



TRACIE

HEALTHCARE EMERGENCY PREPAREDNESS
INFORMATION GATEWAY

Pediatric
Topic Collection
1/5/2015

Topic Collection: Pediatric

Children represent close to a quarter of the total U.S. population and are particularly vulnerable during a disaster. Their unique needs and characteristics make it important to identify and incorporate special considerations for this population into preparedness, response, recovery and mitigation plans and actions. The resources in this Topic Collection can help healthcare facilities, healthcare coalitions, and other health and medical providers to consider the specialized care and resources needed for children prior to, during, and after an incident. It is important to note that this Topic Collection does not address issues related to unaccompanied minors.

This Topic Collection contains resources relevant to general pediatric disaster planning. ASPR TRACIE has developed several additional Topic Collections with pediatric sub-categories; they are listed below (click on the link to be taken directly to the pediatric category of that Topic Collection, as relevant). Note that the Topic Collections listed below have all been comprehensively developed. ASPR TRACIE will be completing additional Topic Collections (by the end of 2016), to include pediatric categories, as appropriate. Please check back periodically for updates.

[Access and Functional Needs](#)

[Burn](#)

[Coalition Models and Functions](#)

[Disaster Ethics](#)

[Explosives \(e.g., bomb, blast\) and Mass Shooting](#)

[Family Reunification and Support](#)

[Healthcare Facility Evacuation/ Sheltering](#)

[Hospital Surge Capacity and Immediate Bed Availability](#)

[Hospital Victim Decontamination](#)

[Mental and Behavioral Health](#)

[Natural Disasters](#)

[Pre-Hospital Victim Decontamination](#)

[Radiological and Nuclear](#)

[VHF/Ebola](#)

[Workplace Violence](#)

Each resource in this Topic Collection is placed into one or more of the following categories (click on the category name to be taken directly to that set of resources). Resources marked with an asterisk (*) appear in more than one category.

[Must Reads](#)

[CBRNE and Terrorism](#)

[Education and Training](#)

[Guidelines and Protocols](#)

[Lessons Learned](#)

[Pediatric Surge Capacity](#)

[Plans, Tools, and Templates](#)

[Agencies and Organizations](#)

Must Reads

Abraham, H. (2014). [Planning for Pediatrics in Disasters](#). Journal of Emergency Medical Services.

The author encourages emergency medical planners to account for children's' unique physical, psychological, and communication needs when drafting pre-hospital emergency response plans. She also shares pediatric-specific care tips for decontamination, triage, airway procedures, drug dosage and delivery, and psychological care.

Agency for Healthcare Research and Quality. (2006). [Pediatric Terrorism and Disaster Preparedness: A Resource for Pediatricians](#). (Archived.)

This report is designed to help pediatricians develop an emergency preparedness plan, and understand the roles of government agencies related to disaster preparedness and the different categories of terrorist events and natural disasters.

American Academy of Pediatrics. (2010). [Checklist: Guidelines for Care of Children in the Emergency Department](#).

This checklist is based on the joint statement issued in 2009 by the American Academy of Pediatrics, the American College of Emergency Physicians, and the Emergency Nurses Association titled “Guidelines for Care of Children in the Emergency Department.” Hospitals may use the checklist to determine if their emergency department is adequately prepared to care for children.

American Academy of Pediatrics. (2013). [Pediatric Preparedness Resource Kit](#).

This resource kit allows for pediatricians, public health leaders, and other pediatric care providers to assess what is already happening in their community or state, and help determine what needs to be done before an emergency or disaster. It promotes collaborative discussions and decision making about pediatric preparedness planning. It also contains a link to the [Joint Policy Statement—Guidelines for Care of Children in the Emergency Department](#), as well as a Preparedness Checklist for Pediatric Practices.

Anderson, M., Amparo, A., Kaplowitz, L., et al. (2015). [Near-Term Strategies to Improve Pediatric Surge Capacity during Infectious Disease Outbreaks](#). U.S. Department of Health and Human Services, Office of the Assistant Secretary for Preparedness and Response.

This report summarizes the methods, limitations, gaps, key findings, and results of the National Advisory Committee on Children and Disasters Surge Capacity Work Group's assessment of current national pediatric surge capacity. The assessment focused on: the current state of readiness to transport large numbers of critically ill children; the current

state of general emergency/ pediatric emergency surge capacity; the current readiness of children's hospitals to surge during an infectious disease outbreak; and the current state of non-pediatric facilities to care for children in large-scale disease outbreaks. The report also includes a summary of potential mitigation strategies for identified gaps, a review of best practices, and a summary of practical tools that can help healthcare coalitions improve community readiness to care for children.

Centers for Bioterrorism Preparedness Program Pediatric Task Force, New York City Department of Health and Mental Hygiene (NYC DOHMH) Pediatric Disaster Advisory Group, and NYC DOHMH Healthcare Emergency Preparedness Program. (2008). [Children in Disasters: Hospital Guidelines for Pediatric Preparedness.](#)

This document highlights the efforts of the New York City Centers for Bioterrorism Preparedness Planning to assist the Department of Health and Mental Hygiene in preparing local hospitals to serve the needs of pediatric patients. The authors noted "hospitals of concern" (those which had limited pediatric services) and focused the report on 13 areas related to disaster preparedness (e.g., decontamination of children, family information and support, staffing, and security).

Chung, S., and Shannon, M. (2005). [Hospital Planning for Acts of Terrorism and Other Public Health Emergencies Involving Children.](#) Archives of Disease in Childhood. 90(12):1300-7.

The authors discuss the four major forms of mass casualty terrorism (biological, chemical, nuclear, and thermomechanical) including clinical signs and symptoms for each, the impact on healthcare personnel, and special considerations for children. They also outline key principles of hospital preparation with regard to pediatrics.

