Children's Health Care Needs in a Pandemic, Disaster or Public Health Emergency:

A National Blueprint for Pediatric-Specific Readiness

Prepared by FTI Consulting

CHILDREN'S HOSPITAL ASSOCIATION

Introduction

Ensuring that the unique physical and mental health needs of children – who represent some 25% of the total U.S. population – are met during a pandemic, natural disaster, or other public health event must be a national priority. We ask policymakers to ensure that the physical, mental, developmental, and social needs of children are not left out of the broader conversation around the nation's pandemic response framework.

Children are not little adults and disruptions in their health care, trauma, social isolation, food and housing insecurity, and grief associated with a natural disaster or pandemic can have a significant negative impact on their mental and physical health and their long-term well-being. Furthermore, these events disproportionately affect children and families from underserved, under-resourced, and racial and ethnic minority communities.[1] Moreover, **pediatric care requires extra time, monitoring, specialized medications and equipment, and specially trained health care providers**, which adds a significant level of complexity to the nation's capacity to meet children's needs. Given the regionalization of pediatric specialty care, children's hospitals' critical care and "surge" capacity is limited during a pandemic or natural disaster.

In recent years, pediatric surge capacity has been especially challenged. Children's hospitals have experienced an unprecedented level of pediatric patient visits driven by a substantial increase in childhood respiratory illnesses like respiratory syncytial virus (RSV) and COVID-19, on top of the ongoing child and youth mental health crisis, revealing critical gaps in the nation's pandemic and disaster response infrastructure.

The challenges confronting children's hospitals and their nimbleness to respond demonstrate how critical it is that the nation's pandemic preparedness system can appropriately account for differences between the way physical and mental health care delivery and support systems are structured for children compared with adults.

Public health emergency (PHE) protections and flexibilities were granted during the COVID-19 pandemic to help providers overcome these challenges and continue delivering lifesaving care. Going forward, **a pediatric-focused national framework for preparedness and response must incorporate best practices and learnings from these experiences to address pediatric workforce shortages, strengthen the pediatric supply chain, enhance access to mental health care, and allow for the triage of pediatric patients to centers best designed for their care.**

This Blueprint offers recommendations on how to bolster the national disaster and pandemic response infrastructure and ensure that the unique physical, mental, developmental, and social needs of all children are met.

Blueprint Methodology

The Children's Hospital Association (CHA) partnered with FTI Consulting to survey children's hospital experts to better understand the challenges children's hospitals faced in delivering care during the COVID-19 pandemic and RSV/influenza surge ("Tripledemic"), and the mental health crisis. Over 40 respondents representing children's hospitals from diverse geographical regions across the U.S. completed a 13-question online survey fielded between May 17 and June 2, 2023, providing on-the-ground perspectives of their experiences. Select respondents were also invited to participate in follow-up interviews to further explore central themes uncovered by the survey. The survey results and other CHA materials, including official Statements for the Record to Congress, responses to House and Senate Requests for Information about the reauthorization of the Pandemic and All-Hazards Preparedness Act (PAHPA), and its Principles for Pediatric Disaster Preparedness, were used to inform this Blueprint.

Survey Findings: Recent Challenges in Pediatric Pandemic and Disaster Preparedness

Survey respondents described the challenges they faced during the recent surges, and the resilience of their children's hospitals in meeting those challenges. They particularly emphasized their collaboration with other health care entities within their communities and regions to fill in for gaps and inadequacies in the overall response infrastructure.

> **We did a great job with intellectual creativity and flexibility as well as having people willing to go 'above and beyond- again', but sustainability was clearly lacking.**

> **I also learned that we (the regional health care infrastructure) can be delicate but resilient. You need to have BOTH a strong internal capability and established relationships and capabilities within the surrounding health care infrastructure in the community.**

The experiences of the responding pandemic and disaster response experts at children's hospitals revealed the following key challenges:

- **Workforce shortages were the top challenge for children's hospitals during the surges.**
  Shortages of providers specifically trained in providing pediatric care, especially pediatric mental and behavioral health care, impeded access to timely care. Because pediatric acute and intensive care requires a higher level of training and expertise, the pool of nurses available to fill children's hospital staffing gaps is limited.

91%

of survey respondents cited nurse shortages

79% & 77%

cited shortages of respiratory therapists and mental health providers, respectively

- **Meeting the mental health needs of both children and health care providers was a major challenge.**
  Children's hospitals are currently experiencing a boarding crisis, which is when children must stay in emergency departments (EDs) until they can be admitted into a psychiatric treatment program or transferred to another facility. The boarding crisis, combined with shortages of behavioral health providers, severely impacted capacity to deliver pediatric mental health care during the pandemic and surges and also led to increased provider burnout and turnover. Specifically, 86 percent cited boarding and 84 percent cited pediatric mental health workforce shortages as key challenges in delivering mental health care.

