ABSTRACT
Community awareness of the school district’s disaster plan will optimize a community’s capacity to maintain the safety of its school-aged population in the event of a school-based or greater community crisis. This statement is intended to stimulate awareness of the disaster-preparedness process in schools as a part of a global, community-wide preparedness plan. Pediatricians, other health care professionals, first responders, public health officials, the media, school nurses, school staff, and parents all need to be unified in their efforts to support schools in the prevention of, preparedness for, response to, and recovery from a disaster. 

Pediatrics 2008;122:895–901

Background and Information
Schools are generally considered to be safe havens for millions of children and the greatest socializing institutions after the family. However, the recent experiences with natural disasters, in-school violence, acts of terrorism, and the threat of pandemic flu demonstrate the need for schools to be prepared for all-hazard crisis possibilities. For the purposes of this discussion, “crisis” and “disaster” are used interchangeably and refer to events of global and/or community significance rather than to the health emergencies of individual children.

It is important to note that there is a fundamental link between day-to-day emergency readiness and disaster preparedness. Schools that are well prepared for an individual emergency involving a student or staff member are more likely to be prepared for complex events such as community disasters. Individual emergencies are covered in a separate policy statement from the American Academy of Pediatrics (AAP), “Medical Emergencies Occurring at School.” It is helpful to view these 2 policy statements together to appreciate the full spectrum of school emergency planning.

There are 55 million US children enrolled in kindergarten through 12th grade, attending 17,000 public school districts and 29,000 private schools. Children spend a large part of their time in school, so whether a large-scale crisis occurs during school hours, before or after school, or off the school campus, the school district plays an important role in the unfolding of events.

Although there are no federal laws requiring all school districts to have emergency-management plans, 32 states have reported having laws or other policies that do require plans. An estimated 95% of school districts reported that they have a plan, although there is great variability in these plans.

To help guide the process, the US Department of Education, Office of Safe and Drug-Free Schools, has prepared emergency-management planning guidelines for school systems. The guidelines are intended to give schools, school districts, and communities the critical concepts and components of good crisis planning, stimulate thinking about the crisis-preparedness process, and provide examples of promising practices. These guidelines focus on 4 stages of planning: mitigation and prevention; preparedness; response; and recovery. These school-focused guidelines are also designed to complement and integrate with the complex system of emergency preparedness in the greater community locally, regionally, and nationally.

Funding for these activities comes from a mix of national, state, and local grants. The US Department of Education provides funding to some school districts specifically for emergency-management planning through its Readiness and Emergency Management for Schools grant program. School districts receiving grant funds through this program may use them to improve planning for all 4 phases of crisis planning. The US Department of Homeland Security also provides funding to states and local jurisdictions for emergency-management planning, and some of this funding can be provided to school districts or schools for emergency-management planning.

Despite the availability of grants, many school systems simply do not have the capacity to access these moneys and/or efficiently use the funding streams. According to results of a Governmental Accountability Office survey of school districts, many school districts struggle to balance priorities relating to educating students and other admin-
Administrative responsibilities with activities for emergency management. Challenges include a lack of emergency equipment, staff training, and expertise in the area of emergency planning.

Studies focusing on recent national disasters have concurred that there are several important deficiencies in school preparedness for emergencies. In a 2004 survey of more than 2100 superintendents, most (86.3%) reported having a disaster-response plan, but fewer (57.2%) had a plan for prevention. Most (95.6%) had an evacuation plan, but almost one third (30%) had never conducted an evacuation drill. Almost one quarter (22.1%) had no disaster plan provisions for children with special health care needs, and one quarter reported having no plans for postdisaster counseling. Almost half (42.8%) had never met with local emergency medical services (EMS) officials to discuss emergency planning. Urban school districts were better prepared than rural districts on almost all measures in the survey. Regional differences were also evident. Districts within tornado belts and earthquake/hurricane-prone areas may have more of an impetus to create and practice plans compared with districts located in regions where natural disasters are rare.