Contra Costa Health Services Emergency Medical Services Agency. (2011). [Contra Costa Pediatric/Neonatal Disaster and Medical Surge Plan and Preparedness Toolkit.](#)

This toolkit was developed to facilitate disaster preparedness that involves the practice of including neonates and pediatrics in all county, provider agency, and hospital-based disaster exercises. It provides an example of implementing emergency medical services for children guidelines at the local level.

Disaster Preparedness Advisory Council, Committee on Pediatric Emergency Medicine. (2015). [Ensuring the Health of Children in Disasters.](#) American Academy of Pediatrics. 136(5):e1407-e1417.

This policy statement addresses how pediatricians and others involved in the care and well-being of children can prepare for and mitigate the effects of disasters, encourage preparedness and resiliency among children and families and within communities, and ensure that children's needs, including those of children and youth with special healthcare needs, are not neglected in planning, response, and recovery efforts. It also contains a list of family disaster resources and provider education resources.

Emergency Medical Services for Children National Resource Center. (2014). [Checklist of Essential Pediatric Domains and Considerations for Every Hospital's Disaster Preparedness Policies.](#)

This checklist, developed by subject matter experts and organized into ten domains, can help hospital administrators and leadership incorporate essential pediatric considerations into existing hospital disaster policies.

Frost, P., Upperman, J., Lubin, B., et al. (2010). [Pediatric Surge Planning: Solutions Within Reach.](#) Contra Costa County Health Services.

This document contains presentations from a September 2010 workshop about pediatric surge planning. The importance of community hospitals in planning for and managing pediatric surge is emphasized, as are some limitations of the current system based on data from the State of California.

Illinois Department of Public Health. (2015). [Pediatric and Neonatal Surge Annex.](#)

This plan provides a detailed framework for various stakeholders involved in an emergency response within the State of Illinois and surrounding states in order to protect children and provide appropriate pediatric medical care during a disaster. The plan can be used to guide a state-level response and provides local medical services guidance on the care of children, including patient movement, system decompression, recommendations for care, and resource allocation during a surge of pediatric patients. It includes several tools such as transfer forms and algorithms.

Loma Linda University Children's Hospital. (2013). [Pediatric/Neonatal Disaster Reference Guide: Bridging the Gap between EMS and Hospital Care.](#)

This guide was created to help emergency managers, coordinators, and hospital staff in their efforts to develop their own specific departmental emergency operations plan that addresses the special needs of children and infants.

Los Angeles County Emergency Medical Services Agency. (2013). [Los Angeles County Pediatric Surge Plan.](#) California Hospital Association.

This plan provides details on how each hospital within Los Angeles County would support a pediatric surge of patients including surge targets, supplies, and patient type. This plan also includes parameters for transporting children from prehospital field operations to healthcare facilities and transferring of patients among hospitals.

Loyola University Medical Center, Illinois Emergency Medical Services for Children. (2005). [Pediatric Disaster Preparedness Guidelines](#).

This document was prepared by a multidisciplinary work group to help address the needs of children in any care setting, from acute care hospitals to community agencies serving children. This resource addresses the following: pediatric supplies, medication guidance, training resources, specific concerns for children with special health care needs in both community and institutional settings, staffing levels for pediatric patients, mental health needs, legal concerns, and security issues.

New York City Pediatric Disaster Coalition. (n.d.). [Pediatric Disaster Coalition PICU Surge Template Plan](#). (Accessed 1/5/2016.)

This customizable plan template focuses on increasing surge capacity and capabilities for the PICU, the Pediatric Inpatient Unit, other inpatient units, and the emergency department.

Peacock, G., Anderson, M., Chernak, E., et al. (2015). [Addressing Preparedness Challenges for Children in Public Health Emergencies](#). Centers for Disease Control and Prevention.

Presenters discuss strategies to address the unique vulnerabilities of children in every stage of emergency planning. They also discuss the need for enhanced collaboration between public health professionals and pediatric care providers to improve the outcomes for children during emergencies.

U.S. Department of Health and Human Services, Administration for Children and Families, Office of Human Services Emergency Preparedness and Response. (2010). [National Commission on Children and Disasters: 2010 Report to the President and Congress](#).

This report includes the findings and recommendations from the Commission's examination and assessment of the preparedness, response, and recovery needs of children from all hazards. It includes 32 recommendations in areas such as disaster management, mental health, emergency medical services and pediatric transport, sheltering, and evacuation. Appendix B of the report includes an index organized by the agency, group, or individual charged with implementing the recommendations.

Website hosted by the Emergency Medical Services for Children National Resource Center. (2013). [National Pediatric Readiness Project](#).

The National Pediatric Readiness Project is a multi-phase quality improvement initiative to ensure that all U.S. emergency departments (ED) have the essential guidelines and resources in place to provide effective emergency care to children. The project is a partnership of the Emergency Medical Services for Children/ Health Resources and Services Administration, the American Academy of Pediatrics, the Emergency Nurses Association, and the American College of Emergency Physicians. The first phase of this project was a national assessment of EDs' readiness to care for children. Results for each

state and U.S. territory are available, and include their overall assessment response rate; the median pediatric readiness score; a list of meetings, conferences, and publications related to project implementation; and a list of the National Pediatric Readiness State Team members.

Wizemann, T., Reeve, M., and Altevogt, B. (2014). [Preparedness, Response, and Recovery Considerations for Children and Families: Workshop Summary](#). Institute of Medicine of the National Academies Press.

In June 2013, the Institute of Medicine Forum on Medical and Public Health Preparedness for Catastrophic Events convened a workshop to review tools and frameworks that can be modified to include children's needs, and highlight best practices in resilience and recovery strategies for children. This report summarizes the presentations and discussions to include: leveraging healthcare coalitions; provider, hospital, insurer, and health system perspectives on funding; and mental and behavioral health recovery.

