improvements; and as a method to make comparisons among sites, locations, patient groups, processes and practices.

Health Resources and Services Administration, "Four Key Principles of Quality Improvement," (2011).

QI and Pediatric Emergency Care

Improving the quality of interfacility transfers is an essential component for improving pediatric emergency care overall. As mentioned in Section 6, EDs should comprehensively assess and understand their overall degree of readiness to care for children as part of their process for developing interfacility transfer guidelines.

The National Pediatric Readiness Project (NPRP) Assessment, Checklist, and Toolkit can assist EDs with measuring and improving their pediatric capabilities. Visit www.pediatricreadiness.org to learn more.

88+
score for pediatric
readiness is associated
with significantly
improved survival rates.

Quality improvement (QI) is necessary for providing high-quality care for children in emergency situations. Having a QI plan in place is associated with a 26-point increase in pediatric readiness scores (scores above 88 points are associated with significantly improved survival rates). Results of the 2021 NPRP Assessment, however, found that only 50% of EDs had a QI plan that included pediatric-specific needs.

In addition to the tools and resources offered by the NPRP, the National Pediatric Readiness Quality Initiative (NPRQI) provides a platform for measuring, reflecting on, and improving pediatric emergency care delivery and standardized quality measures with benchmarking capabilities. The platform is free to use and was developed specifically with rural and community EDs in mind. Learn more at www.nprqi.org.

QI and Interfacility Transfer

QI is key to implementing processes to improve care and prevent future errors. QI is used to measure preset metrics and ensure the delivery of high-quality care and efficient use of costly resources. The American Academy of Pediatrics Section on Transport Medicine strongly recommends the development of benchmarks and standard goals for transport performance that can be compared internally and nationally.⁴⁰ Facilities should utilize benchmarks based on important metrics in which the data can be easily collected and tracked. Involved parties from receiving and transferring organizations should agree on the metrics and appropriate goals.

High-performing organizations learn from their failures more than they do from their successes. Failures help organizations identify opportunities for improvement and what to focus on for an organization's next project. All relevant parties must be involved in designing system improvements, especially frontline providers. Following up on patient outcomes and conditions is vital to enhancing interfacility relationships and improving clinical care delivery. Improvement takes place when your department understands the process. A written policy or procedure on its own does not equate to system improvement.

Facilities need both quantitative (numerical) and qualitative (words) data or feedback from transferring partners, patients, and families. Feedback often provides the first sign of any challenges in a system. Facilities must have a systematic approach for assessing whether interfacility transfers are happening efficiently, effectively, and safely and if the transfers add value for the patient and the patient's family. Mature programs proactively solicit feedback (surveys) and gather unsolicited complaints or kudos. In general, facilities should consider trends in feedback rather than individual cases. Facilities should identify actual problems in their systems before investing in major improvements.

Although change implementation may look different for each organization, some commonly tracked metrics and measurements include the following:

- Timeliness
 - Time between arrival and decision to transfer
 - Time to dispatch
 - Time between decision and transfer
 - Time from arrival to transport
- Percentage of transferred pediatric patients who met the site-specific criteria for transfer
- Appropriate mode and level of service (i.e., definitions of over- and under-triage)
- Completion of safe handoff
- Patient and caregiver experience
- Percentage of transferred pediatric patients discharged from the receiving center less than 24 hours after arrival

QI Tools for Interfacility Transfer

This section includes four examples of forms that can be used to guide QI activities related to patient transfer:

1. System Performance Improvement Committee: Transfer Follow-Up Guidelines
2. Follow-Up Communication Form: Sending Facility to Receiving Facility
3. Follow-Up Communication Form: Receiving Facility to Sending Facility
4. Follow-Up Communication Form: Receiving Trauma Center to Referring Facility



Find printable versions of the forms at
<https://bit.ly/pedsIFTforms>.