- **Medication and related supply shortages were the second most common type of challenge that children's hospitals faced.**
  Measures by local, state, regional and measures federal officials to alleviate supply shortages were described as insufficient and catered toward adults. Specifically, 63 percent of respondents cited medication and related supply shortages and 60 percent cited albuterol shortages.

- **Shortages of critical care pediatric beds posed a challenge for some children's hospitals.**
  Children's hospitals experienced challenges with medical surge capacity, which was made worse as a result of the increased need for pediatric mental and behavioral health care beds.

- **Coordinated response efforts were lacking.**
  Children's hospitals reported a lack of coordination across the local, state, regional, and federal public health and pediatric pandemic response infrastructures. Children's hospitals collaborated amongst themselves to share knowledge, resources, and best practices.

Additional insights:

Survey respondents noted that **the COVID-19 pandemic drove innovation in care delivery that should be maintained, not eroded.** In particular, children's hospitals valued the flexibilities granted for the first time under the recently expired COVID-19 PHE, including the use of telehealth services. Many of these flexibilities have been extended and continue to give them the opportunity to make innovative changes to care delivery.

> These challenges were a double-edged sword…they created many frustrations in how we typically care for patients, but they also led to many innovations.

> Our simulations in the PICU for practicing [COVID] intubations resulted in [COVID] specific intubation checklists and helped staff respond faster and more smoothly when it actually occurred (including one of my patients who crashed onto [extracorporeal cardiopulmonary resuscitation] ECPR shortly after his emergent [COVID] intubation).

A Blueprint to Bolster Pediatric-Specific Readiness in Pandemic and Disaster Preparedness and Response

Recommendations:

CHA has developed the following policy recommendations informed by the experiences of its member hospitals – as articulated in the recent survey – and a range of experts in pediatric disaster response.

The recommendations fall across four overarching issue areas: (1) the national pediatric disaster and pandemic response infrastructure; (2) the pediatric workforce; (3) medical countermeasures and pediatric medical supplies and equipment; and (4) mental health care.

> Our experience with the pandemic further highlighted the importance of educating policymakers about the many differences between pediatric and adult health care.

> Children are an afterthought or 'special group' in disaster preparedness, planning, and drills. This viewpoint needs to shift. Children should not be a special consideration in disasters. Children should be included in all aspects of disaster planning, period.

1 Strengthen the National Pediatric Disaster and Pandemic Response Infrastructure

2 Invest in the Growth of the Pediatric Workforce to Prevent Future Shortages

3 Bolster Access to Pediatric Medical Supplies Within the Strategic National Stockpile (SNS) and Rapid Medical Countermeasure (MCM) Response

4 Ensure Timely Access to Pediatric Mental Health Care During Pandemics, Disasters, and Public Health Emergencies

Strengthen the National Pediatric Disaster and Pandemic Response Infrastructure

It is imperative that the nation's children's hospitals' critical care capacity is ensured and that communities without a children's hospital have operational capacity to meet children's basic needs. Children's hospitals often serve wider geographic areas than their adult-focused counterparts and are increasingly the only source of pediatric specialists and subspecialists, medical equipment and supplies, and other resources in an entire state or region.[2] Strengthening the pediatric pandemic infrastructure can be achieved by investing in appropriate and qualified staffing, developing and disseminating specialized equipment, and growing other child-centric resources.

> During the RSV surge, the lack of beds outside of children's hospitals was a challenge. Sicker children should have been able to go to children's hospitals and less ill children that still needed care should have been able to go to other beds, but the health care capacity and capability could not support this, despite the fact that during COVID pediatric hospitals supported nonchildren's hospitals, taking adult patients.

> Not within our hospital but overall, in our community, most community EDs lacked the preparation to care for a pediatric surge.

> There needs to be a better accounting system for (timely) collecting / monitoring of pediatric bed capacity not just in pediatric centers but also surging into typically adult spaces, as appropriate.

> COVID response was reactive, not proactive. Through this experience we developed unit-and hospital specific surge and capacity planning.

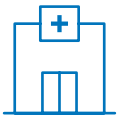
The following recommendations will strengthen the national pediatric disaster and pandemic response infrastructure.

Core Recommendations:

Involve pediatric experts, including children's hospitals, in all short- and long- term planning efforts to ensure that the needs of all children are met in any pandemic or disaster, including those with complex or chronic conditions.

Provide the Administration for Strategic Preparedness and Response (ASPR) with the appropriate funding and authority to provide adequate resources for pediatric pandemic and disaster infrastructure needs in coordination with other relevant agencies.

Ensure that all medical facilities have systems in place to provide a variety of pediatric necessities during a PHE, including nutrition (such as formula), cribs and diapers, along with appropriate accommodations for patients' families and caregivers.



