

Treating Children at Urgent Care Centers: A Qualitative Study to Determine How Providers Perceive Managing Pediatric Patients

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ABSTRACT

As Urgent Care Centers (UCCs) multiply, more children receive care in this setting. Little is known about UCC providers' perspectives on the management of common pediatric conditions. The objectives of this study are to describe the perceptions of UCC providers and identify challenges they face regarding common pediatric conditions. This qualitative study used semi-structured interviews with a convenience sample of 12 UCC providers from 9 non-academic UCCs in Rhode Island. Content analysis identified themes that describe perceptions of UCC providers regarding pediatric patients. Interviews identified three common pediatric scenarios that challenged UCC providers: acutely ill young infants, minor traumatic brain injury (mTBI), and uncooperative children requiring minor procedures. UCCs should focus quality initiatives to educate their providers on evidence-based management of common pediatric clinical scenarios. Efforts may include dissemination of validated guidelines, education targeted to non-pediatric trained providers, and the integration of minimal sedation protocols for minor procedures.

KEYWORDS: RI, Urgent Care, Ambulatory Care, Pediatrics, Qualitative Research

INTRODUCTION

The urgent care industry grew 20% in the past four years, totaling more than 9,400 clinics, with 40% of sites planning to expand.¹ Currently, Rhode Island (RI) contains 15 Urgent Care Centers (UCCs). As numbers of UCCs grow, more children receive acute care in this setting. A challenge for this emerging clinical setting is in delivering standardized quality of care.

Few organizations offer voluntary accreditation of UCCs; however, there remain no national or statewide accreditation requirements.²⁻⁴ The American Academy of Pediatrics (AAP) has developed recommendations on the care of children at UCCs, although suggestions on provider qualifications are non-specific, such as employing providers with experience treating children and providing meaningful oversight of non-physician providers.⁵ RI Department of Health (DOH) similarly has vague requirements for UCC staff whose

duties should be consistent with their licensure, training and experiences. However, RI DOH makes no recommendations on pediatric-specific care, providers, or equipment for this clinical setting.⁶ Currently, no recommendations exist on the training background or board certification status of UCC providers, resulting in varied types of providers who treat children in this setting.

In addition to limited guidelines and accreditation requirements for UCCs, there is a paucity of literature assessing the pediatric care delivered in UCCs. While the majority of children are managed and discharged from UCCs, some patients are transferred to emergency departments (EDs). The circumstances and thought processes of providers who face challenges with children in the UCC setting are unknown. The objectives of this study are to describe the perceptions of UCC providers and identify challenges they face regarding common pediatric conditions.

MATERIALS AND METHODS

Study Design

This qualitative study used content analysis of semi-structured interviews with 12 UCC providers from 9 non-academic UCCs in RI from December 2012 to January 2014.

Study Setting and Population

Participants were medical providers who treat children in RI UCCs. Clinicians of varied years of experience, degree types, and training backgrounds were purposively recruited to obtain a broad representative viewpoint of the providers who treat children in UCCs. The UCCs in this study were privately owned, non-academic, and none were hospital-based. There were no exclusion criteria.

Data Collection and Analysis

The RI Hospital Institutional Review Board (IRB) approved this study with a waiver of written consent, and informed, verbal consent was obtained. A \$50 gift card was provided as compensation for time spent during interviews.

The primary researcher (TC) conducted all semi-structured, one-on-one interviews. Interviews continued until data saturation was reached. An interview guide was pilot-tested using pediatricians and emergency medicine clinicians from the researchers' primary institution. The interview guide included closed and open-ended questions

with pre-specified probes. After an interval analysis the interview guide was modified to add additional questions and probes that were not fully explored in previous interviews (Appendices I & II). Data saturation was defined as the point at which interviews did not yield any new information.⁷ This occurred after 12 provider interviews.

Discussions were digitally recorded with two recording devices to safeguard against device failure. Digital files were transcribed by a professional transcription service. Thematic coding of transcribed interviews was performed by two independent raters (TC & RS or TC & AG). The coding scheme was drafted by the principal investigator, and edited by consensus amongst the research team. Coding discrepancies were resolved by group consensus. NVivo software (QSR International Ltd, 2013) was used to organize the data. Content analysis was used to identify themes in the coded data.

