

National Pediatric Readiness Project (NPRP) Assessment

Gap Report – Importance Statements

The purpose of this document is to provide additional context to the importance of specific pediatric readiness domains within the NPRP assessment as outlined by the 2018 Joint Policy Statement, "[Pediatric Readiness in the Emergency Department](#)".

When a pediatric readiness measure is not met on the NPRP assessment, corresponding 'importance statements' appear on a gap report to educate the respondent about the measure and highlight opportunities for quality improvement (QI) for their ED. If a pediatric readiness measure IS met, an importance statement will not appear on the gap report. This document is a compilation of all importance statements associated with the NPRP assessment and is intended for general use in QI efforts.

More information about pediatric readiness domains and QI can be found in the [NPRP Readiness Toolkit](#) and [ED Checklist](#). Visit [PedsReady.org](#) for more information about the NPRP assessment.

Guidelines for Administration and Coordination of the ED for the Care of Children	
Physician Coordinator	The physician coordinator provides administrative oversight for pediatric emergency care. This person plays an important role by ensuring that the staff have ongoing education and skills in pediatric emergency care, that policies and procedures for the care of children are in place, that there is a quality improvement program for pediatric patients, and works closely with the nurse coordinator to optimize the emergency care of children. The physician coordinator is a designated person that both hospital and community-based entities may turn to for pediatric issues. Assigning the role of a physician and nurse coordinator is the single most important step in improving pediatric readiness.
Nurse Coordinator	The nurse coordinator provides administrative oversight for pediatric emergency care. This person plays an important role by ensuring, in conjunction with the physician coordinator, that the staff have continuing education in pediatric emergency care, that policies and procedures for the care of children are in place, that there is a quality improvement program for pediatric patients, that appropriate equipment and medication is stocked in the ED for the care of children, and that pediatric care is included in the initial orientation program and ongoing evaluations. The nurse coordinator works with hospital committees that impact pediatric emergency care. Assigning the role of a physician and nurse coordinator is the single most important step in improving pediatric readiness.

Physicians, Nurses, and Other Health Care Providers Who Staff the ED

Physician Competency Evaluations	Competency evaluations, such as for sedation and analgesia, ensure that physicians have the knowledge and skills to provide optimal clinical care for children. Such competency evaluations may be required by accreditation organizations such as the Joint Commission or required by local hospital credentialing.
Physician Maintenance of Board Certification	Credentialing for physicians who see pediatric patients is important to ensure critical staff stays up-to-date on current treatment guidelines and protocols, and for maintenance of psychomotor skills necessary to care for this population of patients.
Nurse Competency Evaluations	Competency evaluations, such as for triage and pain assessment, ensure that nursing staff have the knowledge and skills to provide optimal clinical care for children. Such competency evaluations may be required by accreditation organizations such as the Joint Commission or required by local hospital credentialing.
Nurse Maintenance of Specialty Certification	Credentialing for nursing staff who see pediatric patients is important to ensure critical staff stays up-to-date on current treatment guidelines and protocols, and for maintenance of psychomotor skills necessary to care for this population of patients.

Guidelines QI/PI in the ED

Patient care-review process (chart review)	Chart review is important to allow for identification of system-level gaps in pediatric patient care delivery, track and monitor for trends and variation, provide feedback, review sentinel events, and identify interventions to improve the patient care process.
Identification of quality indicators for children	Quality indicators for children allow for review of processes known to affect outcome, such as adherence to clinical care guidelines or prompt reporting of vital sign abnormalities. Quality indicators can then be collected and used to assist with root cause analyses and plans for improvement.
Collection and analysis of pediatric emergency care data	Acquisition and analysis of data are essential to any QI plan. Outcomes metrics should be chosen based on identified areas for improvement, and a plan should be developed to collect, analyze, and review data pertinent to that outcome. Data should be reviewed with staff and administration to help guide further changes.
Development of a plan for improvement in pediatric emergency care	Quality improvement for pediatric patients in the ED ensures that processes are in place to review clinical cases and that data is gathered to assess for deviation from best practices or errors in care. Through use of appropriate metrics, the outcomes of children can be evaluated and improved. Integration with other QI committees will ensure coordination of care throughout the medical continuum.