Schools may also have to function as the de facto mental health system for children and adolescents not only in the recovery phase but also in the prevention and preparedness stages. Currently, on average, only one fourth of children in need of mental health care get the help they need. Of those receiving care, 70% to 80% already receive some care in a school setting. Mental health and substance abuse issues are the most common reasons for visits to school-based health centers. The capacity to meet the needs of posttraumatic event counseling would add further stress to an already underresourced system and requires additional financial and resource preparedness.

School disaster planning is a facet of larger community planning and, therefore, requires coordinated planning and allocation of community resources. Plans should be developed in partnership with other community groups, including law enforcement, fire safety, public health, EMS, and pediatric and mental health professionals. How these various groups interface varies by region and whether the incident is of local, state, or national significance. Although EMS traditionally involved emergency medical technicians and ambulances, today it encompasses all out-of-hospital care events through emergency department management. In the event of an emergency in a school or in the community while a child is under school jurisdiction, EMS also includes school nurses, teachers, and other school staff. In addition, schools play a role in medical surge capacity (the ability of health care systems to adequately care for large numbers of patients). Schools lend space (eg, shelter, temporary clinics, morgues) and sometimes supplies (eg, school meal diversion) to the community during times of crisis.

Yet, even if there is coordination of planning, community members at large may not be aware of a school district’s and/or an individual school’s emergency plans. Without community understanding of the school plan, parents separated from their children may amplify the crisis by their well-meaning efforts to reach their children. Without participation in planning, primary care clinicians cannot be expected to assist with a coordinated and integrated response and/or recovery. When community agencies are involved in the prevention stage of planning, they can reinforce prevention messages that may help decrease the extent of the crisis, such as infection-control measures for preventing the spread of pandemic influenza and messages about bullying, parent education/guidance, and media education for violence prevention.

Because each district and each school has a unique set of parameters that affect disaster planning, there is no one ideal school crisis plan. However, the same stages in school disaster planning occur for each type of crisis. These stages, as viewed through the school lens, are outlined below.

Mitigation and Prevention
The goal of mitigation is to minimize the effect of the hazardous event and decrease the need for response, as opposed to simply increasing response capability. From school violence to floods to pandemic influenza, there are measures that schools can take to decrease the risks of these events to children. An important first step is for the school or community to identify situations they could be facing on the basis of geography, community trends, school incident data, and other factors.

To address school violence concerns, schools can review their incident data and assess their violence- and injury-prevention strategies and initiatives to improve the school environment. If gang activity is common in the neighborhood, partnerships with law enforcement may be essential to ensure safe arrival and departure from school. The Office of Juvenile Justice and Delinquency Prevention supports Blueprints for Violence Prevention, a national violence prevention initiative to identify violence prevention programs that are effective and evidence based. From overall improvement of school climate to classroom curricula on antibullying to individual and group counseling programs, there is much that schools can do to maintain safety. Community mental health linkages, if they are available, are important prevention and mitigation resources.

Communicable-disease mitigation can involve surveillance and health education. School absenteeism logs may be helpful as part of syndromic surveillance systems that monitor key community data to detect unusual symptom or illness patterns. Awareness of infection-control measures (ie, use of cough and sneeze etiquette, good hand hygiene, and appropriate sanitation techniques) can decrease disease transmission and can be incorporated easily into classroom culture. These efforts are important in the regular cold and influenza season but assume a more critical function if a pandemic begins to unfold.

To address environmental disasters such as toxic spills, hurricanes, tornadoes, floods, and earthquakes, schools should be having discussions with the local community-planning infrastructure, such as local emergency
Planning committees (LEPCs). These groups identify and catalog potential hazards and resources to mitigate disasters, when feasible, and write emergency plans. The local emergency-planning infrastructure can work with schools to address local environmental hazards or vulnerabilities and provide resources for examining the school risk potential. The schools can then translate this information into school protocol so that appropriate essential responses of schools and students can occur.

