The Child-Friendly Emergency Department: Practices, Policies, and Procedures

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Key Points

There are suggested minimum pediatric emergency department (ED) equipment, supplies, and medication.

There are many different staff training options.

Continuous quality improvement and creating a safe environment are essential for any pediatric ED.

Key pediatric policies, procedures and external agreements must be available 24 hours a day, 7 days a week in all pediatric EDs.

Introduction and Background

What is Emergency Department Preparedness?

Emergency department (ED) preparedness means that the "Emergency Department must have the staff and resources to evaluate all persons presenting to the ED."[1] However, when it comes to pediatric patients, this is not always the case. A national survey concluded that only 10% of U.S. hospitals have a pediatric intensive care unit, 25% of hospitals without a pediatric trauma service admit critically injured children, and 7% of hospitals without a pediatric ward admit children.[2] A Canadian study of ED preparedness demonstrated deficiencies in equipment needed to resuscitate a critically ill pediatric patient.[3]

Not all children are, or need to be, seen in a pediatric ED. In fact, of the approximately 35 million pediatric ED visits per year, only 10% seek care initially in a children's hospital/pediatric ED. What this means is that the other 31.5 million children seek care in general and community EDs, which have varying abilities to care for them. In most community EDs, pediatric patients account for 20% to 35% of the patient visits. This chapter reviews the issues involved in preparedness, possible solutions, suggested policies and procedures, and additional information that may prove beneficial to create an ED appropriately prepared for infants, children, and adolescents.

Facility Categorization

While most physicians and nurses are familiar with terms such as a Level I trauma center or a burn center, the terminology for pediatric centers is new, and often varies from state to state, if it exists at all. "Categorization is the assessment of a facility based on its ability to manage certain categories of patients."[4] The levels of categorization are usually based upon state (e.g., Level I vs. II adult/pediatric trauma center) or national (e.g., burn center) standards. This can lead to a "designation," or the assignment of responsibility for care of certain categories of patients to specific institutions based upon compliance with standards as well as on their catchment area.[4] The designation is conferred by an outside agency once the facility has gone through a site survey or other process to verify that it meets the existing standards. A hospital can also voluntarily agree to adopt a set of standards as its own, without an outside agency involved, and can be "confirmed."[4]

Another important distinction is the method by which states categorize hospitals and EDs. In many states there are comprehensive EDs. This is an ED with at least one physician available 24 hours a day, 7 days a week (24/7), with specialty services, and with ancillary services such as radiology, laboratory, and pharmacy staffed at all times.[5] A basic ED has at least one physician 24/7, limited specialty services, and ancillary services staffed or "on call." A standby ED has a registered nurse, nurse practitioner, or physician's assistant available for emergency services 24/7, and a physician who is "on call."[5]

Issues

In 1995, the American Academy of Pediatrics (AAP) issued guidelines for pediatric emergency care facilities. This document established four levels of care: standby, basic, general

emergency facilities, and comprehensive regional pediatric center.[6] It included recommendations on personnel, medical specialist consultants, surgical specialists, equipment and supplies, and facilities for each level. It also covered topics such as access, triage, transfer and transport, education, training, research, quality assessment and improvement, administrative support and hospital commitment.[6] This guideline added the requirement that the physician be competent in the care of pediatric emergencies. This could be demonstrated by the successful completion of Pediatric Advanced Life Support (PALS) or Advanced Pediatric Life Support (APLS) courses.[6] This set the foundation for the development of a national policy statement in 2001 (see later).[7]

In February 1995, the American College of Emergency Physicians (ACEP) issued a policy statement on pediatric equipment guidelines. These were recommended for equipment of pediatric patients in a general ED. This list included monitoring devices, vascular access supplies and equipment, respiratory equipment and supplies, medications, related supplies/equipment, miscellaneous equipment, specialized pediatric trays, and fracture management devices.[8] The equipment and medications listed in this document and the AAP 1995 document are similar.