PEDIATRIC INTERFACILITY TRANSFER QI MONITORING TOOL

Date of Service:	MR#:	DOB:	Age:	Gender:
Time of Arrival:	Time at Transfer:	Total Time in ER (hours and minutes):		
Arrival Mode: <input type="radio"/> POV <input type="radio"/> EMS <input type="radio"/> Other				
Chief Complaint:		Diagnosis:		
Sending MD:		Receiving MD:		
Receiving Facility:		<input type="radio"/> GenPeds <input type="radio"/> PIMC <input type="radio"/> PICU <input type="radio"/> ER		
Mode of Transfer: <input type="radio"/> POV <input type="radio"/> EMS <input type="radio"/> Flight <input type="radio"/> Other				
Level of Provider: <input type="radio"/> BLS <input type="radio"/> ALS <input type="radio"/> CCT				
Accompanied by: <input type="radio"/> MD <input type="radio"/> RN <input type="radio"/> RT				
TRANSFER DETAILS				
REASON FOR TRANSFER 1. Need for a higher level of care _____ 2. Need for specialty care _____ 3. Family/MD request _____ 4. Insurance _____		5. Other (explain) _____ _____ _____		
		Comments		
Private MD notified	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> N/A			
Consultation with tertiary care center	<input type="radio"/> Yes <input type="radio"/> No			
Transfer documentation complete	<input type="radio"/> Yes <input type="radio"/> No			
Condition of patient at time of transfer documented	<input type="radio"/> Yes <input type="radio"/> No			
Transfer of patient belongings	<input type="radio"/> Yes <input type="radio"/> No			
Referral information provided to parent/guardian	<input type="radio"/> Yes <input type="radio"/> No			
VITAL SIGNS (minimally initial and discharge)				
Date/Time				
Temp				
HR				
Rhythm				
RR				
BP				
SP02				
ETCO2				
Cap Refill				
Glucose				
AVPU				
INTERVENTIONS IN PLACE ON TRANSFER				
Respiratory	Circulatory	Musculoskeletal	Other	
O2 L via BVM/Mask/NC	IV	Spinal motion restriction	Warming/Cooling device	
Intubated	IO	Extremity splint		
Tracheostomy	Central line			
Cricothyrotomy	Fluids mL Warmed Y/N			
	Blood mL Warmed Y/N			
Follow-up needed/Other findings:				
Audit completed by		Date completed		

Note: Not a part of the permanent Medical Record. Information on this form intended for quality improvement purposes only. Illinois EMSC Facility Recognition & QI Committee, "Data Collection Tool Examples." Adapted with permission.

FOLLOW-UP COMMUNICATION FORM: SENDING FACILITY TO RECEIVING FACILITY
Pediatric Transfer Quality Feedback Tool

To _____ Date _____

From: _____

RE: Performance Improvement/Case Review

Thank you for recently accepting a pediatric referral from _____. In order to identify areas for improvement, our Pediatric Quality Improvement Committee reviews all pediatric transfers for compliance with our hospital policies and the _____ Department of Public Health's ED Accreditation Program guidelines. The information you provide will help with our efforts to improve pediatric care related to transfers.

Below are the details pertaining to this request and sections for your feedback related to the transfer process and the patient outcome. Please feel free to note any issues you feel will help us improve the transfer process.

Please review the following case and provide the requested information. The form can be returned via email.

Thank you,

Patient Name _____ Date of Birth _____

Date of Transfer _____ Mode of Transfer _____

Transferring MD _____ Accepting MD _____

Transferring Diagnosis _____

Care provided/Procedures completed at _____ : _____

Please provide your feedback:

Aspect of Care	Adequate	Needs Review	Comments (Always complete when "needs review" is checked)
Airway Management			
Fluid Management			
Scope of Workup			
Pain Management			
Medication Management			
Working Diagnosis			
Overall Care			
Report/Documentation			

Suggestions for improvement to consider _____

Patient outcome/Final diagnosis and disposition from your facility _____

Your Name/Title _____ Date _____

Hospital _____ Email Address _____

Confidentiality—The purpose of the information is to review, monitor, and measure patient care for the purpose of performance improvement. This information is subject to protection under the _____ Medical Studies Act, as well as other applicable State and Federal laws and regulations. This information may not be copied, disclosed or disseminated to any other person or entity outside of the performance improvement process. Not part of the permanent record.