**Preparedness**

During the preparedness stage, the school district, as well as the individual schools in the district, identify school crisis teams and clearly delineate the roles that staff would play during emergencies. The crisis teams work with community stakeholders involved in crisis planning (such as LEPCs) and link internal crisis planning to the other community crisis plans. The school crisis teams should assess the medical equipment as well as mental health and other resources available in the school environment. Children with special health care needs must be identified and have valid emergency care plans in place, including plans for managing both individual emergencies related to the child’s illness and plans to manage the complex medical needs of the student in the event of a larger community emergency. The emergency information form, developed by AAP and the American College of Emergency Physicians, is useful in developing both an individual health plan and an emergency care plan. Also, children with special health care needs require additional disaster-preparedness planning. Students in wheelchairs may need evacuation chairs that can glide down stairwells when the elevator is inoperable. Multiple evacuation routes need to be preplanned, and assistance staff members need to be assigned for these children. Medication availability during a prolonged lockdown or shelter-in-place situation poses a challenge for students with diabetes and other chronic diseases. The Emergency Medical Services for Children National Resource Center, in association with the National Association of School Nurses, has compiled a list of minimal essential emergency equipment and resources that should be available in all schools. In the event of a large-scale emergency, day-to-day supplies for managing individual student emergencies may not be sufficient.

Police, public health officials, firefighters, and other members of the local disaster-response infrastructure are versed in the Incident Command System, a federally supported system designed to effectively and efficiently manage incidents by integrating agencies, personnel, procedures, equipment, and communications under a common organizational structure. School administrators should collaborate with LEPCs or equivalent agencies so that the school plan is integrated with the Incident Command System. This is the stage at which the challenges of integrating the internal school response with the external school response system are addressed. These challenges include the schools’ ability to effectively communicate with the rest of the community, including use of a shared incident command vocabulary and alignment of communication devices such that fire, police, school, and other LEPC members are on the same radio frequency. Practice of the plans through drills and community-wide exercises ensures that gaps will be identified and weaknesses will be addressed. Online self-paced courses in the Incident Command System are available through the Federal Emergency Management Agency (FEMA) Emergency Management Institute as part of the National Incident Management System. These courses were designed for people who have emergency-management responsibilities as well as the general public.

A key challenge that school districts face during preparation relates to lockdowns, evacuations, and relocations. Issues to be addressed include responding to various scenarios, developing plans to transport children when there are not enough buses, having a mechanism to track which children are where, and putting a system in place that ensures children are kept safe during evacuation, are relocated to a place that is appropriate for children, and are released to the most appropriate family member. Additional information (including an algorithm to assist in decision-making) can be found online within the US Department of Education’s resource, “Practical Information on Crisis Planning: A Guide for Schools and Communities” (www.ed.gov/admins/lead/safety/emergencyplan/crisisplanning.pdf).

One of the most important aspects of preparedness is addressing parental understanding of the emergency plan and the reunification process. Classrooms should be equipped with “jump-and-go” folders that contain emergency contact information, individual health plans, name tags, and other critical information for all students, particularly the youngest ones. These packets go with the teacher if there is an evacuation. Parents should be informed annually and reminded in advance of high-risk seasons about the district’s and individual school’s emergency plans, including the differences between lockdown, shelter-in-place, evacuation, and relocation. Parents should clearly understand that well-meaning attempts to approach a school in crisis could direct resources away from children, undermine emergency efforts, and increase risk to students. Schools need to have multiple media outlets to accurately inform parents, including those with limited English proficiency. A detailed plan to reunite children and parents once the crisis has been resolved should be communicated to parents before any crisis occurs. Emergency consent protocols should be reviewed for appropriateness and relevance to large-scale emergencies.

Communication venues (eg, television and radio broadcasts) should consider school issues when planning disaster-preparedness strategies. Local media outlets should be prepared to place emergency public information ahead of other news to increase media attention given to disaster-preparedness efforts. Existing Web sites can be reviewed for their capacity to provide real-time updates.