In 1998, the Committee on Pediatric Equipment and Supplies for Emergency Departments of the National Emergency Medical Services for Children Resource Alliance developed a consensus statement regarding pediatric resuscitation medication and minimum equipment and supplies.[9] They based their recommendations on previously published lists, including the two documents by the AAP and ACEP.[6,8] The article mentioned that the ED may choose to modify this list, and that ED health care providers should be trained in the use of all equipment and supplies. The committee also took into account financial factors when recommending items, and occasionally provided some equipment options.

In 2001, the AAP and ACEP, along with the federal Emergency Medical Services for Children (EMSC) program, developed a joint policy statement: "Care of Children in the Emergency Department: Guidelines for Preparedness."[7] In addition to these organizations, this statement was supported by numerous national organizations and agencies. While this document does list medications, equipment, and supplies (adapted from the 1998 list[9]), its strength lies in the agreement on personnel staffing and training, administration and coordination for pediatric emergency care, quality improvement (QI), and ED policies, procedures, protocols, and support services. The information in this policy provides a framework for many of the areas to be discussed in the "Solutions" section later in this chapter.

State Guidelines

In 1994, the California Emergency Medical Services Authority compiled a list of recommended equipment, supplies, and medications for the care of pediatric patients in the ED.[10] In 1999, the Los Angeles County Department of Health Services' Emergency Medical Services (EMS) division published Emergency Department Approved for Pediatrics (EDAP) standards.[4,11] These standards include administration, coordination, personnel, policies, procedures and protocols, QI, support services, equipment, supplies, and medications. Pediatric Critical Care Center (PCCC) was another category

designation that was added. This designation is achieved if a hospital meets requirements for an EDAP, has a trauma center, and has a California Children's Services–approved pediatric intensive care unit.[11] In 2004, there were 57 EDAPs and 9 PCCCs in Los Angeles County.[11]

In 2002, the State of Illinois added a section to the Emergency Medical Services and Trauma Center Code to include facility recognition criteria for EDAPs and the Standby Emergency Department Approved for Pediatrics (SEDP).[12,13] Although this is a voluntary process, since these rules have been in effect the EMSC facility recognition process has recognized 114 (out of a possible 200) hospitals. These criteria cover topics similar to the Los Angeles County criteria, but include recommended equipment lists as well as professional staff (nurse, physician, nurse practitioner, physician assistant) qualifications, continuing medical education (CME) requirements, a multidisciplinary QI committee, and a pediatric continuous QI liaison.[12-14] Another important part of this document was the development of interfacility pediatric trauma and critical care consultation and/or transfer guidelines.[15]

Solutions

Triage

When a child enters an ED with his or her parent(s), the first encounter they have with a health professional is at triage. It is important for that person to be comfortable assessing a child, to have the necessary equipment (e.g., scales, thermometer, appropriate-sized blood pressure cuffs, and pulse oximeter probes), as well as to have some criteria on which to base the child's triage category assessment. Published criteria for children are based upon age-related norms, signs, and symptoms, and are divided into three or five categories.[16-18] Triage criteria provide a guide as to the level of acuity of the patient, which in turn provide a time frame in which the patient should be seen (see Chapter 155, Triage).

Physical Space (Child Friendly)

While a designated pediatric care area is not feasible in many facilities, it may be possible to make the ED child friendly in several simple ways. Just separating pediatric patients from adult patients in the waiting room may protect them from some of the sights, language, and other inappropriate behavior of adults. It can also provide some separation between children who may have a contagious disease and elderly adults, who are very susceptible to these illnesses. It is important to childproof the waiting room by avoiding sharp corners on chairs and tables, locking cabinets, covering electrical outlets, and covering trash cans.[19] If pediatric-size furniture is available, it is important to keep it clean after use. This is also true of any toys used in a play area. Some simple solutions are to provide coloring books and crayons, or books to read, all of which can be taken home.

If a separate pediatric room or care area is available, simple decorations can brighten the room and provide distractions for children. This can be a cheerful wall border, hanging pictures, or ceiling drawings. While one could argue that a teenager will not enjoy being in a room decorated with Mickey Mouse or Sesame Street characters, they can still provide distractions during an examination. This room

should also be childproofed by placing all medical equipment out of reach of a child, providing bed rails with child guards, and assuring that there are no sharp objects or corners at an infant or roaming child level. Another option is to provide a TV/VCR/DVD player in the room. The TV can have limited channels, and the VCR or DVD can be utilized to view cartoons, movies, or even educational tapes.[19] As a convenience to parents, having diapers, skin wipes, and blankets in the room can help them provide care or comfort for their child while waiting to be seen.