CBRNE and Terrorism

Note: For pediatric decontamination-related resources, click on the link to the Hospital Victim Decontamination Topic Collection at the top.

Agency for Healthcare Research and Quality. (2006). [Pediatric Terrorism and Disaster Preparedness: A Resource for Pediatricians](#). (Archived.)

This report is designed to help pediatricians develop an emergency preparedness plan, and understand the roles of government agencies related to disaster preparedness and the different categories of terrorist events and natural disasters.

Bartenfeld, M., Peacock, G., and Griese, S. (2014). [Public Health Emergency Planning for Children in Chemical, Biological, Radiological and Nuclear \(CBRN\) Disasters](#). *Biosecurity and Bioterrorism: Biodefense Strategy, Practice, and Science*. 12(4).

This article discusses the distinct physical, developmental, and social traits and characteristics of children in the context of the science behind exposure to, health effects from, and treatment for the threat agents potentially present in CBRN incidents.

Chung, S., and Shannon, M. (2005). [Hospital Planning for Acts of Terrorism and Other Public Health Emergencies Involving Children](#). *Archives of Disease in Childhood*. 90(12):1300-7.

The authors discuss the four major forms of mass casualty terrorism (biological, chemical, nuclear, and thermomechanical) including clinical signs and symptoms for each, the impact on healthcare personnel, and special considerations for children. They also outline key principles of hospital preparation with regard to pediatrics.

Hamele, M., Poss, W.B., and Sweney, J. (2014). [Disaster Preparedness, Pediatric Considerations in Primary Blast Injury, Chemical, and Biological Terrorism](#). World Journal of Critical Care Medicine. 3(1):15-23.

The authors review the presentation, pathophysiology, and treatment of pediatric victims of blast injury, chemical weapons, and biological weapons, with a focus on those injuries not commonly encountered in critical care practice.

U.S. Government Accountability Office. (2013). [Efforts to Address the Medical Needs of Children in a Chemical, Biological, Radiological, or Nuclear Incident](#).

The U.S. Government Accountability Office was asked about efforts to address the needs of children in the event of a CBRN incident. This report examines: the percentage of CBRN medical countermeasures in the Strategic National Stockpile that are approved for pediatric use; how the U.S. Department of Health and Human Services (HHS) is addressing the challenges associated with developing and acquiring CBRN medical countermeasures for the pediatric population; and the ways HHS and state and local governments have addressed the dispensing of pediatric medical countermeasures in emergency response plans and guidance.

Education and Training

Cicero, M., and Chung, S. (2012). [Kids in Disasters: Facing Our Challenges](#). Emergency Medical Services for Children National Resource Center.

This presentation highlights innovations in pediatric disaster preparedness including reunification systems and triage algorithms. (Note: Slides and transcripts are archived on the Emergency Medical Services for Children National Resource Center site.)

Emergency Medical Services for Children National Resource Center. (n.d.). [Emergency Medical Services for Children National Resource Center-Webcasts](#). (Accessed 1/5/2016.)

This site lists archived and upcoming webinars hosted by the Emergency Medical Services for Children National Resource Center. It also provides links to archived webinars.

Emergency Medical Services for Children National Resource Center. (n.d.). [Pediatric Disaster Planning and Preparedness Community of Practice \(CoP\) Web Conferences](#). (Accessed 1/5/2016.)

This is a community learning environment that lists upcoming events and hosts archived meeting links on a variety of pediatric disaster preparedness topics.

Fargason, C., Johnston, C., and Wingate, M.S. (2014). [Needs of Our Children: Pediatric Care Before, During and After Disasters](#). (Requires free registration.) South Central Preparedness and Emergency Response Learning Center.

This training provides information related to children's needs during emergency or disaster events from both a clinical care and a public health planning perspective. A brief overview of the needs of the pediatric population and the delivery system that specifically serves children, and experiences from recent disasters where resources for children were limited are discussed.

Federal Emergency Management Agency. (2010). [IS-366: Planning for the Needs of Children in Disasters](#).

This 4-hour course provides guidance for emergency managers and implementers of children's programs to meet the unique needs that arise among children as a result of a disaster or emergency. At the conclusion of this course, students will be able to create, update, or revise an emergency operations plan for their community or organization to effectively address the unique needs of children in disasters. Printable versions of each lesson are available.

Krug, S. (2012). [Disaster Preparedness: Are We Ready for Kids?](#) Alabama Department of Public Health. (Requires Real Player or Windows Media Player to view.)

The speakers in this 90-minute webinar discuss how improved readiness can be achieved through collaboration between public health, emergency management leadership, and key pediatric care experts and stakeholders in the private sector. The target audience includes pediatricians, nurses, social workers, emergency medical response providers, healthcare providers, and disaster management personnel.

Peacock, G., Anderson, M., Chernak, E., et al. (2015). [Addressing Preparedness Challenges for Children in Public Health Emergencies](#). Centers for Disease Control and Prevention.

Presenters discuss strategies to address the unique vulnerabilities of children in every stage of emergency planning. They also discuss the need for enhanced collaboration between public health professionals and pediatric care providers to improve the outcomes for children during emergencies.

*Rucks, A., Baldwin, S., Beeman, K., et al. (2010). [Multi-State, Multi-Organizational Solution to Limited Regional Pediatric Medical Surge Capacity in the Southeastern United States](#). Alabama Department of Public Health.

The speakers in this 90-minute webcast share strategies for addressing obstacles associated with pediatric surge.

Siegel, D., Strauss-Riggs, K., and Costello, A. (2011). [Pediatric Disaster Preparedness Curriculum Development: Conference Report](#). Uniformed Services University of the Health Sciences, National Center for Disaster Medicine and Public Health.

