“They told me to take him somewhere else:” caregivers’ experiences seeking emergency dental care for their children

By

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Abstract

Objectives: This mixed-methods study examined a) pediatric emergency dental care trends in two safety net clinics and b) emergency dental care-related experiences of young children’s caregivers.

Methods: Administrative data were used to describe and compare characteristics of emergency first-visits of children ages 0-6 in a community-based (CC) and a University-based (UC) safety net clinic from 2010-2014. In-person interviews were conducted with 10 caregivers of children ages 0-6 presenting for non-trauma-related emergency visits at the UC from January-August 2016. Interviews were transcribed verbatim, coded and analyzed inductively using Atlas.ti.7.5.9.

Results: Significantly more emergency first-visits were attended at the UC (33%) versus the CC (5%), and the majority of these UC visits were referrals. Caregivers were dissatisfied with the experienced barriers of access to care and lack of child-centeredness, specifically the referral out of the dental home.

Conclusions: A considerable proportion of children’s first-visits at dental safety net clinics is emergency care-related. Children’s caregivers voiced issues related to access to care and lack of child-centered dental care.

Policy Implications: New models are warranted to optimize child-centered dental care, especially for emergency care.
BACKGROUND AND SIGNIFICANCE

It is well-established that children’s oral health is heavily influenced by social
determinants of health including their caregivers’ income, education, and others.1 These
upstream factors, in turn, affect child oral health-related behaviors such as diet, oral hygiene and
dental care creating a “twin disparity” of poor oral health and inadequate dental care.2,3 For this
reason, optimal oral health is especially linked to meaningful use of health services for
preschool-age children in low-income families. At this age, children are entirely dependent on
their caregivers for their health care; however, most caregivers cannot accurately assess their oral
health status.4

The early establishment of a dental home is of paramount importance for young children,
and is a concept endorsed by all major professional bodies including the American Dental
Association (ADA), the American Academy of Pediatrics (AAP) and the American Academy of
Pediatric Dentistry (AAPD). With origins akin to the medical home, the dental home
encompasses a provider-patient relationship in which comprehensive, coordinated, and
continuously accessible care is provided in a compassionate, culturally sensitive, and family-
centered manner.5 Emergency care is included in this definition, underscoring total patient care
as a central tenet of the dental home.

Increases in Emergency Dental Visits

Over the past few decades, emergency visits for dental problems have increased
disproportionately compared to other conditions.6 Most of these visits have been by young adults
and young children.6-8 The primary reason a child visits a hospital emergency department with a
dental concern is changing. In 1994, 60% of pediatric emergency dental visits were a result of
trauma.9 A 2006 study reported that trauma was the cause of only 27% of pediatric emergency
dental visits, whereas 73% were the result of some type of dental infection.\textsuperscript{10} Arguably, most dental infections are preventable with proper self-care and routine dental care, but access to dental care remains an issue for many children.

**Barriers to Dental Care**

A recent policy review found wide variability between state and professional organization guidelines for after-hours emergency care, explaining to some degree increases seen in emergency department visits for dental reasons.\textsuperscript{11} Inadequate dental insurance coverage is a frequent barrier cited by patients using emergency dental services.\textsuperscript{6,7} Individuals with Medicaid or without insurance make up nearly 75% of those using the hospital emergency departments for dental reasons, and more than 80% of emergency dental patients at a university-based dental clinic.\textsuperscript{6,7,12} Despite insurance status being a major determinant influencing care-seeking, additional factors hamper routine preventive dental care utilization.

**Summary**

Inadequate preventive care and untreated dental disease lead children to frequently enter the dental system on an emergent rather than routine, preventive basis. Safety net clinics receive and treat a large proportion of pediatric dental emergencies, since unmet treatment needs are typically overlaid by barriers of access to care. There is scant evidence on young children’s families’ experience of interfacing with the dental care system while seeking definitive treatment or emergency care—a phenomenon that reportedly is on the increase. Accordingly, the objective of this study was to examine the pattern of pediatric emergency dental visits at two safety net clinics and to gain insights into caregivers’ experiences and perspectives related to seeking emergency dental treatment for their children.
SPECIFIC AIMS

The Primary Objective of this project is to examine the patterns of pediatric dental emergency care at two safety net clinics, and to provide an in-depth description of the caregivers’ experience seeking such care. To achieve this goal, the specific aims include:

1. To provide a backdrop for the second specific aim, we will compare first dental visits to two safety net dental clinics, one university-based and one community-based, including
   a. the nature of children’s first visits, emergency versus preventive,
   b. the demographics and time-based trends associated with first visits, and
   c. the return rate following the first visit; as well as
2. Understand caregivers’ experiences seeking emergency dental care for their children.