Re-evaluation of performance using outcomes-based measures	It is important to ensure that your plan addresses outcomes which are patient-centered and evidence based to improve care. These outcomes must be reevaluated over time to assess change/improvement. Examples of metrics important to patients include timely treatment of pain and receipt of appropriate tests. Metrics important to clinical outcomes include receipt of antibiotics within an hour in a potentially septic patient and early administration of steroids in a child with an asthma exacerbation.
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Guidelines for Improving Pediatric Patient Safety in the ED

Children seen in the ED weighed in kg (without conversion from pounds)	One of the most important safety initiatives for children as determined by a number of national medical professional organizations is weighing and recording weight in kg. Measuring in kg ensures that dosing is based on accurate weight and not subject to calculation error, which can lead to serious adverse events.
Children's weights recorded in the ED medical record in kg only	One of the most important safety initiatives for children as determined by a number of national medical professional organizations is weighing and recording weight in kg. Measuring in kg ensures that dosing is based on accurate weight and not subject to calculation error, which can lead to serious adverse events.
Temperature, heart rate, and respiratory rate recorded	Recording of all vital signs is critical for the assessment of children and allows for early recognition of disease processes such as septic shock.
Blood pressure monitoring available based on severity of illness	Recording of blood pressure allows for the detection of serious disease such as renal failure and septic shock, and also allows for identification of children at risk for more long term complications from essential hypertension. It is important that emergency departments be capable of measuring blood pressure on every child regardless of age.
Pulse oximetry monitoring available based on severity of illness	Pulse oximetry monitoring has been called the sixth vital sign. Hypoxemia may be difficult to assess in children clinically without the pulse oximetry measurement, and can clue the health care team into possibly serious underlying disease, such as congenital heart disease. It is important that pulse oximetry be available for every child.
End-tidal CO2 monitoring available based on severity of illness	End tidal CO2 monitoring is of vital importance for assessing the adequacy of ventilation, especially in the children undergoing sedation and critically ill children requiring advanced airway management such as noninvasive ventilation (e.g., BiPAP, CPAP) and mechanical ventilation. It should be available for children of any size or age and compatible with other respiratory equipment available within the department.
Process in place for notification (manual or automated) of physicians when abnormal vital signs are found	Prompt notification of a provider when children have abnormal vital signs has been shown to significantly reduce the time to treatment for children in septic shock, and is an important quality improvement initiative that can save lives.

Process in place for the use of pre-calculated drug dosing in all children	Use of a length-based resuscitation tape or other method of pre-calculating drug doses in children reduces error and prevents adverse medication events in children.
Process in place that allows for 24/7 access to interpreter services in the ED	Obtaining an accurate history is key to understanding the signs and symptoms in children, and can prevent over- and under-testing of patients. Obtaining an accurate history from a non-English speaker requires interpretation availability.
Level of consciousness (e.g., AVPU or GCS) assessed in all children	A pediatric-specific neurologic assessment allows for accurate evaluation of the mental status of a critical or dynamic patient and, should the patient need transfer, allows for a common metric with which to communicate neurologic status to the receiving medical team. This assessment should be included in the evaluation of both medical and trauma patients.
Level of pain assessed in all children	Pediatric pain is often undertreated and under-recognized, and assessing pain, especially in non-verbal children can be challenging. It is important to use an approved and validated pediatric pain scale so as to recognize and intervene early and assess the impact of any pain intervention given.

Guidelines for Policies, Procedures, and Protocols for the ED

Triage policy that specifically addresses ill and injured children	Triage schemes (such as the Emergency Severity Index algorithm or ESI) which address the special needs of children is vital to appropriate prioritization of patients to be seen.
Policy for pediatric patient assessment and reassessment	Assessment and reassessment of patients is important because disease and injury are dynamic processes. Often times patients wait for some time to be seen in the ED or their treatment plan may take a number of hours. Reassessment is therefore critical to identify progressive and potentially life-threatening disease, as patient status evolves through time.
Policy for immunization assessment and management of the under-immunized child	Immunizations have changed the epidemiology of pediatric infectious disease in the United States. Assessment of risk from lack of immunization is an important part of the assessment process for children and helps to identify children at increased risk for certain diseases.
Policy for child maltreatment	Identification of child maltreatment on the first visit saves lives. We know that lack of identification of such patients leads to an increased risk of additional injury and death. It is important to have a policy that outlines appropriate evaluation, documentation, reporting, and testing.
Policy for death of the child in the ED	A child's death has a profound effect on families. It is essential to have a policy that addresses the needs of the family in order to minimize confusion and assist with the grieving and healing processes.