This report details recommendations for the development of a capabilities-based curriculum for preparing providers to care for children during disasters.

Texas A&M Engineering Extension Service. (n.d.). [Pediatric Disaster Response and Emergency Preparedness](#). (Free in-person training given around the U.S.; classes in a particular location can be requested. Accessed 12/4/2015.)

This in-person training course prepares students to plan for and respond to a disaster involving children, and address the specific needs of pediatric patients. Pediatric-specific planning considerations include mass sheltering, triage, reunification planning, and decontamination. This is a management resource course geared towards pediatric physicians, emergency managers, emergency planners, and first responders.

University of Colorado, School of Public Health, Center for Global Health. (2014). [Pediatrics in Disasters Course](#). (Requires free registration.)

This 10-module online course provides the core principles for pediatric disaster planning and response. Modules include: pediatric trauma; management of prevalent infections in children following a disaster; diarrhea and dehydration; delivery and immediate neonatal care; nutrition and malnutrition; and the emotional impact of disasters in children and their families.

Various authors. (n.d.). [Children in Disasters: PowerPoints](#). (Accessed 1/5/2015. Some presentations require login.) American Academy of Pediatrics.

This webpage provides links to presentations developed by American Academy of Pediatrics leaders for educational purposes. Members may review, use, or adapt these presentations as needed.

Yale New Haven Health System Center for Emergency Preparedness and Disaster Response. (n.d.). [Small Victims, Big Challenges: Pediatric Triage, Treatment, and Recovery for Emergencies](#). (Accessed 1/5/2016. Requires login.)

This hour-long course introduces clinicians acting as first receivers to the unique challenges presented by pediatric disaster survivors.

Guidelines and Protocols

Abraham, H. (2014). [Planning for Pediatrics in Disasters](#). Journal of Emergency Medical Services.

The author encourages emergency medical planners to account for children's' unique physical, psychological, and communication needs when drafting pre-hospital emergency response plans. She also shares pediatric-specific care tips for decontamination, triage, airway procedures, drug dosage and delivery, and psychological care.

American Academy of Pediatrics. (2009). [Joint Policy Statement—Guidelines for Care of Children in the Emergency Department](#). Pediatrics. 124(4): 1233-1243.

The American Academy of Pediatrics released this policy statement to highlight the resources necessary for hospital emergency departments (ED) to care for pediatric patients. Included are guidelines for: administration and coordination of the ED for the care of children; the necessary skills for those who staff the ED; quality and performance improvement; improving pediatric patient safety in the ED; policies, procedures, and protocols for the ED; ED support services; and equipment, supplies, and medications for caring for pediatric patients. Though not specifically disaster-related, this document provides general pediatric preparedness information for all hospitals.

Branson, R.D. (2011). [Disaster Planning for Pediatrics](#). Respiratory Care. 56(9):1457-63.

The author discusses issues related to pediatric needs; the medical system's shortcomings in caring for children; and recommendations of the National Commission on Children and Disasters. He also reviews anatomic and physiologic characteristics that make children more susceptible to the consequences of disasters, and shares information on performance of Strategic National Stockpile ventilators in pediatric use.

Centers for Bioterrorism Preparedness Program Pediatric Task Force, New York City Department of Health and Mental Hygiene (NYC DOHMH) Pediatric Disaster Advisory Group, and NYC DOHMH Healthcare Emergency Preparedness Program. (2008). [Children in Disasters: Hospital Guidelines for Pediatric Preparedness](#).

This document highlights the efforts of the New York City Centers for Bioterrorism Preparedness Planning to assist the Department of Health and Mental Hygiene in preparing local hospitals to serve the needs of pediatric patients. The authors noted "hospitals of concern" (those which had limited pediatric services) and focused the report on 13 areas related to disaster preparedness (e.g., decontamination of children, family information and support, staffing, and security).

Disaster Preparedness Advisory Council, Committee on Pediatric Emergency Medicine. (2015). [Ensuring the Health of Children in Disasters](#). American Academy of Pediatrics. 136(5):e1407-e1417.

This policy statement addresses how pediatricians and others involved in the care and well-being of children can prepare for and mitigate the effects of disasters, encourage preparedness and resiliency among children and families and within communities, and ensure that children's needs, including those of children and youth with special healthcare needs, are not neglected in planning, response, and recovery efforts. It also contains a list of family disaster resources and provider education resources.

Federal Emergency Management Agency, American Red Cross, and the Department of Education. (2015). [National Strategy for Youth Preparedness Education: Empowering, Educating and Building Resilience](#). Federal Emergency Management Agency.

This document was developed to encourage community stakeholders to educate youth about actions that they and their families can take to protect their safety and well-being and that of their communities when disasters threaten or strike.

Hinton, C.F., Griese, S.E., Anderson, M.R., et al. (2015). [CDC Grand Rounds: Addressing Preparedness Challenges for Children in Public Health Emergencies](#). Centers for Disease Control and Prevention. Morbidity and Mortality Weekly Report. 64(35);972-974.

The authors discuss the integration of coordinated contributions from community-based healthcare providers, regional healthcare coalitions, state and local health departments, and federal agency initiatives necessary for an effective pediatric response to public health emergencies.

Loma Linda University Children's Hospital. (2013). [Pediatric/Neonatal Disaster Reference Guide: Bridging the Gap between EMS and Hospital Care](#).

This guide was created to help emergency managers, coordinators, and hospital staff in their efforts to develop their own specific departmental emergency operations plan that addresses the special needs of children and infants.

Loyola University Medical Center, Illinois Emergency Medical Services for Children. (2005). [Pediatric Disaster Preparedness Guidelines](#).