MATERIALS AND METHODS

Study clinics and populations

A mixed-methods approach was employed to describe the trends and characteristics of emergency first-visits in two safety net clinics in North Carolina (quantitative component) and gain an in-depth understanding of caregivers’ experiences and perspectives regarding their children’s dental care (qualitative component). For the first part of the study, we focused on non-trauma-related emergency dental care sought for children ages 0-6 at a community-based (CC) and a University-based (UC) safety clinic between 2010 and 2014. The CC is an urban six-chair dental clinic which primarily attends to a low-income population, offering a sliding-scale fee schedule for those not Medicaid-eligible. The UC is a ten-chair graduate pediatric dentistry training clinic, also attending to a low-income Medicaid population but does not offer sliding-scale fees. For the second part of the study, we interviewed caregivers of children ages 0-6
presenting for non-trauma-related emergency visits at the UC between January and August, 2016.

**Study procedures, data and analyses**

**Quantitative component**

A retrospective review of administrative data for all children ages 0-6 with visits between January 1, 2010 and December 31, 2014 (5 years) was conducted for both clinics. To study the trends and the nature of children’s first clinical encounters, registration and claims data were collected for children’s first visits including: age at the time of first visit, gender, insurance status, the Current Dental Terminology (CDT) billing codes on the date of the first visit and any subsequent CDT codes and dates billed within 365 days of the first visit. The CDT codes D0150 (comprehensive exam) and D0140 (limited, problem-focused exam) were the primary focus of the study, but co-occurring codes were also recorded to provide context for the first visit. A comprehensive first visit was defined by a D0150 code, while an emergency-driven, problem-focused first visit was defined by a D0140 code. To exclude limited examination/screening visits (billed under D0140) that took place in the context of evaluations for conscious sedation or general anesthesia at the UC, an indicator variable was created and used to filter out these occurrences based on electronic patient record administrative and tracking codes.

Descriptive statistics were used to summarize children’s characteristics (e.g., age and gender), annual trends (e.g., number of first-visits and proportion of comprehensive versus emergency-related), and return rates following first visits. Student’s t and Pearson X² tests were used to compare the distribution of continuous and categorical variables, respectively, in each clinic using STATA 13.0 (StataCorp LP, College Station, TX).

**Qualitative component**
Following the first part of the study based on the administrative claims review, the UC clinic was identified as the major site of emergency dental care between the two study sites. Caregivers of young children in the same demographic as in the quantitative part (ages 0-6) presenting for an emergency dental visit were recruited and enrolled in a qualitative study, aimed to provide insights into their experiences and perceptions regarding their children’s oral health care, including their emergency dental-care seeking itinerary. The caregivers (parents or legal guardians) provided anonymous demographic and dental history information for themselves and their children. English-speaking caregivers only were eligible for study participation.

Upon providing written, informed consent, they participated in one-on-one interviews conducted on the day of the emergency visit prior to beginning the emergency appointment using a semi-structured interview guide. The interview guide was designed based on a priori themes from the literature and with guidance from qualitative research expert (PM) and covered the following domains: caregivers’ oral health barriers, oral health attitudes regarding dental care seeking, as well as ideas for improvements. The semi-structured interview guide was pilot tested and iteratively refined during the study interviews to promote open-ended discussions about the research topic.13 Interviews were conducted until theoretical saturation occurred, where common themes began to recur,14 with a minimum of 10 interviews. A $20 gift card was provided to all study participants as compensation for their time. Interviews lasted between 20 and 30 minutes and were digitally recorded. Interviews were then transcribed verbatim and double-coded by two investigators (BM and KD). Coding and inductive analysis was done using Atlas.ti.7.5.9 (ATLAS.ti GmbH., Berlin, Germany). We used a qualitative description framework,15 wherein deductive codes, or sensitizing concepts, were created a priori based on information provided in the literature, as well as information gleaned from the claims review, and inductive, or data-
driven, codes were created based on a content review of the first five transcriptions to account for information not previously acknowledged in the literature. Emerging themes, highly frequent codes, and illustrative quotes provided the basis for reporting.