RESULTS

Characteristics of UCC providers

Self-reported characteristics of the participants and their practices are noted in **Table 1**. Two UCC providers declined to participate in interviews. Of the 12 providers interviewed, 7 were physicians and 5 were midlevel providers (NP or PA). Training backgrounds included providers from family medicine, internal medicine, obstetrics and gynecology, and occupational health. Median years employed at an UCC was 12.5. Median percentage of pediatric patients (< 18 years) treated at the UCCs was 25% (ranging 5–100%).

Table 1. Characteristics of 12 UCC Providers Interviewed

Gender	Degree	Training	Years in Medical Practice	Years in practice at an UCC	Estimated percentage of UCC Population <18 years of age
Female	MD	FP	21	23*	20%
Male	MD	OB	27	20	15%
Male	MD	Pedi	27	1	100%
Male	MD	FP	19	18	20%
Male	DO	FP	21	15	25%
Male	DO	IM	10	10	25%
Male	MD	IM	25	18	5%
Male	PA	None	6	2	30%
Male	NP	FP	3	3	30%
Male	PA	OH	33	4	25–30%
Female	NP	FP	22	22	20–30%
Female	NP	FP	16	5	20%

Nurse Practitioner (NP), Physicians Assistant (PA), Family Practice (FP), Obstetrics/ Gynecology (OB/GYN), Internal Medicine (IM), Pediatrics (Pedi), Occupational Health (OH). *One provider had worked in UCCs for more years than she had been in practice, due to moonlighting in an UCC during residency.

Themes generated from UCC provider interviews

Three common pediatric clinical scenarios were identified that challenged UCC providers: acutely ill young infants, children with minor traumatic brain injury (mTBI), and uncooperative children requiring minor procedures.

Theme: UCC providers are often uncomfortable managing acutely ill young infants.

Infants were a challenging patient group for UCC providers (Illustrative quotes in **Table 2**). A primary reason reported was because these patients are nonverbal. Providers reported that the inability to speak to a patient “makes me worry” and raises concerns for “missing something.” In contrast, speaking to the older, verbal child was a reassuring sign that providers relied on.

Training background influenced UCC providers’ comfort managing acutely ill infants. Providers that were uncomfortable with infants reported transferring pediatric patients to EDs for this reason. Providers lacking pediatric-specific training relied on clinical experience and whether “instinct tells me to send [a patient] to the ER.” In contrast, providers with post-graduate pediatric training were confident caring for young infants, believing the training provided them with the “judgment to see sick kids.” All providers, whether senior or junior in their career, correlated the volume of previous pediatric clinical experience to their confidence caring for children.

The presence of fever compounded concern for the infant’s well being due to the possibility of a serious bacterial illness (SBI). For febrile infants who were perceived as “sick,” providers considered their primary job was to determine if the infant was “stable” and then transfer to an ED. In this scenario, most providers did not initiate a diagnostic workup for SBI, stating that this should occur in an ED. When children were not “sick,” a frequent alternative approach was contacting the patient’s PCP to help guide management and facilitate next-day follow-up. UCC providers often identified linking PCPs and their young patients during acute illness as an important priority.

Availability of laboratory tests was variable from site to site. Most UCC sites had access to urinalysis, rapid influenza or rapid streptococcal tests. Basic lab tests (e.g., complete blood count, electrolytes) and X-rays were available on-site at some locations. Providers reported frequent difficulty with infant phlebotomy, IV placement, and catheterized urine collection. They attributed this to either nursing discomfort or a lack of infant-sized equipment. Providers highly valued the select nurses and medical assistants that were comfortable with triaging and assessing children.

Theme: UCC providers are particularly concerned about mTBI in children.

Providers were apprehensive about mTBI because of concern for missing intracranial hemorrhage (ICH) or concussion (Illustrative quotes in **Table 3**). They often described

that any sign of abnormal mental status (e.g., brief confusion or slowed speech) after mTBI (e.g., helmeted football collision) requires transfer to an ED for computed tomography (CT). Minimizing radiation in children was a goal identified by several UCC providers, but most said that any concern for intracranial injury outweighed the radiation exposure risk of CT. No UCC providers mentioned use of published mTBI decision tools to determine patients at low-risk for ICH (e.g., the PECARN algorithm for low risk TBI⁸). When asked about observation capabilities, providers uniformly stated that due to limited space and high volume, UCCs were not able to observe a patient for a sufficient length of time. In addition, the business model of UCCs leads providers to “want [the patients] in and out.”