This document was prepared by a multidisciplinary work group to help address the needs of children in any care setting, from acute care hospitals to community agencies serving children. This resource addresses the following: pediatric supplies, medication guidance, training resources, specific concerns for children with special health care needs in both community and institutional settings, staffing levels for pediatric patients, mental health needs, legal concerns, and security issues.

Markenson, D., and Redlener, I. (2007). [Pediatric Preparedness for Disasters, Terrorism and Public Health Emergencies: A National Consensus Conference: Executive Summary and Final Report](#). Columbia University Academic Commons.

This document was developed following a 2003 conference and establishes the first national guidelines and recommendations for pediatric preparedness. These guidelines also served as the basis for discussion by the National Advisory Committee on Children and Terrorism.

Monteiro, S., Shannon, M., Sandora, T., and Chung, S. (2009). [Pediatric Aspects of Hospital Preparedness](#). Clinical Pediatric Emergency Medicine. 10(3): 216-228.

The authors describe the key pediatric considerations for inclusion into hospital-based emergency preparedness programs, particularly: hospital incident command system, surge capacity, decontamination, infection control, sheltering in place, and evacuation.

National Advisory Committee on Children and Disasters. (2015). [Healthcare Preparedness for Children in Disasters: A Report of the NACCD Healthcare Preparedness Working Group.](#)

This report was developed in response to a tasking by the U.S. Department of Health and Human Services (HHS) Office of the Assistant Secretary for Preparedness and Response (ASPR) to assess the readiness to care for children affected by disasters. It focuses on three key areas: coalition building, workforce development, and medical countermeasure readiness.

Sinz, B., Westlake, D., Tharratt, R.S., et al. (2010). [EMSC \(Emergency Medical Services for Children\) Pediatric Disaster Preparedness Guidelines: LEMSAs \(Local Emergency Medical Services Agencies\).](#) California Emergency Medical Services Authority.

This guide lists child-centric approaches that are required for triage, treatment, and decontamination to achieve optimal outcomes for pediatric patients. It includes detailed guides on medications, mental health concerns, considerations for children with special needs, and disaster drills.

U.S. Department of Health and Human Services. (2012). [2011 Update on Children and Disasters: Summary of Recommendations and Implementation Efforts.](#)

The U.S. Department of Health and Human Services (HHS) established the Children's HHS Interagency Leadership on Disasters (CHILD) Working Group in 2010 to identify and comprehensively integrate the activities related to the needs of children across all HHS inter- and intra-governmental disaster planning activities and operations. This report lists recommendations being implemented at the time it was published, providing links to those and other related initiatives.

U.S. Department of Health and Human Services, Administration for Children and Families, Office of Human Services Emergency Preparedness and Response. (2010). [National Commission on Children and Disasters: 2010 Report to the President and Congress.](#)

This report includes the findings and recommendations from the Commission's examination and assessment of the preparedness, response, and recovery needs of children from all hazards. It includes 32 recommendations in areas such as disaster management, mental health, emergency medical services and pediatric transport, sheltering, and evacuation. Appendix B of the report includes an index organized by the agency, group, or individual charged with implementing the recommendations.

U.S. Department of Health and Human Services, Administration for Children and Families, Office of Human Services Emergency Preparedness and Response. (2013). [Children and Youth Task Force in Disasters: Guidelines for Development.](#)

This document is intended for emergency management, human services, and public health professionals, and provides guidance on how to launch children and youth task

forces for states, tribes, territories, and local communities. It includes planning considerations and case studies from Joplin, Hurricane Isaac, and Superstorm Sandy.

Wizemann, T., Reeve, M., and Altevogt, B. (2014). [Preparedness, Response, and Recovery Considerations for Children and Families: Workshop Summary](#). Institute of Medicine of the National Academies Press.

In June 2013, the Institute of Medicine Forum on Medical and Public Health Preparedness for Catastrophic Events convened a workshop to review tools and frameworks that can be modified to include children's needs, and highlight best practices in resilience and recovery strategies for children. This report summarizes the presentations and discussions to include: leveraging healthcare coalitions; provider, hospital, insurer, and health system perspectives on funding; and mental and behavioral health recovery.

Lessons Learned

Orlando, S., Bernard, M.L., and Mathews, P. (2008). [Neonatal Nursing Care Issues Following a Natural Disaster: Lessons Learned from the Katrina Experience](#). (Abstract only.) The Journal of Perinatal and Neonatal Nursing, 22(2): 147-53.

The authors of this article address nursing care issues and lessons learned from the events that unfolded in the New Orleans area neonatal units during and after Hurricane Katrina. They also provide guidance in support of disaster education for neonatal nurses.

U.S. Department of Health and Human Services, Administration for Children and Families, Office of Human Services Emergency Preparedness and Response. (2014). [New York Children's Issues Task Force: Lessons Learned from Response and Recovery in Superstorm Sandy in New York](#).

This document addresses the New York Children's Issues Task Force formation, meetings logistics, challenges and issues tackled, outcomes, and the six take-home messages, which can be applied to establishing a similar task force pre- or post-disaster.

Pediatric Surge Capacity

Anderson, M., Amparo, A., Kaplowitz, L., et al. (2015). [Near-Term Strategies to Improve Pediatric Surge Capacity during Infectious Disease Outbreaks](#). U.S. Department of Health and Human Services, Office of the Assistant Secretary for Preparedness and Response.

This report summarizes the methods, limitations, gaps, key findings, and results of the National Advisory Committee on Children and Disasters Surge Capacity Work Group's assessment of current national pediatric surge capacity. The assessment focused on: the current state of readiness to transport large numbers of critically ill children; the current state of general emergency/ pediatric emergency surge capacity; the current readiness of

children's hospitals to surge during an infectious disease outbreak; and the current state of non-pediatric facilities to care for children in large-scale disease outbreaks. The report also includes a summary of potential mitigation strategies for identified gaps, a review of best practices, and a summary of practical tools that can help healthcare coalitions improve community readiness to care for children.