If a disaster occurs and cell phone use is increased, cell phone towers are typically overwhelmed, yet text messaging, e-mailing, etc, still may work. Ham radios and 2-way radios (“walkie talkies”) work between people...
who are near each other. Hand-held satellite phones or a satellite phone unit (which requires a contract) are best in worst-case scenarios. In severe situations, word of mouth and hand-painted signs may have to be used. Last, once telephone systems are up and running, voice messages can be a good way to communicate. Many school districts are using technology (eg, automated call-outs, simple voice mail, or automatic call forwarding to another location) to address parent notification and maximize communication.

Response
The response phase is when the planning and preparation efforts are put to the test. The school crisis team is activated, and the routines, which ideally have been practiced and fine-tuned, are rolled out depending on the nature of the crisis. The ideal response involves practiced collaboration with the LEPC and the community response team and use of the Incident Command System. In this response, school nurses, teachers, and other school staff become a seamless part of EMS. During the response, and not just during recovery, it is important to identify children who are having trouble coping and address any developing mental health concerns.

School facilities are often designated as disaster evacuation shelter sites. These venues provide shelter for many who have lost their homes as a result of disaster and also provide an opportunity for school officials to assess family and child needs. Likewise, disaster recovery centers operated by FEMA are set up in heavily affected communities to support the reestablishment of infrastructure and the provision of food, supplies, health care, and human services. It is recommended that school district officials, including mental health professionals, be present in all disaster recovery centers to disseminate information and provide guidance for parents seeking support for their children.

The media play an important role during this stage in keeping the public, particularly parents, informed. The parent-reunification plan is activated. From television and radio broadcasts to Web sites to newspapers, the redundant delivery of information via several sources would help to fill in the gaps in the event of power outages or other interruptions in services. During the response, the community needs to be prepared for a surge of external media organizations that would be providing coverage of the event.

Recovery
The goal of recovery, from the school perspective, is to restore the school’s infrastructure and return to learning as soon as possible. Although returning to the classroom does not ensure that children are ready to address learning tasks, evidence points to the restorative power of the educational routine in guiding children through emotional crises. The responsibilities of the community are to support schools with the necessary mental health resources and to determine which therapies are appropriate for school incorporation and which are based more appropriately in the community. The AAP has a disaster-preparedness Web site that offers resources for health care professionals and laypersons on various aspects of pediatric emergency and disaster readiness (www.aap.org/disasters).

During this time, the effects on the students and staff should be monitored, and the school system should de-brief with the LEPC or equivalent group concerning the lessons learned during the event. Anniversary planning is also an important part of the prolonged recovery.

CONCLUSIONS
The ongoing risk of natural disasters, such as hurricanes, and a seemingly growing occurrence of man-made disasters, such as school shootings, have underscored the need for schools to have disaster plans that are uniquely designed for the school culture and interface with the larger community. Clear guidelines are only part of the process. Schools must also have the resources and expertise to implement disaster plans. Pediatricians can play important roles in the development and execution of these plans as both medical home providers and school physicians.

RECOMMENDATIONS
The following recommendations support the 4 stages of school-based crisis planning and are compatible with non–school-based recommendations for disaster preparedness. These recommendations describe how the school’s role highlighted in this statement relates to both the pediatrician within the medical home and the school health and safety team (school nurse, social worker, school resource officer), including the school physician. They are intended to assist both pediatricians and school physicians in providing support to schools in their efforts to prepare for disasters.

Recommendations for Pediatricians and Other Community Clinicians
Pediatricians have a role in all aspects of emergency and disaster planning for children.

- Pediatricians or their practices should know the names and means of contacting the school physician(s) (where available) and the school health and safety team (school nurse, social worker, school resource officer).
- Pediatricians should be familiar with AAP resources on emergency and disaster preparedness (www.aap.org/healthtopics/disasters.cfm and www.aap.org/disasters).
- Pediatricians and/or their practices should, at a minimum, familiarize themselves with their local community and school districts’ disaster plans. Ideally, these plans should have primary care clinician input in all 4 areas of crisis planning. Pediatricians should also be aware of local EMS capabilities and key contacts.
- Pediatricians can be advocates for improved communication between school officials and local medical and emergency officials in the preparation and prac-
As a crisis is unfolding, pediatricians should activate each community's disaster plan. This includes linking disaster planning at the hospitals where they have privileges with school crisis and disaster planning.