Staffing

Creating a child-friendly environment should involve the staff. While many pediatric hospitals allow brightly colored shirts/blouses/scrub tops, these may not look professional to an adult entering the ED. Each hospital has dress code regulations that determine the use of scrubs outside of the operating room. The ability of clerical, ED, and ancillary staff to deal with patients of various ages cannot be overstressed. Education and training sessions on how to communicate and interact with pediatric patients should be available to all the staff involved in their care.

Many emergency nurses work in different hospital locations before they seek employment in the ED, but their exposure to pediatrics may have been limited to nursing school rotations. If there is a pediatrics ward in the hospital, having them spend some time with pediatric nurses (and vice versa) can be an invaluable experience. There are specific CME courses, including the Emergency Nurse Pediatric Course (ENPC) offered through the Emergency Nurses Association, APLS, and PALS, that can help them improve their assessment, technical, and treatment skills.[20] The specific number of staff is based upon the hospital designation (comprehensive vs. standby) as well as the usual census, but will include at least one nurse present 24/7.

Physician attitude and training are also crucial. Once again, depending upon the physician's specialty, his or her last exposure to pediatrics may have been in medical school. Residency-trained emergency physicians are trained in the acute and emergent care of pediatric patients. Additionally, each state may have additional CME requirements for physicians, some being specific for topics such as pain management, end-of-life issues (California), and child maltreatment (New York). Specific physician staffing is based upon hospital designation (e.g., for a standby hospital, the physician may be on call but promptly available, whereas a basic facility has an emergency physician present 24/7). The ACEP emergency care guidelines contains specific staffing and credentialing requirements for physicians and nurses.[9]

The availability of specialists (surgical and medical) varies based upon the hospital designation. The AAP guidelines for pediatric emergency care facilities include a table that lists these physicians, and whether they are essential in the hospital or promptly available, based on hospital designation.[6]

Competency

The issue of developing staff competency is difficult to define. Courses that do exist do not guarantee competency, but provide certification that one has completed the course. Becoming competent requires experience, ongoing training, practice, and education. There are no set number of times a physician must suture a laceration, or a nurse must start an intravenous line, to prove he or she is competent. The requirements for board certification in all medical specialties are undergoing change to include the following: physicians must maintain active licensure, pass a written examination, read current literature, obtain CME credits, and receive an evaluation of their practice performance. While this does not prove competency either, it is a multilayered process that is more rigorous than previous requirements.

For those staff who do not have pediatric experience, available courses can help educate them about common pediatric illnesses and injuries, resuscitation skills, and procedural techniques. These classes include ENPC and APLS or PALS for nurses, and PALS or APLS for physicians.[18,20,21]

Equipment/Supplies

Even with all of the expertise and training of the staff, an ill infant cannot be cared for appropriately if the right-size equipment is not present. This can include basic equipment such as a sphygmomanometer with an infant-sized blood pressure cuff, or a 22- or 24-gauge intravenous catheter, or a 10F chest tube. While there are several published equipment lists, the equipment/supply list published by the AAP and ACEP is based upon the consensus of many organizations[7] (Table 154–1).

Medications

The majority of the medications required in the ED can be used in children.[1,9] However, there are some unique concentrations for children, such as sodium bicarbonate (4.2%), and dextrose (10%, 25%).[9] It is important to have frequently used medications readily available in the ED, and a process for obtaining those used less frequently in a short time frame (Table 154–2).