Direct the Hospital Preparedness Program to work with pediatric medical experts to develop and disseminate recommendations, in coordination with the National Advisory Committee on Children and Disasters (NACCD), on the appropriate pediatric equipment and drugs to support hospitals' pediatric emergency surge capacity patients, and assist hospitals in procuring recommended equipment and drugs.

Include coordinated pediatric care plans and structures in pediatric-specific preparedness, response, and resiliency strategies that work to address the operational capacity of every medical facility to meet the physical and mental health care needs of children and their support systems.

> "The existence of a strong children's hospital state collaborative allowed for easy and effective sharing of knowledge and triaging of patients/resources."

Additional insights:

The nation's pandemic and disaster preparedness and response infrastructure must ensure that key pediatric services, including immunization programs, services for children with special health care needs, and mental health care for children continue in every community during a PHE or other disaster.

Invest in the Growth of the Pediatric Workforce to Prevent Future Shortages

Investments must be made to address current and long-term pediatric workforce challenges, including investments to strengthen the pediatric emergency response workforce. Workforce shortages were the top challenge that children's hospitals faced during the COVID-19 pandemic and RSV/influenza surges. Pediatric specialty care requires **specially trained pediatric health care providers** who must balance the needs of their child patients and their family members.

> "The shortage of pediatric expertise in emergency medicine, nursing and respiratory therapy was DANGEROUS. The lack of regional surge capacity was critical."

The following recommendations will strengthen the pediatric workforce and help prevent future shortages.

Core Recommendations:

Increase funding for the Children's Hospitals Graduate Medical Education (CHGME) program to support the training of the nation's pediatricians and pediatric specialists.

Enhance pediatric-specific emergency response training in the Medical Reserve Corps (MRC), with a focus on children with medical complexities.

Survey respondents that utilize the MRC reported it did not meet their needs during the recent surges noting that it needs more providers with pediatric experience and the appropriate pediatric skillset.

> "The medical reserve corps were lovely – assisting with all kinds of tasks within the hospital, but the reality was we needed even more of them to truly meet all the needs."

> "As a larger [pediatric] hospital…there was a great deal of preparedness and support before, during and after the pandemic. For the [pediatric respiratory] surge combined with low staff because of the Pandemic and closing of community beds, there was not the same initial drastic response from the Pediatric and Hospital leadership. But also acknowledging, almost nowhere was the [respiratory] surge declared a disaster."

Bolster Access to Pediatric Medical Supplies Within the Strategic National Stockpile (SNS) and Rapid Medical Countermeasure (MCM) Response

SNS

The SNS should be required to include emergency medications in age-appropriate delivery formulations, equipment and related supplies that meet children's needs. Federal and state government reserves of medical supplies often contain gaps in critical **pediatric-specific inventory**, making it difficult to respond quickly to children's health care needs in a PHE. The SNS is critical to ensuring that essential and emergency pediatric care continues during a PHE or other disasters. The U.S. Government Accountability Office found that current stockpiles often do not communicate disruptions in medical supplies to stakeholders, including pediatric providers.[3] These disruptions can be especially harmful for children who need **age- and size- appropriate pediatric supplies**. Further, this can hinder coordination and collaboration with and between children's hospitals.

> "For supply shortages, including PPE [personal protective equipment], the regional, state, and federal assistance programs such as the strategic national stockpile were not sufficient and the PPE we received was expired…In the most critical time we have ever faced, we all were working in silos and only looking out for ourselves."

> "Pediatric specific supplies were extremely limited as manufacturers chose to focus on adult-sized equipment and supplies.

The following recommendations will improve transparency and access to **pediatric medical supplies and equipment** within the SNS.

Core SNS Recommendations:

Require the SNS to include age-appropriate delivery formulations, medical equipment and related supplies, and to equip every ED with a basic supply kit that can be used to care for infants, toddlers, and children.

Include a communication structure in the SNS' distribution system to maintain transparency about the availability of pediatric-specific supplies and relay any related information to stakeholders in a timely manner.

MCMs

For MCMs to meet the needs of children, there must be a strong focus on research, development, procurement, strategy, and guidance that can ensure timely access to sufficient pediatric-appropriate equipment, medications and supplies and a quick response to shortages. The pace at which pediatric MCM's are dispersed can be delayed by pediatric **drug and supply shortages**, which poses greater risks in pediatric care where specialized medications, therapeutics, and equipment are needed. A drug or supply shortage is particularly challenging in children's health care because there are fewer manufacturers of **pediatric-appropriate supplies**, which means the pediatric supply chain is easily disrupted.

The following recommendations will bolster pediatric readiness within the MCM enterprise.

Core MCM Recommendations:

Require that priority be given to researching pediatric dosing and formulations for MCMs that have already been approved for adults.

Require that mechanisms are in place to ensure rapid deployment of appropriately dosed pediatric medications.

