Abstract: With increasing options for acute care outside the medical home, high-functioning freestanding pediatric urgent care centers (UCCs) have become epicenters for intermediary care: alternate destinations for acutely ill or injured children with serious but not imminent life-threatening problems. Pediatric UCCs may be an optimal site to treat low acuity emergency medical services (EMS) patients, to triage true pediatric emergencies, and to develop universal transfer protocols to transition children to hospitals for higher levels of acute or subspecialty care. As a large percentage of visits to pediatric emergency departments (EDs) are urgencies rather than emergencies, there is a growing role for a community-based solution for intermediate-level conditions. Improved access, defined transfer protocols, community triage, and EMS paramedicine are all examples of trends in pediatric urgent care to improve public health, efficiency of care, and provide general cost savings for acutely ill or injured children. This article discusses the current state and future direction of transportation of pediatric patients to and from UCCs and the potential impact on a health system.

Keywords:
Urgent care; emergency medical services; EMS; emergency department; ED; pediatrics; transport medicine; paramedicine

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Urgent Care as Intermediary Care: How Inbound and Outbound Transport Can Enhance Care of Community-Based Pediatric Emergencies

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When a child is acutely ill or injured, some parents call their pediatrician for advice. Others, depending on their level of medical knowledge and perception of urgency, may bring their sick child to the most convenient emergency location, or even dial 911 for emergency medical services (EMS) transport to a hospital. In some cases, a parent may select a site that is under or over equipped for their child's needs. Now with telemedicine, retail clinics, and urgent care centers (UCCs), there are even more options for families however few are equipped to care for higher acuity problems.

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As pediatric urgent care has evolved nationally over the past ten years, many freestanding pediatric UCCs have become adept at higher acuity, often providing care services comparable to an emergency department (ED) for routine illness and injury. While there are now a range of options for acute care, high-functioning pediatric UCCs have evolved into alternate destinations for intermediate acuity, and are capable of emergency triage, treatment, observation, and transition to hospital care when necessary. In cases of hospital transfer, pediatric UCCs are a resource that can facilitate expedited testing, coordinate direct admission at select sites, and overall, improve patient care. Additionally, there is a growing role for EMS to offer field triage and redirect low acuity patients to UCCs rather than provide reflexive transport to EDs. The result is a community-based

center capable of intermediary care for ill or injured patients traditionally seen only in a hospital. As UCCs develop and expand a community network, there is opportunity for consistent transfer protocols to deliver patients safely from UCCs to EDs or expedited follow-up for some subspecialty care. This article discusses the current state and future direction of transportation of pediatric patients to and from UCCs.

AMBULANCE PARAMEDICINE

Families who seek acute care but who lack access may default to calling 911 for transport by EMS to an ED.[1] Similarly, schools and childcare facilities that lack nurses or medical professionals will lean on EMS for routine problems such as asthma flares and bleeding lacerations. However, consider the possibility that a patient has an acute care need, calls EMS, but does not need hospital-based services—are other options available?

EMS paramedicine is an evolving public health initiative where local jurisdictions can reduce misuse and better allocate health resources by developing alternate destinations or programs to eliminate transport all together.[2] Mobile integrated healthcare and community paramedicine (MIH-CP) is described as using EMS to provide broader, value-based care to the community. Programs that have trialed using EMS for alternate destinations (e.g. outpatient clinics) for low acuity conditions have found reduced ED utilization, and are well received by patients.[3,4] Other ongoing MIH-CP projects that focus on patient-centered services include using paramedics to help chronically ill patients with at-home disease management/education and utilizing telemedicine or nurse practitioners (NP) to offer treatment and medical care on-site.[5-7] Using NP care on-site is a developing practice targeted to chronic patients who frequent the ED. NP programs may save as much as $3 million in annual savings from reduced hospital transports or admissions, and successful diversion of 54% of low-acuity transports away from the ED.[8,9]

Pediatric patients, however, are generally healthy and lack the co-morbidities and chronic disease prevalence of adults. Pediatric patients therefore may be the optimal broad patient population to benefit from redirection to alternate destinations, rather than targeting small numbers of chronically ill patients who frequently overuse emergency services. Anticipated challenges in an alternate destination program for children include geography, socioeconomic status, and the ability for EMS to identify a 'sick' child. Furthermore, the subtlety of identifying a 'sick' child is difficult to teach paramedics, when children comprise only 10% of EMS calls, and critically ill children are rare.[10] Identification of patient needs at the community level must be addressed prior to expanding alternate destination programs to children.

URGENT CARE CENTERS AS ALTERNATE DESTINATIONS

UCCs may be the optimal locations for EMS alternate destinations in children. UCCs are less expensive alternatives to the ED for comparable care of a variety of conditions.[11] This cost savings is apparent to both patients responsible for lower out-of-pocket costs and the health care system which is spared from excessive hospital charges, especially for patients with public insurance who may disproportionately use the ED for low acuity illness. The costs of low-acuity patient transport affect EMS as well. For paramedics, transporting low acuity patients leads to delayed turnaround time,