Quality Improvement

The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) requires that hospitals improve patient safety and perform QI activities. Each year JCAHO establishes national patient safety goals and quality indicators.[22] Common ED QI monitors include deaths, transfers, and ED returns visits within 48 or 72 hours. Additional pediatric QI indicators can include pediatric resuscitations, intubations, and patients admitted to the general pediatric ward who require transfer to a pediatric intensive care unit. More specific QI ideas can include timing to administration of antipyretics, or pain assessment and management.[23] It is important to include some out-of-hospital QI indicators such as appropriate airway management (airway adjunct or assisted ventilation), delivery of 100% oxygen to a child in respiratory distress, establishment of vascular access, appropriate immobilization for trauma, and appropriate sized equipment used. The Institute of Health Care Improvement has defined the four essential components of a high-performing quality program as follows: (1) focus on identifying appropriate indicators, developing a plan for improvement (plan); (2) implement this plan (do); (3) collect and analyze the data (study); and (4) reach conclusions and make recommendations (act). It is also important to have a multidisciplinary QI team, as different perspectives will be obtained and many lessons learned (see Chapter 149, Patient Safety, Medical Errors, and Quality of Care).

Table 154–1	Recommended Equipment and Supplies

Monitoring

- Cardiorespiratory monitor with strip recorder
- Defibrillator (0–400 J) with pediatric (4.5-cm) and adult (8-cm) paddles or corresponding adhesive pads
- Pediatric and adult monitor electrodes
- Pulse oximeter with sensors for children
- Sphygmomanometer
- Doppler blood pressure device
- Blood pressure cuffs (neonatal, infant, child, adult arm and thigh cuffs)
- Stethoscope
- Thermometer (must be able to measure from 25° C to 44° C)
- Endotracheal tube placement monitor (disposable CO_2 detector, electronic waveform or measurement, or for children ≥ 20 kg or ≥5 yr, esophageal detector device)

Airway Management

- Portable oxygen regulators/canisters
- Oxygen masks
  - clear simple face masks—neonatal, infant, child, adult
  - Venturi masks—neonatal, infant, child, adult
  - partial non-rebreathing masks—neonatal, infant, child
  - rebreathing masks—child, adult
- Oropharyngeal airways (sizes 0–5)
- Nasopharyngeal airways (sizes 12F–30F)
- Bag-valve-mask resuscitator—self-inflating (450- and 1000-ml sizes)
- Nasal cannulae (infant, child, adult)
- Endotracheal tubes
  - uncuffed (sizes 2.5, 3.0, 3.5, 4.0, 4.5, 5.0, 5.5, and 6.0 mm)
  - cuffed (sizes 6.5, 7.0, 7.5, 8.0, and 9.0 mm)
- Stylets (pediatric and adult)
- Laryngoscope handle (pediatric and adult)
- Laryngoscope blades: straight/Miller (sizes 0, 1, 2, and 3) and curved/Macintosh (sizes 2 and 3)
- Magill forceps (pediatric and adult)
- Nasogastric/feeding tubes (sizes 5F–18F)
- Suction catheters—flexible (sizes 6F–16F)
- Yankauer suction tip
- Bulb syringe

Vascular Access

- Butterfly needles (sizes 19G–25G)
- Catheter-over-needle devices (sizes 14G–24G)
- Intraosseous needles (two sizes, between 13G and 18G)

- Intravenous fluids
- Rate-limiting infusing device and tubing
- Fluid/blood warmer

Fracture Management

- Cervical immobilization equipment (backboard with straps, and head immobilizer)
- Semi-rigid cervical collars (sizes to fit infant, child, and adolescent)

Miscellaneous Equipment

- Length-based resuscitation tape (precalculated drug or equipment list based on weight)
- Pediatric urinary catheters (sizes 5F–16F)
- Infant and standard scales
- Towel rolls, blanket rolls
- Resuscitation board
- Medical photography capability

Specialized Pediatric Trays

- Lumbar puncture
- Tube thoracotomy with water seal drainage capability
- Venous cutdown kit
- Needle cricothyrotomy tray

Essential Equipment That Can Be Shared (Nursery, Floor, Operating Room), but Is Readily Available to the Emergency Department

- Umbilical vein catheters (3.5F, 5F [but size 5F feeding tube can also be used])
- Chest tubes (sizes 8F–40F)
- Seldinger vascular access technique kit (3F, 5F, 8F)
- Extremity splints
- Femur splints (child and adult)
- Tracheostomy tubes (sizes 00–6)
- Obstetrics pack
- Newborn delivery kit
- Umbilical vessel cannulation supplies
- Surgical airway kit (tracheostomy or surgical cricothyrotomy kit)
- Infant formula and oral rehydrating solutions
- Heating source (infrared lamps or overhead warmer)
- Sterile linen

Equipment That Is Desirable

- Laryngeal mask airways (sizes 1, 1.5, 2, 2.5, 3, 4, and 5)

Adapted from American Academy of Pediatrics, Committee on Pediatric Emergency Medicine; and American College of Emergency Physicians, Pediatric Committee: Care of children in the emergency department: guidelines for preparedness. Pediatrics 107:777–781, 2001.