Theme: Providers had difficulty with uncooperative children requiring minor procedures.

Providers' approaches to laceration repair in children ranged from those with “no anxiety” to those stating, “I’m not comfortable with it” (Illustrative quotes in Table 4). Most clinicians had some degree of comfort suturing, depending on the laceration location and cooperativeness of the child and parent. UCC providers were more likely to transfer children to an ED or plastic surgeon because of patient or parental anxiety about a scar, cosmetically sensitive areas, or in one UCC provider's opinion, female gender of the patient. Two UCC providers interviewed did not have requisite suturing skills and elected not to perform any suturing in children.

Overall, providers lacked familiarity or adequate staffing to apply immobilization and were not trained in minimal sedation techniques commonly used for minor procedures in children, including laceration repair, foreign body removal, and reduction of dislocations. No UCCs employed pediatric-restraint techniques (e.g., papoose board or wrapping with a bed sheet), anxiolytic, or minimal sedation

Table 2. Sub-themes on providers' perceptions on managing acutely ill young infants.

Sub-theme	Quotes
Infants were described as challenging to examine because they are nonverbal.	<p>“Sometimes people bring in month-olds to urgent care. I have to be real cautious with that; they have a fever, they're not eating right, off to the ER for them. It makes me worry when I can't get a history and talk to patients.”</p> <p>“We've seen, I think that's the youngest I've seen here, 2-week old babies with coughs or not feeding right or vomiting, and usually a very young mother... A lot of us feel that this is not the place for that young a child, that they should at least be in a pediatrician's office.”</p> <p>“Again, I just worry about it... I guess maybe it'd be the same issue if you had an adult who was nonverbal. What could you possibly be missing here?”</p>
Many providers were concerned that an infant may be “sick” or septic and rapidly decompensate.	<p>“I'm a little leery of the little kids... With little kids the question is are they stable, are they okay?”</p> <p>“Infants when they're sick, they're really sick. Infants less than 12 months I really take extra caution with... If an infant has a fever and needs a febrile workup... I don't take that with a grain of salt at all, 'cause I've been around a lot of septic workups with an infant.”</p> <p>“Well, because they are so—hemodynamically—they can go bad on you so quickly.”</p>
The PCP relationship was described as important for follow-up of acute illnesses, especially for infants.	<p>“A lot of what our visit often is, is having that education visit with the parent about how their child has a pediatrician. They should be seeing them regularly and these are the things that you should go to your pediatrician for, and while it's bad for business, it's good for kids.”</p> <p>“I really try to get the vibes from the parents. How much they know. How educated they are. How are they gonna follow up. I call the pediatrician to see if they have any of these reliance issues. That kind of stuff. Never do it in a vacuum with a kid.”</p> <p>“Quite often, we also call the pediatricians to talk about the infant if we have any concerns and we don't know them well, or the parents... We try and keep good communication with their primary cares.”</p>
Pedi or FP-trained providers expressed more comfort treating children due to their training. Providers without pediatric-specific training drew confidence from their clinical experience, particularly with children and adolescents.	<p>“Most of it is having the pediatric experience, the know-how, the judgment to see sick kids rather than adults, because they're not small adults” –MD, <i>Pediatrics</i></p> <p>“Well, I guess I'm very conscious of the fact that I'm not a pediatrician. I don't want to give anyone the impression that I consider myself equal to one in anyway. I'm just trying to be aware of my limitations, too. I'm an internist.” –DO, <i>Internal Medicine</i></p> <p>“I've quite a bit of experience treating an age group of say adolescent to older adult. As a provider, you develop an intellectual database. You're able to distinguish and practice instinctively. I just don't know that I've developed a deep enough database on children to trust my intuition as I would with the [adult] population” –PA, <i>Occupational Health</i></p>
Providers acknowledged that they knew their limitations and accepted that being uncomfortable with a pediatric patient justified transfer to higher level of care.	<p>“Of all the kids that I've seen that are really, really young, under a year—if I have any doubt in my mind, me personally, I'm going to send them to the hospital if I'm not sure.”</p> <p>“We don't have a set rule of what you see and what you send out... Again, it's if you're uncomfortable, there's nothing wrong with transferring them out... That's just the limiting factor of what we take care of, but at the same time as long as [we] know their limits; at least [we're] practicing in a safe manner.”</p> <p>“If I get the—if my instinct tells me to send to the ER, there's usually a reason for it. I usually know which ones have to go.”</p>
Providers believed their facility was adequately equipped to care for children for the urgent care setting. Capabilities to obtain infant labs, IV, and urine collection were often unavailable.	<p>“We have the equipment we need, and I think it's just, you know, I think the staff's comfort level is even more important than the equipment. You can figure something out to use and it works.”</p> <p>“Well we don't really like to do infant hydration. We're not really equipped to do little, tiny kids.”</p> <p>“We actually don't take a lot of pedi blood pressures below the age of ten. If we're worried about a blood pressure the child doesn't belong there.”</p> <p>“We don't start IV's on kids very often. No, if somebody was that bad I'd probably send 'em down to [the pediatric ED] if I thought they needed fluid for kid.”</p>