Boyer, E.W., Fitch, J., and Shannon, M. (2009). [Pediatric Hospital Surge Capacity in Public Health Emergencies](#). Agency for Healthcare Research and Quality. (Archived.)

The special medical needs of children make it essential that healthcare facilities be prepared for both pediatric and adult victims of bioterrorism attacks and other public health emergencies. Clinicians and hospital administrators used the report's recommendations to develop unique responses to mass casualty events involving pediatric patients.

California Neonatal/ Pediatric/ Perinatal Disaster Coalition. (n.d.). [Pediatric-Neonatal Disaster and Surge Network](#). (Accessed 1/5/2016.)

This googlesite was formed to connect pediatric, neonatal, hospital, emergency department, perinatal, obstetric, and disaster professionals with ideas, information, resources, and strategies for supporting regional pediatric surge and disaster preparedness throughout California and the U.S.

Campbell, C. (2010). [The Benefits of Designing a Stratification System for New York City Pediatric Intensive Care Units for Use in Regional Surge Capacity Planning and Management](#). Journal of Community Health. 35(4):337-347.

The author describes her work designing a New York City pediatric intensive care unit (PICU) surge stratification system that can help physicians, hospitals, and city agencies with regional surge capacity planning for critical pediatric patients. This included identification of factors to be considered when developing a stratification system, and creation of a preliminary system of PICU stratification based on clinical criteria and resources.

*Central Valley, CA. (2012). [Regional Pediatric Disaster Surge Framework](#). California Hospital Association.

This document provides a framework for community collaboration to develop regional, comprehensive, integrated pediatric preparedness response plans.

*Contra Costa Health Services Emergency Medical Services Agency. (2011). [Contra Costa Pediatric/Neonatal Disaster and Medical Surge Plan and Preparedness Toolkit](#).

This toolkit was developed to facilitate disaster preparedness that involves the practice of including neonates and pediatrics in all county, provider agency, and hospital-based

disaster exercises. It provides an example of implementing emergency medical services for children guidelines at the local level.

Frost, P., Upperman, J., Lubin, B., et al. (2010). [Pediatric Surge Planning: Solutions Within Reach](#). Contra Costa County Health Services.

This document contains presentations from a September 2010 workshop about pediatric surge planning. The importance of community hospitals in planning for and managing pediatric surge is emphasized, as are some limitations of the current system based on data from the State of California.

Ginter, P.M., Rucks, A.C., Duncan, W.J., et al. (2010). [Southeastern Regional Pediatric Disaster Surge Network: A Public Health Partnership](#). Public Health Reports. 125(Suppl 5): 117–125.

This article describes the development of the Southeastern Regional Pediatric Disaster Surge Network, comprised of over 40 agencies and institutions working together since 2005 to establish a regional pediatric disaster preparedness network across five states: Alabama, Florida, Louisiana, Mississippi, and Tennessee.

*Illinois Department of Public Health. (2015). [Pediatric and Neonatal Surge Annex](#).

This plan provides a detailed framework for various stakeholders involved in an emergency response within the State of Illinois and surrounding states in order to protect children and provide appropriate pediatric medical care during a disaster. The plan can be used to guide a state-level response and provides local medical services guidance on the care of children, including patient movement, system decompression, recommendations for care, and resource allocation during a surge of pediatric patients. It includes several tools such as transfer forms and algorithms.

Kanter, R.K. (2007). [Strategies to Improve Pediatric Disaster Surge Response: Potential Mortality Reduction and Tradeoffs](#). (Abstract only.) Critical Care Medicine. 35(12):2837-42.

The author modeled the potential for disaster mortality reduction with two surge response strategies: 1) control distribution of pediatric disaster victims to avoid hospital overcrowding near the scene, and 2) expand capacity by altering standards of care to only “essential” interventions. Modeling results suggest that the application of these two strategies in combination could decrease pediatric mortality rates in large disasters.

*Los Angeles County Emergency Medical Services Agency. (2012). [Pediatric Surge Quick Reference Guide](#). California Hospital Association.

This document contains summaries of critical information for managing the care of children during emergencies or disasters, including vital signs; risks during disasters; signs of respiratory distress; equipment sizes; and fluid resuscitation.

*Los Angeles County Emergency Medical Services Agency. (2013). [Los Angeles County Pediatric Surge Plan](#). California Hospital Association.

This plan provides details on how each hospital within Los Angeles County would support a pediatric surge of patients including surge targets, supplies, and patient type. This plan also includes parameters for transporting children from prehospital field operations to healthcare facilities and transferring of patients among hospitals.

*Minnesota Department of Health. (2013). [Minnesota Pediatric Surge Primer and Template Plan](#).

These customizable plan templates are geared for small community hospitals that do not usually provide pediatric trauma or inpatient services. It provides guidance that facilities and regions can follow to plan for pediatric patients in a mass casualty event.

*New York City Pediatric Disaster Coalition. (n.d.). [Pediatric Disaster Coalition PICU Surge Template Plan](#). (Accessed 1/5/2016.)

This customizable plan template focuses on increasing surge capacity and capabilities for the PICU, the Pediatric Inpatient Unit, other inpatient units, and the emergency department.

Rady Children's Hospital, San Diego. (2011). [Pediatric Surge Planning: Train the Trainer](#).

This online course provides an in-depth overview of the special considerations associated with pediatric surge planning. The authors describe hospital incident command system activation, specify tools and actions linked to pediatric surge, and provide tips for developing a surge plan.

*Rucks, A., Baldwin, S., Beeman, K., et al. (2010). [Multi-State, Multi-Organizational Solution to Limited Regional Pediatric Medical Surge Capacity in the Southeastern United States](#). Alabama Department of Public Health.