- Pediatricians can share information about the school district’s response plan with their emergency department clinician colleagues and determine ways to ensure that the school district’s response plan is integrated with the overall community disaster plan, emergency medical system, and LEPC or other equivalent groups.

- Pediatricians may opt to reinforce, through waiting-room literature, the health-promotion and injury-prevention messages of the school district(s). Examples are violence-prevention messages, cough/sneeze etiquette and hand-hygiene behaviors, attendance policies that do not encourage children who are ill to attend school (to have perfect attendance), resources for stressed families, and support for individual family crisis planning.

- Reinforcing family awareness of the school district’s crisis plan could be part of anticipatory guidance in the medical home, particularly calling attention to the school’s plan for parental notification in the event of lockdown, shelter-in-place, or evacuation to an alternative site.

- Pediatricians and/or their practices should be aware of the capacity for each school in the district to provide on-site first aid and should assist the school in developing that capacity.

- Pediatricians may help develop school protocols on absenteeism, psychosocial support, and disease surveillance.

- Students with special health care needs will require individual crisis plans to be developed and implemented at the individual school level. Pediatric primary and specialty care providers should help families and schools plan for prolonged sheltering or evacuation of the medically fragile student and to use the emergency information form.15

- Each community has idiosyncratic elements that predispose it to possible crises such as tornadoes, earthquakes, hurricanes, toxic chemical hazards, radiation, and community violence. Pediatricians should have an office-based disaster plan that reflects these hazards and not only be prepared to treat the medical outcomes of these crises but also be aware of the school district’s attempts to prepare for these unique disaster issues.

- As a crisis is unfolding, pediatricians should activate their office-based plan (see www.aap.org/disasters/pdf/DisasterPrepPlanforPeds.pdf for guidance on developing an office-based plan), follow the predetermined community and school-based disaster plans, and stay informed through the appropriate communication systems established in the planning process.

- Pediatricians should support efforts of schools to return to the learning mode as soon as possible.

- Assisting others in the school and community in recognizing symptoms of posttraumatic stress is an important role of the clinician. The medical community’s collective sense of the emotional effects of a disaster can help guide schools and staff in their continuing interventions. Pediatricians also may participate in those interventions, which can include trauma and grief counseling.

**Recommendations for School Physicians**

Some school districts use physicians as medical consultants, with some states mandating a school consultant per district. The school physician is a critical member of the school health and safety team (school nurse, social worker, school resource officer). School physicians assist in developing health-related policies and are a ready source of information. They work closely with school nurses and are often the bridge between the educational community and primary care clinicians, emergency department clinicians, other health care professionals, first responders, public health officials, and parents and, as such, have a more in-depth involvement with the school system. School physicians are, thereby, uniquely positioned to assist in developing school crisis-management policies. The presence or absence of a school physician does not preclude pediatricians from becoming involved in the following activities:

- School physicians should support schools in developing a risk-potential profile at both the district and individual school levels, including hazard identification and effects on the physical facility and on people. The risk can be environmental, as with hurricanes, or man-made, as with terrorism and gang violence.

- School physicians should become trained in the FEMA Incident Command System and the National Incident Management Systems instruction.

- School physicians, depending on the school district communication plan, should be prepared to serve as spokespersons for medical queries.

- The school physician can assist in the review of incident data and assess the capacity for the violence-, injury-, and communicable-disease—prevention strategies to address the needs of the district and individual schools.

- The school physician may assist with emergency education and training for staff at individual schools so that staff members are aware of their individual roles in a crisis.