Illinois EMSC Facility Recognition & QI Committee, "Data Collection Tool Examples." Adapted with permission.

**FOLLOW-UP COMMUNICATION FORM: RECEIVING FACILITY TO REFERRING FACILITY
Pediatric Transfer Quality Feedback Tool**

To _____ Date _____

From: _____

RE: Performance Improvement/Case Review

Thank you for recently sending a pediatric referral from _____. In order to identify areas for improvement, our Pediatric Quality Improvement Committee reviews all pediatric transfers for compliance with evidence-based practices and the _____ Department of Public Health's ED Accreditation Program guidelines. The information you provide will help with our efforts to improve pediatric care related to transfers.

Below are the details pertaining to this transfer and sections for your feedback related to the transfer process and the patient outcome. Please feel free to note any issues you feel will help us improve the transfer process.

Please review the following case and provide the requested information. The form can be returned via email.

Thank you,

Patient Name _____ Date of Birth _____

Date of Transfer _____ Mode of Transfer _____

Transferring MD _____ Accepting MD _____

Transferring Diagnosis _____

Care provided/Procedures completed at _____ : _____

Feedback on care at sending facility:

Aspect of Care	Adequate	Needs Review	Comments (Always complete anytime "needs review" is checked)
Airway Management			
Fluid Management			
Scope of Workup			
Pain Management			
Medication Management			
Working Diagnosis			
Overall Care			
Report/Documentation			

Suggestions for improvements to consider _____

Patient outcome/Final diagnosis and disposition from facility _____

Your Name/Title _____ Date _____

Hospital _____ Email Address _____

Confidentiality—The purpose of the information is to review, monitor, and measure patient care for the purpose of performance improvement. This information is subject to protection under the _____ Medical Studies Act, as well as other applicable State and Federal laws and regulations. This information may not be copied, disclosed or disseminated to any other person or entity outside of the performance improvement process. Not part of the permanent record.

Illinois EMSC Facility Recognition & QI Committee, "Data Collection Tool Examples." Adapted with permission.

FOLLOW-UP LETTER: RECEIVING TRAUMA CENTER TO REFERRING FACILITY

Referring Site _____

Date _____

To whom it may concern:

You participated in the care of the following patient who was under our care on _____.

Patient Name _____

DOB _____

Age _____

Sex _____

For your process improvement and peer review purposes, we would like to provide you with the following information on the injuries identified and procedures performed:

Mechanism of Injury

ICD-10 CM	ICD-10 Traumatic Diagnosis	AIS Code

ICD-10 PCS	ICD-10 Procedure Code

Injury Severity Score (ISS)

OSH Quality Feedback

The patient's ED disposition was: _____

The patient's final disposition was: _____

Thank You,

Name _____

Receiving Facility Name _____

Contact Phone Number _____

Email _____

Confidentiality Clause

University Hospitals, "Follow-Up Letter: Receiving Trauma Center to Referring Facility." Adapted with permission.

SECTION 11

Interfacility Transfer Case Studies

This section shares three case studies that can help your team think through and apply the principles discussed in this guide.

Case Study #1

Neonate with Respiratory Syncytial Virus (RSV)

Situation

A 2-week-old infant presents to a rural community ED in respiratory distress. The parents note that the baby has stopped eating and appears to be having a hard time breathing. The infant, when assessed in triage, is mottled and has significant retractions. The infant weighs 4.8 kilograms. The infant is immediately taken to a hospital room, with the following details noted:

- Vital signs: T 37.8 C; HR 180; RR 80; no BP taken; pulse oximetry is 82%
- IV placed
- Oxygen placed with an infant nasal cannula. Pulse oximetry increases to 89%, and breathing is still tachypneic, with RR 76.

Considerations

- Does your community hospital have a preexisting relationship with a children's hospital?
- Can you call them with questions?
- How far away is the nearest children's hospital or neonatal intensive care unit?
- Do you have the necessary equipment to care for a child with RSV?
- Do you have telehealth services with a children's hospital ED?
- Who can transfer an infant who weighs less than 5 kilograms? Who can transport a patient who is on a high-flow nasal cannula or intubated?
- Who is your pediatric critical care service, and how far away are they by ground? By air?

