

Studies examine pediatric services in US emergency departments

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Three papers from research teams led by a Massachusetts General Hospital (MGH) physician examine the current readiness of U.S. emergency departments (EDs) to care for children and describe an initiative that led to the appointment of a Pediatric Emergency Care Coordinator (PECC) - a step considered the single best intervention to improve pediatric emergency care—in all Massachusetts EDs. The three reports appear in the December issue of *Academic Emergency Medicine*.

"According to the 2007 Institute of Medicine (IOM) report on [pediatric emergency care](#), not all EDs are prepared to adequately care for children. Many lack essential supplies for managing pediatric emergencies, and treatment patterns can vary widely across providers," says Carlos Camargo, MD, DrPH, of the MGH Department of Emergency Medicine, corresponding author of all three papers. "Our three papers describe the national ED landscape and provide new information about potential approaches to improving [pediatric emergency care](#)."

All three papers are based on data from the annual National Emergency Department Inventory (NEDI)-USA survey, sent to the directors of the 5,273 non-federal, non-specialty U.S. EDs open in 2015 and the 5,375 U.S. EDs open in 2016.

Pediatric areas in emergency departments

The 2015 survey asked whether each ED included a separate pediatric area, and only 426 (10 percent) of the 4,407 responding general EDs—those that treat both adults and children—indicated having such an area. Pediatric areas were most commonly reported in larger EDs in the Northeast or the South; and while 66 percent of general EDs with pediatric areas reported having at least one PECC, only 11 percent of general EDs without a pediatric area had at least one PECC.

In 2017, a second survey was sent to 130 of the EDs that indicated having a pediatric area in their response to the 2015 survey, asking specific questions about the structure and staffing of these areas. Of 105 responding EDs, 11 indicated they did not actually have a pediatric area, which the authors note points to the need for better definition of a pediatric ED area. Of those with a pediatric area, 93 percent reported having designated beds for pediatric patients, and 74 percent reported having at least one pediatric emergency physician on staff.

Pediatric emergency telemedicine services

A second study began with questions on the 2016 NEDI-USA survey regarding whether EDs received pediatric telemedicine services. Telemedicine allows clinicians in one ED—often with limited facilities and services—to consult with specialists at another ED or hospital who may assist with diagnosis, recommend treatment or facilitate transfers. Provision of pediatric critical care telemedicine to rural hospital EDs has been associated with higher physician-rated quality of care and a reduced risk of medication errors. The 337 EDs (8 percent of all) that indicated receiving pediatric telemedicine services during 2016 were less likely to be in urban areas, and more than half were in critical access hospitals—small, rural hospitals deemed essential providers for their communities.

Of the EDs that received pediatric telemedicine in 2016, 130 were sent a

follow-up survey regarding their use of telemedicine. Challenges to the use of pediatric telemedicine indicated in their responses included concerns about the process—such as interrupting providers' workflow—and the technology. A frequently cited obstacle was the need to remind staff members that telemedicine was an available resource for pediatric care. The authors note that the fact that EDs using pediatric telemedicine tended not to have either a pediatric emergency physician or a pediatrician assigned to the ED suggested that telemedicine was being used to fill a gap in pediatric ED services.

Increasing the appointment of Pediatric Emergency Care Coordinators

Pediatric Emergency Care Coordinators (PECCs) are health professionals—physicians, nurses or others—who manage pediatric care in their EDs and help to educate their colleagues on emergency care for children. Although the 2007 IOM report included appointment of a PECC among its key recommendations, less than 20 percent of EDs responding to the 2015 and 2016 NEDI-USA surveys reported having a PECC. In light of that information and the fact that many EDs have limited resources for pediatric care, Camargo and colleagues from the MGH, Boston Medical Center and Floating Hospital for Children/Tufts Medical Center initiated a grassroots intervention to encourage appointment of at least one PECC in every ED in Massachusetts.

With the endorsement of the Massachusetts College of Emergency Physicians, from 2017 to 2018 the team contacted the directors of all 73 EDs in the state. Initial emails were followed up with phone calls addressing both the IOM report and efforts of the [National Pediatric Readiness Project](#) to improve pediatric emergency care. Acknowledging that most general EDs may not have the funds required to support even a part-time PECC, team members advocated identifying at least one staff

member who could volunteer two to four hours a month to improving pediatric care in their ED.

As a result of this intervention, the percentage of EDs with an appointed PECC increased from around 30 percent in 2016, to 85 percent in 2017, and 100 percent in 2018—making Massachusetts the first state with assigned PECCs in all EDs. While most newly-assigned PECCs spend from one to four hours a month in that role, the paper's authors indicate that many improvements to pediatric emergency care can be made without substantial resources or time. The team also created the [MassPediatricToolkit](#) website, which offers educational and other information to support PECCs throughout the state.

"We believe an intervention like this one could have similar results elsewhere, and we have started to replicate the project in a few volunteer states," says Camargo. "Although each state is different, we estimate that around 10 states will have PECCs in at least 80 percent of their EDs by the end of 2019. While the impact of PECCs on actual clinical outcomes requires further study, we are confident that even having a volunteer professional focusing on improving pediatric emergency care is better than not having anyone doing so."

A professor of Emergency Medicine at Harvard Medical School, Camargo adds, "Anyone can quickly find the distance and directions from their current location—or a searched location—to the closest EDs by using the publicly available [EMNet findERnow](#) smartphone app, which is available for both iPhone and Android phones. We just updated the app to provide the option of sorting the closest EDs by current driving time—including traffic! With a 99-cent subscription to the pediatric version, app users can also quickly see whether their ED has a pediatric area or a PECC." All three studies were supported by a grant from the [R Baby Foundation](#).

Provided by Massachusetts General Hospital

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