The speakers in this 90-minute webcast share strategies for addressing obstacles associated with pediatric surge.

*Various Authors. (2009). [Pediatric Surge Pocket Guide](#). California Hospital Association.

This pocket guide contains clinical checklists, guides, and just-in-time references to manage a surge of pediatric patients. It includes the following sections: Normal Values; Triage and Assessment; Treatment and Medications; Equipment; Decontamination; Mental Health; and Pediatric Safe Areas.

Plans, Tools, and Templates

American Academy of Pediatrics. (n.d.). [Newborn Screening during Emergencies](#). (Accessed 1/5/2016.)

This webpage contains information on newborn screening in emergencies and can assist pediatricians in expanding their office preparedness plans to include contingency planning for interruptions in the newborn screening process. In addition to other resources, there is a handout that details the newborn screening process and why such screening is important during emergencies.

American Academy of Pediatrics. (2010). [Checklist: Guidelines for Care of Children in the Emergency Department](#).

This checklist is based on the joint statement issued in 2009 by the American Academy of Pediatrics, the American College of Emergency Physicians, and the Emergency Nurses Association titled “Guidelines for Care of Children in the Emergency Department.” Hospitals may use the checklist to determine if their emergency department is adequately prepared to care for children.

American Academy of Pediatrics. (2013). [Pediatric Preparedness Resource Kit](#).

This resource kit allows for pediatricians, public health leaders, and other pediatric care providers to assess what is already happening in their community or state, and help determine what needs to be done before an emergency or disaster. It promotes collaborative discussions and decision making about pediatric preparedness planning. It also contains a link to the [Joint Policy Statement—Guidelines for Care of Children in the Emergency Department](#), as well as a Preparedness Checklist for Pediatric Practices.

American Academy of Pediatrics. (2013). [Preparedness Checklist for Pediatric Practices](#).

This document offers checklists and steps that pediatricians or their practice staff can take to improve office preparedness. It allows for advanced preparedness planning that can mitigate risk, ensure financial stability, strengthen the medical home, and help promote the health of children in the community.

Bradin, S., Lozon, M., Butler, A., et al. (2015). [Planning for Children in Disasters: A Hospital Toolkit](#). Michigan Department of Health and Human Services.

This toolkit includes information to assist hospitals with planning for the needs of children through all stages of a disaster. Guidance covers medical surge and triggers; staffing plans; triage protocols; decontamination; transport of pediatric patients; chemical agents and antidotes; infection protection; family reunification; and psychological support.

Center for Pediatric Emergency Medicine for New York City, and New York City Department of Health and Mental Hygiene Healthcare Emergency Preparedness Program. (2008). [Pediatric Tabletop Exercise Toolkit for Hospitals.](#)

This toolkit includes customizable exercise materials (e.g., PowerPoint slides, moderator notes, and participant handouts) and step-by-step processes for planning and conducting a tabletop exercise with emergency department/ clinical staff and incident command/ administrative representatives.

*Central Valley, CA. (2012). [Regional Pediatric Disaster Surge Framework.](#) California Hospital Association.

This document provides a framework for community collaboration to develop regional, comprehensive, integrated pediatric preparedness response plans.

Children's National Health System. (2015). [Pediatric Emergency Quick Reference Guide.](#)

This free reference guide for Android or iOS was developed by physicians in the Children's National Health System Division of Emergency and Transport Medicine, and provides a quick reference for the vitals, equipment, and dosage guidelines for an emergency pediatric patient.

*Contra Costa Health Services Emergency Medical Services Agency. (2011). [Contra Costa Pediatric/Neonatal Disaster and Medical Surge Plan and Preparedness Toolkit.](#)

This toolkit was developed to facilitate disaster preparedness that involves the practice of including neonates and pediatrics in all county, provider agency, and hospital-based disaster exercises. It provides an example of implementing emergency medical services for children guidelines at the local level.

Edgerton, E., and Gilchrest, T. (2015). [Integrating Pediatric Needs into Hospital Disaster Preparedness Policies.](#) Uniformed Services University of the Health Sciences, National Center for Disaster Medicine and Public Health.

The presenters discuss the development of the "Checklist of Essential Pediatric Domains and Considerations for Every Hospital's Disaster Preparedness Policies." They also review the checklist and key resources for its implementation.

Emergency Medical Services for Children National Resource Center. (2014). [Checklist of Essential Pediatric Domains and Considerations for Every Hospital's Disaster Preparedness Policies.](#)

This checklist, developed by subject matter experts and organized into ten domains, can help hospital administrators and leadership incorporate essential pediatric considerations into existing hospital disaster policies.

*Illinois Department of Public Health. (2015). [Pediatric and Neonatal Surge Annex](#).

This plan provides a detailed framework for various stakeholders involved in an emergency response within the State of Illinois and surrounding states in order to protect children and provide appropriate pediatric medical care during a disaster. The plan can be used to guide a state-level response and provides local medical services guidance on the care of children, including patient movement, system decompression, recommendations for care, and resource allocation during a surge of pediatric patients. It includes several tools such as transfer forms and algorithms.

*Los Angeles County Emergency Medical Services Agency. (2012). [Pediatric Surge Quick Reference Guide](#). California Hospital Association.

This document contains summaries of critical information for managing the care of children during emergencies or disasters, including vital signs; risks during disasters; signs of respiratory distress; equipment sizes; and fluid resuscitation.

*Los Angeles County Emergency Medical Services Agency. (2013). [Los Angeles County Pediatric Surge Plan](#). California Hospital Association.

This plan provides details on how each hospital within Los Angeles County would support a pediatric surge of patients including surge targets, supplies, and patient type. This plan also includes parameters for transporting children from prehospital field operations to healthcare facilities and transferring of patients among hospitals.