- The school physician should review plans for children with special health care needs, addressing the school’s capacity to meet the needs of these children in circumstances when the students will be evacuated or contained for prolonged periods (ie, lockdown, shelter-in-place). School physicians can help advocate for adequate emergency supplies to address evacuation, shelter-in-place, and lockdown needs, including classroom ca-
pacity to have medical information readily available for each student.

- The school physician, along with the school health and safety team, should advocate for practice/drills of the protocols and procedures.
- The role the school physician consultant plays will vary depending on availability and should be pre-determined by the consultant and school district.
- The school physician has a key role in reviewing the details of the school’s plans for disaster response, adherence to the emergency protocol, and the assessment of the adequacy of services available and should assist with refinement of the school’s crisis plan.
- The school physician should actively educate staff and parents regarding common mental health reactions to crisis (including symptoms that indicate a need for treatment), strategies to promote resilience, and interventions to facilitate recovery. The plan should include possible interventions to facilitate the recovery of students who develop mental health problems.
- The school physician can provide communication to the health and mental health community about the crisis/recovery needs of the school and can assist in soliciting community linkages.

**Recommendations for Public Policy**

All levels of government have a clear, vested interest in protecting the health and safety of children during a disaster. Government can play a critical role in providing clear guidelines and resources to schools to ensure that every school does not need to “reinvent the wheel” and can benefit from the work already completed by other institutions similarly situated to develop optimal preparedness plans and strategies.

Pediatricians, as experts in the physical, mental, social, and emotional health and well-being of children, play a vital role in advocating on behalf of children and their interests. To ensure that children’s unique needs are appropriately addressed in planning for emergencies and disasters, pediatrician representation should be integrated throughout all federal, state, and local emergency and disaster planning activities. Working in concert with the AAP on federal efforts, AAP chapters and districts on regional and state efforts, and school administrators, emergency and disaster-preparedness experts, child advocates, and others on local efforts, pediatrician advocacy can ensure that children’s physical, mental, social, and emotional needs are incorporated into all emergency- and disaster-preparedness plans. The unique needs of children, including those specific to age and health status, should be addressed in such plans, and pediatricians and pediatric medical/surgical subspecialists are encouraged to participate in emergency- and disaster-preparedness planning to ensure that children’s needs are appropriately represented.

- The needs of children of all ages should be integrated into federal, state, and local emergency and disaster plans. Pediatricians and pediatric medical/surgical subspecialists should participate at all levels of emergency and disaster planning.
- Federal, state, and local disaster plans should recognize that children are likely to be at school when a disaster occurs. Disaster-readiness efforts must include specific components to ensure appropriate care for children of all ages and all stages of development, including those with special health care needs, in various school settings.
- Federal agencies should take a leadership role in providing schools with models for preparation, shelter-in-place, evacuation, reunification of children with caregivers, and other aspects of disaster preparedness. The US Department of Education Web site (http://rems.ed.gov) is a useful start but should be greatly expanded.
- Federal and state government agencies should increase the resources provided to school districts to ensure that schools can prepare appropriately for disasters that are likely to occur in their areas.
- State and local disaster drills and exercises should include schools as potential direct or indirect sites of disasters. Special attention should be given to evacuation and reunification plans in these drills.
- Federal, state, and local disaster-response plans should recognize possible problems that will occur if these plans involve using schools as mass care sites. Such plans would interfere with the need to restore educational services for children. State and local planning groups should include representatives from the schools in developing preparedness plans, especially, but not only, if those plans include the use of school buildings or other school resources for the purpose of responding to a community disaster.
- Federal, state, and local disaster-response plans should acknowledge that schools are a critical part of society’s infrastructure that should be restored as soon as feasible after a disaster to provide needed continuity of care and education for children as well as a safe place for them to be while their caregivers return to work.

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Council on School Health
*Pediatrics* 2008;122;895
DOI: 10.1542/peds.2008-2170

The online version of this article, along with updated information and services, is located on the World Wide Web at:
http://pediatrics.aappublications.org/content/122/4/895