**RESULTS**

*Quantitative component*

There were 1,119 first visits at the UC and 1,907 first visits at the CC meeting the inclusion criteria during the 5-year study period (Table 1). Few differences were noted with regard to the insurance status and the distribution of ages of children seen at the two clinics (Table 1). The proportion of emergency first-visits increased over time from 20% in 2010 49% in 2014 at the UC, but remained relatively constant (4-7%) at the CC. Overall, the UC attended to a significantly higher proportion of emergency first-visits compared to the CC (33% versus 5%, \( P<.001 \)), yet it experienced a lower return rate following such visits (36% versus 55%, \( P<.001 \)). We investigated these findings further in the qualitative part of the study by interviewing 11 caregivers of young children presenting at the UC for an emergency first-visit.

*Qualitative component*

The characteristics of the qualitative study participants are presented in Table 2. Most caregivers were low-income and obtained less than a Bachelor’s degree of education, and most children had visited a dentist within the previous six months.

**Child-Centered Care**

Child-centeredness arose as the strongest theme in the interviews. Caregivers expected more from the child’s dental home, especially for the dentist to find a way to provide compassionate dental care within the context of the child’s overall well-being, keeping the total patient experience at the forefront.
“At the other dentist, they were a bit aggressive. I guess if you took your time with him and let him know that he’s okay, and not make him feel rushed or where he feels as though he has to be held down just to get something done…Show them a little compassion.”

Others expected collaboration with the dental home to manage the child’s needs, including two-way oral hygiene education, increased preventive recall frequency, and a shared responsibility for the child’s current dental problem.

“You’re trying to figure out what’s wrong with your child, and how you could do better, or what things you can do to prevent them from having bad oral hygiene, and (some dentists) don’t really explain it.”

Another said, “We should’ve probably been able to schedule more appointments…I feel like we would have caught it earlier like every three months or so, or watching it (more closely). Then, it wouldn’t have gotten as bad as it did.”

These caregivers, like many others with children presenting for a dental emergency, were unhappy with the child’s regular dental home for referring the child out of the dental home for emergency care.

**Dissatisfaction with Dental Services and Referral**

In many instances, children were seen by some combination of pediatrician, general dentist, or pediatric dentist for dental pain but referred out of the dental home for definitive emergency care. Several children received multiple referrals prior to seeking care at the university-based clinic. Consistently, caregivers expressed a clear dissatisfaction with the referral process, particularly with the original dentist failing to address the child’s chief complaint.

Practice barriers such as scheduling difficulties or not being a Medicaid provider were common
reasons for the children to receive multiple referrals, but represented dysfunction in the dental delivery system. For some caregivers, this spurred a self-referral approach.

“He has a regular pediatric dentist for his dental work. I had taken him in and explained to them the situation (of severe pain for three days), but they basically, they didn’t really seem to do much about it. They gave him an appointment for (4 months), so you imagine you’re in pain and they won’t do anything (for 4 months)...That was kind of really upsetting to me.”

Another said: “(The general dentist) just said it was abscessed and they told me to take him somewhere else. They pretty much left it up to me to take him...I was so not impressed.”

Values, Beliefs, Perceptions

The dental home fell short of caregiver expectations to meet the needs of the child in emergency situations in our study population. However, not all caregivers appreciated oral health in a similar way. Distinct differences in values, beliefs, and perceptions related to oral health emerged. Most caregivers recognized the importance of preventive dental visits to maintain good oral health and reported keeping these visits for their children. However, some believed nothing could be done to prevent the child’s dental problem.

Multiple caregivers shared a fear of dental care, frequently arising from a bad childhood experience. Many expressed fear of the dentist or associated having a cavity with having intense pain. For some, their own experience was a motivator to seek care for their children.

“I went from 15 or 16, no cavities to an explosion all of a sudden, so yeah, I’ve had a rough time. I didn’t want him to go through that same kind of thing.”

Oral Health Care Barriers
In spite of these differences in values and perceptions, many caregivers experienced practical barriers to seeking care, many of which have been previously reported. Far and away the most frequent barrier to seeking routine preventive care was financial limitations, despite most of the children having Medicaid. Other reported barriers included transportation issues, dental fear, busy caregiver work schedules, busy dental office schedules, and practice barriers such as office policies concerning patients of record or accepting children with Medicaid. Dental fear was a major barrier to overcome, and just as in the caregivers, a child’s fear frequently stemmed from previous experience.