Authorize relevant federal agencies, including the Centers for Disease Control and Prevention (CDC), the ASPR, and the Food and Drug Administration (FDA), to develop systems that allow for the advance approval of off-label use of pediatric MCMs via the emergency use authorization process prior to the official declaration of a PHE.

Establish communication systems to ensure transparency between federal agencies and pediatric providers regarding MCMs.

Ensure Timely Access to Pediatric Mental Health Care During Pandemics, Disasters, and PHEs

Policymakers must make greater investments into child-focused mental health systems to ensure their needs will be met in the next pandemic, disaster, or other PHE. The COVID-19 pandemic exacerbated issues related to children's mental health and caused disruptions to daily routines that left children isolated from school and their peers and grappling with the loss of loved ones. Studies show that children and adolescents experienced greater feelings of anxiety and depression and that suicide attempts increased during the pandemic.[4,5] Children's hospitals and pediatric providers had to manage the influx of pediatric mental health-related ED visits and the ongoing boarding crisis, where children experiencing a mental health crisis must stay in ED facilities while they wait for openings in psychiatric treatment programs or other facilities.[6,7]

> "[The] Mental health surge at [the] same time reduced ED bed capacity from boarding patients waiting for inpatient mental health beds. That resulted in an inability to meet the demand of larger patient volumes since we had reduced ED bed capacity."

> **Staff felt unprepared to handle responding to children with various levels of fear, anxiety, PTSD, and other mental health conditions (ex., pediatric suicidality).**

The following recommendations will help ensure timely access to pediatric mental health care during pandemics and PHEs.

Core Recommendations:

Ensure that the nation's pandemic and disaster preparedness framework includes a strategy and funding to address children's mental and behavioral health care needs.

When prompted about the impact of the COVID-19 pandemic and RSV/influenza surges on children's mental health, respondents most often said:

86% cited boarding as a key challenge in delivering mental health care & **84%** cited workforce shortages

> One survey respondent suggested that **Funding to support the mental health infrastructure to build a more robust program** would have been helpful to their organization in addressing the challenges presented during these times.

> **Our needs for mental health resources became more pronounced during and after the pandemic.**

Ensure the broader capacity of the nation's medical facilities to meet children's basic mental health needs, as well as those of their entire caregiving and support system, including their health care providers and family members.

86% of survey participants cited the mental well-being of health care providers and front-line workers as a top challenge that children's hospitals faced during the COVID-19 and RSV surges

Support the NACCD's ongoing work to address the mental health of children in pandemic and disaster situations and implement its recommendation to establish a children's disaster mental health working group to address children's emergent and urgent mental health service needs.

> **The government offered significant support for other areas, but it needs to consider the toll a pandemic can take on health care personnel and take efforts to support these front-line providers who put their lives at risk to care for patients.**

> When prompted about protecting the mental health of providers and staff, one interview participant shared
> **I think what mattered the most is…leadership rounding, safety, rounding with our teams, being present, solving problems quickly and talking about what problems you solve[d] and how you did it. You know, communicating openly and regularly keeping our staff engaged.**

> One survey respondent specifically called for
> **better funding to pediatric mental health facilities and front-line providers embedded in the schools and community.**

Additional insights:

Telehealth was cited by most survey respondents **(86 percent)** as the most helpful flexibility granted under the COVID-19 PHE, particularly for behavioral health services. Continuing to bolster access to telehealth and the opportunities for its use can further expand children's access to mental health care and alleviate demand.

> **Some of the telemedicine waivers made it possible for us to provide care for patients and families who might not have otherwise been able to [be cared] for. We regret that much of that is going away…I think that's a mistake. That really is a way [of] the future.**

Conclusion

Pandemic and disaster preparedness efforts throughout government must be aligned, coordinated, strengthened, and adequately funded to support a shared pediatric mission and framework. That framework must ensure the broader capacity of the nation's medical facilities to meet children's basic physical and mental health needs—as well as those of their entire caregiving/support system—through the delineation of appropriate staffing, specialized equipment, training, and other child-centric resources. The recommendations in this Blueprint regarding infrastructure, workforce, medical supplies and equipment, and mental health serve as a roadmap to ensuring that children's needs are met during future disasters, pandemics, and PHEs.

Additional Resources

- **Pediatric Pandemic Network**

  Pediatric Pandemic Network Presentation

- **Disaster Principles**

  Principles for a Child-appropriate Disaster and Pandemic Response System

- **PAHPA RFI's and Statements for the Record**

  CHA Submits Energy and Commerce PAHPA Legislative Hearing Statement for the Record

  CHA Submits Energy and Commerce PAHPA Hearing Statement for the Record

  Senate HELP PAHPA RFI

  PAHPA RFI

- **Drug Shortages**

  CHA Submits Drug Shortages Hearing Statement for the Record

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