Table 154–2	Recommended Medications

Activated charcoal
Adenosine
Antibiotics (parenteral)
Anticonvulsants
Antidotes
Antipyretics
Atropine
Bronchodilators
Calcium chloride
Corticosteroids
Dextrose (25%, 50%)
Epinephrine (1:1000, 1:10,000)
Inotropic agents
Lidocaine
Naloxone hydrochloride
Neuromuscular blocking agents
Oxygen
Sedatives
Sodium bicarbonate (4.2%, 8.4%)

Transfer Criteria

While many ill and injured children can be cared for in local EDs and hospitals, some require transfer to a specialized care center. There are hospitals that offer specialized care for newborns, critical care services, pediatric trauma, and burns. They offer 24-hour consultation with the appropriate specialist, and may have their own interfacility transport service. The decision to transfer pediatric patients depends upon the ED and hospital capabilities, but guidelines have been developed to help physicians identify which patients would benefit from specialized care. It is important for the referring physician to consult with the receiving physician, so the appropriate method of transport and the required personnel can be determined. Transfer guidelines can be based upon physiologic criteria, anatomic criteria, burn criteria, or diagnostic criteria. An example of these guidelines has been developed for the Illinois EMSC program.[24]

Policies and Procedures

Policies, procedures, and protocols that specifically deal with the emergency care of children should be developed for use in the ED and hospital. These include policies on child maltreatment and consent issues. Other protocols may be integrated into ED/hospital policies, procedures, and protocols, but pediatric-specific components should be included. This includes policies on death in the ED, do-not-resuscitate orders, injury and illness triage, sedation and analgesia, immunization status, mental health emergencies, physical or chemical restraint of patients, family issues (e.g., family presence during care), communication with the patient's primary care provider, and transfer policies.[7]

Restraints (Chemical and Physical)

JCAHO has behavioral health care restraint and seclusion standards that apply to patients in the ED who are being restrained or secluded for behavioral health reasons.[25] Restraint, whether chemical or physical, should be a method of last resort. It should never be used as a means of discipline, coercion, or retaliation or for convenience. Restraint is often considered when the patient's or another's safety is a concern. Included in this policy should be the use of seclusion. When restraint or seclusion is considered, the patient's caregivers should be involved in the treatment decision. If this is not possible, they should be notified.

Each use of restraint or seclusion must be based on the patient's needs, age, and past medical history. The restraint policy should cover definitions and exceptions to restraints (e.g., intravenous infusion armboards, temporary immobilization for procedures). When restraint or seclusion is utilized, there need to be written orders by a physician, time limits for the written orders, patient assessment parameters (constant visualization, vital signs, nutrition, hydration, and safety every 15 minutes), and a re-evaluation time for renewal of the restraint order.[25] During restraint or seclusion, documentation should include a physician order, completion of a nursing or trained staff form/flowsheet, notification of the patient's legal guardian, and documentation of monitoring/vital signs. All staff are required to have ongoing education in the proper use of restraint devices and seclusion techniques, as well as alternative methods for handling behaviors that may lead to the use of restraint or seclusion. The ED medical records of those patients who require restraint or seclusion should be reviewed as part of the department's QI plan.

Procedural Sedation and Analgesia

The use of sedation and analgesia for pediatric procedures should be standard in the ED. According to JCAHO and the American Society of Anesthesiologists (ASA), there are only two levels that are appropriate for the ED: minimal sedation (anxiolysis), and moderate sedation/analgesia ("procedural sedation").[26] The fact that two children may respond differently to the same dose of medication necessitates advanced planning on the part of the ED staff. The procedural sedation and analgesia policy should include the following: preparation (patient history and physical examination, information about allergies, prior sedation and analgesia procedures, last meal and liquids), monitoring parameters, "nothing by mouth" guidelines, appropriate candidates for sedation (ASA

Physical Status Classification classes I and II), parental consent, and discharge criteria.[26] Depending upon the level of sedation planned, the monitoring parameters may change, as will the equipment available in the room and the personnel present[26-29] (see Chapter 159, Procedural Sedation and Analgesia).