**Dysfunctional Dental Care Delivery System**

All of these themes converged on the notion of a dysfunctional dental care delivery system even for those with dental homes. It was obvious that caregivers were trying to obtain appropriate care from providers with whom they have established relationships. However, the providers failed to reciprocate the attempt as reported by the caregivers. Using the child’s dental home to explain this, the majority of caregivers pointed to an unawareness of pediatric dentistry as a specialty. Many children had previous experience with a general dentist, and many of the caregivers were upset that the general dentist did not address the child’s emergency problem. One caregiver even went so far as to recommend that general dentists should only see adults.

The dysfunction is not confined to dentists alone; physicians and caregivers play an important role in the oral health system, too. Caregivers desired better interprofessional relationships between dental and medical professionals, especially for oral health education and preventive dental care provided in many physician offices.

“I think (oral health topics) should be better explained because when they start going to the regular doctor’s office, they don’t tell you at a certain age that they should be going
to the dentist or anything about brushing teeth or anything else...They’ll ask everything else about her weight and how she eat and stuff, but it’s never anything about her teeth.”

Taking a systems perspective, when asked where caregivers would seek care for future emergency dental care, few recommended the dental home, while others preferred the pediatrician. Others made conditional recommendations based on the extent and severity of the problem.

“I said, ‘Well, I’m gonna take him to the doctor first before I take him to the dentist.’ When we went to the pediatrician (for his toothache), he suggested (going to the ED).”

Another said, “If it was an abscess or something, I would probably go to an emergency (department), but if it was a dental (problem), I would just go to the regular dentist.”

Lastly, it appeared that having Medicaid made it more difficult for caregivers to find providers to treat their children, reflecting a structural dysfunction within the oral health care system. These children have a comprehensive dental benefit, and the dental office is often the best place to treat a dental emergency. Yet, many caregivers experienced great difficulty when searching for providers who would both see their child and accept their insurance.

“All throughout the past three days, I’ve been looking around clinics that would accept Medicaid, but most of them we have to schedule an appointment.”

This dysfunction in the dental care delivery system represented a dental home failure for families seeking emergency care. A functional system would provide comprehensive, compassionate child-centered care, in a manner that care is coordinated between different services and accessible to all families.

Discussion
This mixed-methods study leveraged administrative claims data and in-person interviews with children’s caregivers to gain an in-depth understanding of issues related to young children’s emergency dental care-seeking patterns and experiences in safety net clinics. We found that a considerable proportion of children’s first-visit at two dental safety net clinics is emergency-related and the trend appears to be on the increase. Children’s caregivers expressed their general dissatisfaction with the dental care delivery system, barriers of access to dental care and lack of child-centeredness. Importantly, these insights underscored issues related to a child’s dental home, especially when emergency care was needed.

This problem has been highlighted by recent reports;\textsuperscript{11} it is an important threat to the meaningful use of oral health care services by this low-income population and represents a dental care delivery issue from human, clinical, and system perspectives. Examples of these issues have previously been reported, some of which our results confirmed, and include low health literacy and dental neglect, transportation difficulties, busy schedules, daycare arrangements for siblings, long in-office wait times, school absence policies, discrimination by race or language.\textsuperscript{3,16-19} More importantly, several of these issues, namely low health-literacy and its associated sub-optimal utilization of oral health services, are linked to increased dental expenditures.

Findings from the administrative claims review suggest that the dental home might work for families seeking routine care—more than two-thirds returned within the year following the first visit. However, both the claims review and the qualitative work suggest that the dental home is vulnerable in cases of emergency care for this population. Although referrals are part of the routine scope of practice of dentistry, they may be inappropriate when they are made on an acute or emergent basis. According to the Committee on Dental Accreditation standards, dental graduates should be competent in triaging and providing appropriate emergency dental care.\textsuperscript{20}
Caregivers in the present study clearly desired child-centered care, including emergency care, an explicit characteristic of a dental home. Yet, the dental home failed these families by not being able to provide or arrange for timely care. An apparent discordance exists between how professional organizations define a dental home and how caregivers experience it. Multiple caregivers interviewed in this study went through multiple referrals before finally receiving care at a tertiary university-based clinic.