medications. Difficulty restraining an uncooperative child for a minor procedure often prompted transfer to an ED for a procedure that was otherwise within the UCC providers skill set.

DISCUSSION

We identified three common pediatric clinical scenarios that are challenging for UCC providers. Those clinical scenarios are: acutely ill young infants, children with mTBI, and uncooperative children requiring primary laceration repair or minor procedures.

A challenge that UCC providers described was the evaluation and diagnostic work-up of acutely ill young infants. It is unclear whether UCCs employ evidence-based guidelines on the approach to fever in infants,⁹ as this was not acknowledged by any providers interviewed. One provider suggested guidelines of vital signs by age to screen for sepsis would be helpful. Triage assessment tools that utilize vital signs to identify children with sepsis in the ED setting have been successful.^{10,11} Another aspect of infant management that leads to practice variability is the variety of training backgrounds in UCC providers. It is imperative that UCC providers lacking formal pediatrics training are equipped to provide basic pediatric urgent care, since children comprise a quarter of the population at many UCCs in this study. Review of evidence-based guidelines (e.g., fever in infants) through continuing medical education, or dissemination of pediatrics-based resources (e.g., vital signs triage tools) may enhance UCC providers' confidence and comfort level with this age group.

When unsure about management of an infant, many providers endorsed good communication with pediatricians, particularly when follow-up was indicated. This addresses expectations from the AAP, which has concerns that urgent care and retail clinics may undermine continuity of care and the medical home model.^{5,12,13} Next steps to encourage more UCC providers'

Table 3. Sub-themes on providers' perceptions on managing head injuries.

Sub-theme	Quotes
Providers worried about intracranial hemorrhage or concussion.	<p>"A lot of the transfers [to the ED] may be for head trauma, and we know it's a low likelihood of any type of bleed, but it's a safety factor. So in those cases we're not really expecting to be right, we're expecting to be safe."</p> <p>"I take these things quite seriously with a great concern for a concussion and long-term implications for a concussion. We simply do a good exam. ... Not to say that I'm quick to order CT scans. There really are criteria for obtaining a CT."</p> <p>"If his speech is off; he has light sensitivity; his coordination is off, he would be immediately shipped out for a CT. [If] anything at all that seems to be off. That type of thing would—I would be very concerned. Always. Helmet or no helmet."</p>
Observation time and space was limited across most UCCs.	<p>"We try not to [keep patients for observation]. We only have six exam rooms. Seeing 50, 60, 70 patients in an 11-hour day is not unheard of... The volume has been pretty crazy."</p> <p>"No, [observation of a patient with head injury] is really not an option... It's not really a suitable place... the anxiety will be heightened just by being here. There's a lot of noise here. There's a lot of patients here. There's a lot of coughing, sneezing, retching... What you really want for this individual is for him to start resting the injured part as quickly as possible. I just don't feel this is the proper place... If I was that concerned, I'd probably refer him out."</p> <p>"At Urgent Care they want [the patients] in and out, because they time us on that."</p>

Table 4. Sub-themes on providers' perceptions on suturing lacerations and minor procedures.