Drug Testing

The use of drug testing for alcohol, drugs of abuse, controlled substance, or other toxins should be written in an ED policy. In some states, the state police can request that a physician perform this test, even without the patient's consent. In some states, the emergency physician is required to obtain drug testing if the physician believes the patient was given a controlled substance without his or her consent. If it is unclear that the patient was given a drug, then asking the patient for consent is appropriate. The consent form for a toxicology screen should be completed by the patient/legal guardian, and witnessed, timed, and dated. It may also be possible for the patient/legal guardian to sign the consent later, and to revoke the consent (both within 48 hours).

Health Care–Acquired Infection

One of the 2004 JCAHO safety parameters is to reduce the risk of health care–acquired infection.[22] This can be accomplished by complying with the Centers for Disease Control and Prevention (CDC) hand hygiene guidelines.[30] Items in these guidelines include limiting the use of artificial nails, keeping natural nails short, and using alcohol-based hand cleaners.[22,30] In addition, nosocomial infections that result in unanticipated death or major permanent loss of function should be managed as sentinel events.[22]

Infectious Diseases

In the United States, state laws and regulations mandate which diseases are reportable, and this varies from state to state. Local and/or state departments of health collect this information. The CDC maintains a list of notifiable infectious diseases that is released every year that allows the CDC to follow trends in reportable disease across the United States during a given year, and from year to year. This list currently contains 60 diseases such as acquired immunodeficiency syndrome, anthrax, gonorrhea, hepatitis (types A, B, and C), Lyme disease, meningococcal disease, pertussis, salmonellosis, shigellosis, smallpox, syphilis, and tuberculosis.[31,32] Recently, diseases such as erhlichosis, giardiasis, severe acute respiratory syndrome (SARS), smallpox, and vancomycin-intermediate and -resistant *Staphylococcus aureus* have been added.[31]

The use of standard precautions took on a heightened awareness during the early days of acquired immunodeficiency syndrome/human immunodeficiency virus infection, and this has continued. In order to reduce the number of needle sticks, there has been an increased use of needleless systems and retractable needles. With new and emerging infections such as SARS, this has progressed to include special respiratory masks (N-95), rather than simple paper/procedure masks.

The ED should have policies regarding the use of isolation rooms, negative pressure rooms (if available), and patient decontamination. There should also be a policy regarding

exposure to potential blood-borne pathogens, which includes reporting, testing, and prophylaxis.

EMTALA

The Emergency Medical Treatment and Labor Act (EMTALA) is a federal law that forbids a hospital, physician, dentist, or other health care provider to refuse to provide emergency care based upon a patient's inability to pay[33] (see Chapter 150, Emergency Medical Treatment and Labor Act [EMTALA]). This legislation, often referred to as the Comprehensive Omnibus Budget Reconciliation Act or "anti-dumping" legislation, is included in Title XVII of the Social Security Act. Any hospital that received Medicare funding must comply with these regulations, even for non-Medicare patients. A hospital can be fined up to $50,000 per violation, and the hospital's or physicians' Medicare and Medicaid agreements may be terminated by the Centers for Medicare & Medicaid Services.[33,34]

EMTALA applies when a person comes to a hospital with an ED and requests care for an emergency medical condition. It also applies if a parent is requesting care for his or her child. An emergency medical condition is an illness or injury that manifests itself by acute symptoms requiring immediate attention to avoid placing the health of the person in serious jeopardy.[33] In terms of a woman in labor, this constitutes inadequate time to transfer her prior to delivery. However, the existence of an "emergency medical condition" is based upon the definition of a prudent layperson, not a health care professional.[33]

In order to fulfill the EMTALA obligation, a patient must be screened and, if necessary, stabilized. If a patient cannot be stabilized, he or she must be transferred to an appropriate facility, with the receiving facility aware of and accepting the transfer.[33]

The ED and hospital should have an EMTALA policy that addresses items such as what constitutes a screening examination, who can perform the screening examination, which parts of the hospital/main campus qualify under EMTALA, and who responds to medical emergencies outside of the ED.[33,34]

A revised aspect of EMTALA is the "on-call" requirement. Each hospital must have an on-call schedule and written policies related to the schedule, including response times. This policy applies to emergency physicians as well as medical and surgical specialists[34] (see Chapter 150, Emergency Medical Treatment and Labor Act [EMTALA]).