Policy for reduced-dose radiation for CT and x-ray imaging based on pediatric age or weight	Adult imaging protocols transmit excessive radiation to children. Weight-based or age-based protocols for adjusting the radiation exposure for children can ensure adequate imaging while minimizing radiation exposure and subsequent risk of cancer.
Policy for behavioral health issues for children of all ages	Behavioral and psychological health processes for children should be clearly outlined so as to address them in a timely and appropriate manner within the context of the incident. Plans should also include a way to obtain further mental health resources for children in crisis when those available locally are not adequate. Behavioral health may not be the primary reason for an emergency visit, but should be assessed on all children, as developmentally appropriate, to include risk assessment for suicidality/homicidality, abuse and/or neglect.
Involving families and caregivers in patient care decision-making	It is necessary to have a shared decision-making model with caregivers to achieve an agreed upon outcome. This helps to ensure families feel their concerns are addressed and helps facilitate the transition of care back to the family. Families, especially those with children with special health care needs, often are more knowledgeable about what works well for their child than a provider who is seeing them for the first time.
Involving families and caregivers in medication safety processes	Family-centered care is not only critical during treatment decisions and resuscitations, but should be integrated throughout the healthcare visit. Children are at high risk of experiencing medication errors compared to adults. Integrating families into the medication administration process can help to ensure the correct medication and dose are given and that there are fewer medication errors.
Family and guardian presence during all aspects of emergency care, including resuscitation	Caregivers are often the most knowledgeable of a child's past medical/surgical history, and family presence helps to ensure treatment decisions are aligned with family values. It has also been shown that family being present during care alleviates anxiety for both patient and caregiver, and that family presence during a resuscitation that ends in death of the child is an important part of the healing process for families.
Education of the patient, family, and caregivers on treatment plan and disposition	Inclusion of patient and caregivers in medical decision-making allows for transparency of the treatment plan, decreases medical errors, and gives opportunity for clarification and questions.
Bereavement counseling	In the event of a disaster, the potential for loss of life is high, and specific personnel should be identified and trained in how to deal with the unique challenges of discussing trauma and loss with children and families in a developmentally appropriate manner.

<p>Disaster plan includes availability of medications, vaccines, equipment, supplies, and appropriately trained providers for children</p>	<p>The need for trained personnel who understand dosing of medicine and specific pediatric equipment needs will help ensure children receive the best in a disaster setting. Critical supplies include medical equipment as well as ensuring adequate amounts of things like cribs, diapers and formula specific to pediatric patients and families. Vaccines are an important aspect in the post disaster setting, both for potentially dirty wounds, disease outbreak, or the use of biologics.</p>
<p>Disaster plan includes decontamination, isolation, and quarantine of families and children</p>	<p>The de-con/isolation process can be overwhelming to children of any age, and efforts should be made to have caregivers around to help and then allow families to remain together to decrease stress of separation. In addition, specific considerations, such as use of warmer water for decon to prevent hypothermia in small children, are essential to planning.</p>
<p>Disaster plan includes minimization of parent-child separation and methods for reuniting separated children with their families</p>	<p>In the setting of a disaster, families and children are often displaced and/or separated from caregivers. Allowing parents and children to remain together for as much of the care process as possible will help to alleviate some of the emotional stress of a disaster and help prevent a large quantity of unaccompanied minors. All children entering the healthcare system should be tracked in order to support future reunification efforts. Tracking should include specific descriptors (including clothing worn) particularly if photographs are not possible.</p>
<p>All disaster drills include pediatric patients</p>	<p>Children account for approximately 25% of all disaster victims. Therefore, simulation exercises that include all age groups are critical to ensure that the care site can handle a variety of age groups and can address the challenges specific to pediatric patients. It is also important for hospitals to have and test procedures for unaccompanied minors and a reunification process.</p>
<p>Disaster plan includes pediatric surge capacity for both injured and non-injured children</p>	<p>The ability to assemble a larger cadre of providers and find space needed to treat/manage pediatric patients is important in any large-scale incident. Having resources and staff available to manage the non-injured children and occupy them in a safe setting while their family may be unable to tend to them is a vital aspect within the social construct of a disaster.</p>
<p>Disaster plan includes access to behavioral health resources for children</p>	<p>Children are disproportionately impacted in the setting of a disaster due to their reliance on adults, varied developmental stages, and inability to fully understand the circumstances surrounding a disaster situation. The need for behavioral specialists is crucial in a disaster situation due to the initial trauma, both physical and emotional, to the patient and to address potential loss or significant morbidity to the family. These specialists can intervene early so as to mitigate some of the downstream issues that may arise such as long-term behavioral changes and post-traumatic stress disorder (PTSD).</p>