Results

The infant is having retractions and nasal flaring and starting to head bob. The infant is in severe distress. You give a 10 mL/kg bolus and put the infant on a high-flow nasal cannula (HFNC) of 7 L/min at 40%. The child is transferred via ground by the pediatric critical care team and is discharged to home three days later.



Case Study #2

Interfacility Transfer from a Community Hospital to a Tertiary Center

Situation

At highway speed, a car broadsided an 18-wheeler and ran under the frame of the truck. A 7-year-old female restrained in the back seat on the driver's side in a no-back booster seat is extricated and flown to the nearest community ED, a Level 3 trauma center. Her father, the driver, is pronounced dead at the scene.

The 7-year-old's vital signs are as follows: HR 82; BP 116/77; RR 20; GCS 9 (2-2-5). She is intubated upon arrival to the ED. Her injuries upon examination appear to be an open skull fracture with concern for a head bleed, femur fracture, clavicle fracture, facial bruising, and seat belt sign with significant abdominal bruising.

Considerations

- Does your ED have the supplies to care for a 7-year-old trauma patient?
- How do you manage consent in this situation?
- Where is your nearest pediatric trauma center? Do you have an interfacility agreement with the center?
- Who can transfer a critically ill, intubated pediatric patient?
- Will your adult trauma surgeon or neurosurgeon take a child to the operating room to stabilize internal bleeding?

Results

You contact the pediatric trauma center for transfer. The patient is taken to the operating room with the adult neurosurgeon at the community hospital for a craniotomy and receives packed red blood cells, platelets, and fresh frozen plasma. She is transferred via an adult critical care flight team to the nearest children's trauma center 2.5 hours away. She is discharged to rehab on Day 24.

Case Study #3

Surge Event

Situation

You work in a community hospital with an outdoor overnight summer camp nearby. You receive a call from your local emergency management official that several children have been severely injured in a boating crash on the water. Four children are en route to your hospital with various degrees of injury.

Patient 1: An 8-year-old boy was thrown from a tube being pulled by a boat. He was submerged in the water for a period of time. Witnesses state that he hit his head on the boat when he was thrown. He was wearing a life vest, but he was recovered face down on the surface of the water. He was pulseless and apneic per camp staff. His cervical spine was stabilized by trained camp staff, and the child was placed in the boat, at which time CPR was started.

Patient 2: A second EMS unit has notified you that they are en route with a 10-year-old girl who was also thrown from the tube. She is alert and oriented with stable vital signs. She complains of leg pain and has an obvious deformity to her upper-left femur. EMS has applied pediatric traction to her leg.

Patient 3: A 7-year-old boy arrived via EMS without a report at the same time as Patient 2. He has a waxing and waning mental status and shallow respirations.

Patient 4: A 10-year-old patient arrives by car with a camp counselor. The patient has a large, deep bleeding laceration on the top of the head.

Considerations

- How will you plan for four pediatric patients arriving at the same time or within minutes of one another, some of whom are critical and need immediate stabilization?
- What initial steps will your facility take before the patients arrive?
- Who can you call for assistance?
- Do you have the appropriate equipment to care for these children?
- Which patient will you want to get transferred out first?
- Who can transfer an intubated pediatric patient?
- Where is your nearest Level 1 or 2 pediatric trauma center or the nearest adult trauma center if there is not a pediatric trauma center nearby?
- Do you have an interfacility agreement with these hospitals?
- Do you have a policy on transferring a pediatric patient without parental consent if you cannot reach the patient's parents? If you have a camp nearby, what kind of consent do they have from parents?

Results

The community hospital immediately contacts the nearest children's hospital, a Level 1 pediatric trauma center. The children's hospital deploys both ground and air transport. Patient 1 is intubated and quickly gets a pulse back; the child is flown to the children's hospital. Patient 2's pain is managed, and the patient is transferred via local ground unit. Patient 3 is also intubated to protect his airway and is transferred via the ground pediatric critical care team. Patient 4 has her head laceration repaired in the community ED and is observed for a few hours before being discharged to home once her parents arrive.

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