Transfer Policies and Procedures

A transfer policy should be in place for hospitals that do not have pediatric intensive care units, inpatient beds, or pediatric trauma capabilities/specialists, or when specialized pediatric care is not available. It is helpful to have a list of referral hospitals and contact numbers placed prominently in the ED. It is preferable to have transfer agreements with several hospitals in the region for similar or different categories of patients (e.g., trauma vs. medical). These agreements should be signed by the hospital chief executive officer and updated as needed. In some cases, these agreements are extremely important for reimbursement if the transfer involves crossing state lines. In rare cases, the receiving facility may have no available beds, but can assist the transferring hospital in finding another appropriate facility. Before the patient is transferred, there should be physician-to-physician and nurse-to-nurse communication. Written documentation, including consent to transfer, method of transfer, and reason for transfer, should be included.[35]

Hospital Overcrowding

In 2003, there were nearly 114 million ED visits, a 26% increase over the last 10 years.[36] Yet at the same time, the number of EDs decreased by 10%.[36] This is just one of the many causes of hospital overcrowding, a situation in which the identified need for emergency services exceeds the available resources in the ED.[37] This problem can affect child-friendly EDs and can result in ambulance diversion, where an ED does not have the capability to accept an EMS/ambulance patient, and prolonged ED stays after admission or transfer decisions are made due to a lack of inpatient beds ("ED boarders").[37,38] This may mean that an ill child will be transported by EMS to another ED that may be further away, and perhaps not child friendly. It can also mean that, even after an ill or injured child has been stabilized, there may be no available beds at the pediatric centers. While there are no easy solutions to this problem, utilizing QI indicators to track time on EMS diversion, ED boarding time, ED waiting room time, the number of patients who left without being seen, and the number of times when patients could not be transferred in a timely manner will help those outside the ED realize there is a problem, and help advocate for change.

Summary

The process of developing ED preparedness for children is not a new issue. Over the last 20 years, the goal of the EMSC program was to assure that children were included in the entire scope of care, including out-of-hospital care, the ED, and hospital care. Many of the policies and programs developed over the past 10 years were the result of this initiative.[7,9,12-15] By being inclusive rather than exclusive, many national organizations have supported the idea of pediatric ED guidelines for preparedness. It is unrealistic to expect that a rural community hospital that lacks pediatric inpatient beds would have the same ED equipment and supplies as a large suburban community hospital with pediatric inpatient beds, or even an urban, freestanding children's hospital. The goal is to provide some ideas, solutions, and examples that will improve the care of children everywhere.

The Future: An ACEP/AAP Implementation Kit

The AECP, through a grant from the federal EMSC program, is developing an implementation kit for ED preparedness.[39] This kit contains information such as a copy of the AAP/ACEP paper "Care of Children in Emergency Departments: Guidelines for Preparedness"[7]; 12 model emergency department policies for care of children, including child maltreatment, consent, and death in the ED; relevant ACEP and AAP pediatric clinical care guidelines and policies; a pediatric medication calculator; and a pediatric preparedness checklist. Prior to wide dissemination, the implementation kit is currently being evaluated, and will be refined based on evidence generated (Table 154–3).

Table 154–3	ACEP/AAP Implementation Kit for ED Preparedness

- A copy of "Care of Children in the Emergency Department: Guidelines for Preparedness."[7]
- 12 model ED policies for the care of children
- Pediatric Medication Calculator
- Pediatric Preparedness Checklist

Abbreviations: AAP, American Academy of Pediatrics; ACEP, American College of Emergency Physicians; ED, emergency department.

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