Disaster plan includes care of children with special health care needs	There is a high medical utilization rate of children with special needs. Although difficult to plan for, a systematic approach should be used when encountering these patients and addressing their needs, including ensuring staff training, the availability of special equipment, and the importance of family-centered care. It may be useful to engage pediatricians and other specialists in the community when developing such a policy.
Written interfacility transfer guidelines	When presented with children too ill or too complex for the capabilities of their hospitals, emergency departments must transfer children to other tertiary pediatric facilities for critical or subspecialty care. Written guidelines and procedures to allow for the rapid and efficient transfer of these patients are essential.

Guidelines for Equipment, Supplies, and Medications for the Care of Pediatric Patients in the ED

Having appropriate equipment of ALL sizes is key to management of critical illness and injury in neonates, infants, children and adolescents. In addition, educating staff on the location of equipment, and having a daily process for ensuring that equipment is functioning appropriately is key to preventing delay in care and possible morbidity for critically ill children of all ages.

- All staff trained on the location of all pediatric equipment and medications
- Daily method used to verify the proper location and function of pediatric equipment and supplies
- Standardized chart or tool to estimate weight if resuscitation precludes the use of a weight scale (e.g., length-based tape)
- Neonatal blood pressure cuff
- Infant blood pressure cuff
- Child blood pressure cuff
- Defibrillator with pediatric and adult capabilities including pads and/or paddles
- Pulse oximeter with pediatric and adult probes
- Continuous end-tidal CO2 monitoring device
- 22 gauge catheter-over-the-needle
- 24 gauge catheter-over-the-needle
- Pediatric intra-osseus needles
- IV administration sets with calibrated chambers
- Endotracheal tubes: cuffed or uncuffed 2.5 mm
- Endotracheal tubes: cuffed or uncuffed 3.0 mm
- Endotracheal tubes: cuffed or uncuffed 3.5 mm
- Endotracheal tubes: cuffed or uncuffed 4.0 mm
- Endotracheal tubes: cuffed or uncuffed 4.5 mm

- Endotracheal tubes: cuffed or uncuffed 5.0 mm
- Endotracheal tubes: cuffed or uncuffed 5.5 mm
- Endotracheal tubes: cuffed 6.0 mm
- Laryngoscope blades: straight, size 0
- Laryngoscope blades: straight, size 1
- Laryngoscope blades: straight, size 2
- Laryngoscope blades: curved, size 2
- Pediatric-sized Magill forceps
- Nasopharyngeal airways: infant-size
- Nasopharyngeal airways: child-size
- Oropharyngeal airways: size 0 (50mm)
- Oropharyngeal airways: size 1 (60mm)
- Oropharyngeal airways: size 2 (70mm)
- Oropharyngeal airways: size 3 (80mm)
- Stylets for pediatric/infant-sized endotracheal tube
- Bag-mask device, self-inflating (infant/child)
- Masks (neonatal size) to fit bag-mask device
- Masks (infant size) to fit bag-mask device
- Masks (child size) to fit bag-mask device
- Simple oxygen masks: standard infant
- Clear oxygen masks: standard child
- Non-rebreather masks: infant-sized
- Non-rebreather masks: child-size
- Nasal cannulas: infant
- Nasal cannulas: child
- Suction catheters: at least one in range 6-8F
- Suction catheters: at least one in range 10-12F
- Supplies/kit for pediatric patients with difficult airways