Sub-theme	Quotes
There were widely varied comfort levels on pediatric facial lacerations. Most providers endorsed some concern about scars in children, and were more likely to transfer to an ED for concerns on cosmetic outcome.	<p>"Suturing is one of the things that I have no anxiety about. I've sutured a vermilion border in a two-year-old in an urgent care setting."</p> <p>"I personally do not suture faces... I'm not comfortable with it... If I can possibly get them just the best-trained person to do it, that's what I would do."</p> <p>"I guess we're always sensitive to scarring but I'm particularly sensitive to a younger age group of scarring. I might consider the alternative of referral to a plastic surgeon. It might be higher on my list of suggestions than it would be for an adult. "</p> <p>"Dog bites [to] the faces are awful. They're just so ragged and torn and need irrigation. The things to faces I always err on the side of sending them somewhere... Anything that goes over the vermilion border... Eyebrows, eyelids, anything that's gonna be really cosmetic."</p>
Restraining the uncooperative child was challenging, and would justify transfer to the ED.	<p>"Some of them we'll suture... in mom's arms. Sometimes it goes very well... Obviously the kids can reach a point where they're so big, if they're still resistant, there's no way that my staff can hold 'em down and get 'em sutured. That's certainly a reason for a transfer."</p> <p>"When a kid comes in say with a splinter that's a particular challenge... The parental anxiety and then both having to do a procedure on a kid. I mean, trying to give Lidocaine to a kid or trying to have a kid hold still. It's hard... We don't have the ability to restrain a child who needs a procedure who needs suturing. We don't have papoose. We have to have people draped over 'em. I'm not at all comfortable with that."</p> <p>"We only have three people in Urgent Care at a time so [restraining an uncooperative child] would tie up my entire staff."</p>

communication with patients' pediatricians may be development of quality improvement (QI) feedback after follow-up.

Head injury was concerning for many UCC providers, often leading to ED transfer. Established guidelines for mTBI in children identify those at low risk of ICH^{8,14,15}; however, these were not discussed by any UCC providers. For patients with mTBI that are low risk for clinically important injury, the practice of immediate ED transfer causes inconvenience to families, unnecessary ED resource utilization, and increases in costs.¹⁶⁻¹⁸ Reviewing evidence-based guidelines on mTBI, evaluating cases for QI, and discussing transfer protocols with local EDs may help UCC providers improve their triage of children who are transferred to the hospital.

UCC providers frequently reported difficulty managing uncooperative children requiring minor procedures. Providers suggested they would provide a better service to patients with the availability of a papoose board or some form of minimal sedation. UCC directors may consider implementing a minimal sedation program. Intranasal midazolam is well studied as anxiolysis for lacerations with a low side-effect profile that may be a safe and feasible adjunct to UCC providers' armamentarium.^{19,21} Furthermore, staff training in the use of ancillary immobilization (e.g., bed sheet wraps) and distraction may facilitate minor procedures such as lacerations.

LIMITATIONS

This study is limited geographically to privately owned UCCs in RI and may not be characteristic of UCCs nationwide. It is possible that the providers sampled are not representative of other UCC providers; however, we purposively recruited a wide range of UCC providers to obtain viewpoints from UCC providers that cover the breadth of practitioners in this setting.

CONCLUSIONS

UCC providers' perspectives allowed us to identify pediatric clinical scenarios frequently encountered in the UCC setting that are challenging to manage. Based on these findings we recommend that UCC providers utilize validated guidelines and decision tools on common diagnoses (e.g., fever in infants, mTBI), seek out education targeted to non-pediatric trained providers, and gain familiarity with minimal sedation or immobilization techniques for minor procedures. Given the relatively recent advent of UCCs, scarcity of research, and limited guidelines for children in this setting, there is opportunity to improve evidence-based care for children.

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Previous Presentations

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Acknowledgments

Special thanks to the University Emergency Medicine Foundation, Research Committee at The Alpert Medical School of Brown University which provided a departmental grant to fund this study.

Financial Support

University Emergency Medicine Foundation, Department of Emergency Medicine at The Warren Alpert Medical School of Brown University; Faculty Development Awards Program, Small Project Grant

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