Loyola University Medical Center, and Illinois Emergency Medical Services for Children. (2012). [Hospital Pediatric Preparedness Checklist](#).

This checklist can help hospitals determine their level of pediatric preparedness and identify opportunities for improvement. It can be saved and customized or used in its current form.

*Minnesota Department of Health. (2013). [Minnesota Pediatric Surge Primer and Template Plan](#).

These customizable plan templates are geared for small community hospitals that do not usually provide pediatric trauma or inpatient services. It provides guidance that facilities and regions can follow to plan for pediatric patients in a mass casualty event.

*New York City Pediatric Disaster Coalition. (n.d.). [Pediatric Disaster Coalition PICU Surge Template Plan](#). (Accessed 1/5/2016.)

This customizable plan template focuses on increasing surge capacity and capabilities for the PICU, the Pediatric Inpatient Unit, other inpatient units, and the emergency department.

Save the Children, U.S. Programs Domestic Emergencies Unit. (2007). [The Unique Needs of Children in Emergencies: A Guide for the Inclusion of Children in Emergency Operations Plans.](#)

This guide was created to help local and state emergency managers and coordinators in their efforts to include children in emergency planning.

Seattle and King County Public Health Department. (2010). [Hospital Guidelines for Management of Pediatric Patients in Disasters.](#)

This toolkit is based on an earlier version developed by the New York City Department of Health and Mental Hygiene and includes considerations for staffing and training, resources, security, transportation, decontamination, hospital-based triage, and inpatient bed planning.

U.S. Department of Health and Human Services, Administration for Children and Families, Office of Child Care. (2015). [Resource Guide: Emergency Preparedness and Response Resources for Child Care Programs.](#)

This resource guide provides emergency preparedness and response resources for child care programs, and can help these programs develop emergency plans or update their current plans.

*Various Authors. (2009). [Pediatric Surge Pocket Guide.](#) California Hospital Association.

This pocket guide contains clinical checklists, guides, and just-in-time references to manage a surge of pediatric patients. It includes the following sections: Normal Values; Triage and Assessment; Treatment and Medications; Equipment; Decontamination; Mental Health; and Pediatric Safe Areas.

Website hosted by the Emergency Medical Services for Children National Resource Center. (2013). [National Pediatric Readiness Project.](#)

The National Pediatric Readiness Project is a multi-phase quality improvement initiative to ensure that all U.S. emergency departments (ED) have the essential guidelines and resources in place to provide effective emergency care to children. The project is a partnership of the Emergency Medical Services for Children/ Health Resources and Services Administration, the American Academy of Pediatrics, the Emergency Nurses Association, and the American College of Emergency Physicians. The first phase of this project was a national assessment of EDs' readiness to care for children. Results for each state and U.S. territory are available, and include their overall assessment response rate; the median pediatric readiness score; a list of meetings, conferences, and publications related to project implementation; and a list of the National Pediatric Readiness State Team members.

Agencies and Organizations

Note: The agencies and organizations listed in this section have a page, program, or specific research dedicated to this topic area.

American Academy of Pediatrics. [Children and Disasters.](#)

American Society of Pediatric Nephrology. [Homepage.](#)

California Hospital Association. [Pediatric Disaster Planning.](#)

Centers for Disease Control and Prevention. [Caring for Children in a Disaster.](#)

Centers for Disease Control and Prevention, Office of Public Health Preparedness and Response. [Pediatric Offices and Hospitals.](#)

Emergency Medical Services for Children National Resource Center. [Homepage.](#)

Family Voice. [Homepage.](#)

Florida Department of Health. [Children's Disaster Preparedness.](#)

Illinois Emergency Medical Services for Children. [Pediatric Disaster/ Multicasualty Preparedness.](#)

Ready.gov. [Youth Preparedness.](#)

U.S. Department of Health and Human Services, Administration for Children and Families, Office of Child Care. [Emergency Preparedness.](#)

U.S. Department of Health and Human Services, Administration for Children and Families, Office of Human Services Emergency Preparedness and Response. [Early Childhood Disaster-Related Resources.](#)

U.S. Department of Health and Human Services, Disaster Information Management Research Center. [Health Resources on Children in Disasters and Emergencies.](#)

U.S. Department of Health and Human Services, Office of the Assistant Secretary for Preparedness and Response. [National Advisory Committee on Children and Disasters.](#)

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*National Center on Birth Defects and Developmental Disabilities, U.S. Centers for Disease Control and Prevention; **Pat Frost**, RN, MS, PNP, Director Emergency Medical Services, Contra Costa Health Services; **Anthony Gilcrest**, MPA, EMT-P, EMS Program Manager, EMSC National Resource Center, Division of Emergency Medicine, Children’s National Medical Center; **Stephanie Griese**, MD, MPH, FAAP, Lieutenant Commander, USPHS, and Medical Epidemiologist, Office of Science and Public Health Practice, Office of Public Health Preparedness and Response, U.S. Centers for Disease Control and Prevention; **John Hick**, MD, HHS ASPR and Hennepin County Medical Center; **Mary King**, MD, MPH, Pediatric Critical Care Medicine, Medical Director, PICU, Harborview Medical Center, and Assistant Professor, University of Washington; **Lauralee Koziol**, National Advisor on Children and Disasters, Federal Emergency Management Agency; **Diane Pilkey**, RN, MPH, Nursing Consultant, U.S. Department of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health Bureau, Emergency Medical Services for Children and Injury Prevention Branch; **Wendy Ruben**, MS, CHES, Health Communication Specialist, Children’s Preparedness Unit, Division of Human Development and Disability, National Center on Birth Defects and Developmental Disabilities, U.S. Centers for Disease Control and Prevention; and **Mary Russell**, EdD MSN, Emergency Services, Boca Raton Regional Hospital.*

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