The question for policymakers is how to translate this information into policies to improve emergency care for children with a dental home. Since referrals were identified as a key reason for more emergency first visits at the university-based clinic, the referral process seems like a reasonable starting point. Using the “home” in dental home as a starting point, finding ways to make the home bigger could be useful. After all, one typically would not ask a young child in need to leave the home when a problem arises; instead, one would offer help or use existing resources to solve the problem. Perhaps, dental homes can expand to include general and pediatric dentists with formal collaborations in a group practice setting. In this model, the pediatric dentist could reasonably serve as both a primary and specialty care provider as they have been trained to do, and the children could stay within the same home. More broadly, more dentists and dental practices could be integrated within the medical home to form patient-centered medical homes, accountable care organizations, or clinically integrated networks. In effect, it may be helpful to conceptualize a health home with medical, dental, behavioral/mental, and vision occupying different rooms within the home. For these newer models of care, a financially defined population is often necessary. In many cases, a Medicaid population makes the most sense. An integrated home would certainly take more effort, but may be a worthwhile
discussion amongst policymakers. As this study and others have shown, opportunities exist for policymakers to improve the dental home for emergency care.

This study’s findings should be viewed acknowledging its limitations. First, we studied retrospective claims data from two nearby safety net clinics in North Carolina and interviewed a small number of caregivers in one of these clinics, excluding Spanish speakers—these features diminish the generalizability of our results. Nevertheless, the quantitative data are in general agreement with nationally increasing trends of emergency-related dental visits for young children, while the themes emerging from the qualitative component regarding child-centeredness and the dysfunction of the dental home are likely broadly relevant. The interviewed caregivers were illuminating with regard to their experiences navigating the dental care system and seeking definitive treatment for their young children, and theoretical saturation of emerging themes was quickly reached among this sample.

In sum, this study found that a considerable proportion of children’s first-visits at dental safety net clinics is emergency-related. Children’s caregivers voiced issues related to access to care and lack of child-centered dental care. Concerted efforts by all professional and policy stakeholders are needed to address this public health problem; new, effective dental care models are warranted to optimize child-centered dental care, especially for emergency care.
Table 1. Comparison of first-visit type, child characteristics and return rate of children ages 0-6 seen at the university-based and the community-based clinic between 2010 and 2014.

<table>
<thead>
<tr>
<th></th>
<th>University clinic</th>
<th>Community clinic</th>
<th>p-value†</th>
</tr>
</thead>
<tbody>
<tr>
<td>First-visits (N)</td>
<td>1,119*</td>
<td>1,907</td>
<td></td>
</tr>
<tr>
<td>Emergency</td>
<td>33%</td>
<td>5%</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Age (years, %)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-1</td>
<td>5%</td>
<td>14%</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>10%</td>
<td>22%</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>21%</td>
<td>15%</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>30%</td>
<td>13%</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>21%</td>
<td>15%</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>13%</td>
<td>21%</td>
<td></td>
</tr>
<tr>
<td>mean [SD]</td>
<td>3.9 [1.4]</td>
<td>3.6 [1.8]</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Insurance type (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medicaid</td>
<td>75%</td>
<td>70%</td>
<td>0.760</td>
</tr>
<tr>
<td>Non-Medicaid‡</td>
<td>25%</td>
<td>30%</td>
<td></td>
</tr>
<tr>
<td>Return Rate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comprehensive first-visit</td>
<td>66%</td>
<td>69%</td>
<td>0.516</td>
</tr>
<tr>
<td>Emergency first-visit</td>
<td>36%</td>
<td>55%</td>
<td>&lt;0.001</td>
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* after exclusion of 527 children with first-visits due to referral for evaluation for treatment under conscious sedation or general anesthesia
† derived from X² tests for categorical variables and t-test for the comparison of ages
‡ includes private insurance and no insurance
Table 2. Characteristics of the 11 study participants (caregivers of young children, ages 0-6) presenting to the University clinic for an emergency dental visit

<table>
<thead>
<tr>
<th>Previous Dental Visit</th>
<th>Age</th>
<th>Caregivers</th>
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<tbody>
<tr>
<td>Yes</td>
<td>&lt;30 years old</td>
<td>5</td>
</tr>
<tr>
<td>No</td>
<td>&gt;31 years old</td>
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<table>
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<tr>
<th>Most recent dental visit*</th>
<th>Gender</th>
<th>Age</th>
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<tbody>
<tr>
<td>&lt;6 months ago</td>
<td>Male</td>
<td>3</td>
</tr>
<tr>
<td>6-12 months ago</td>
<td>Female</td>
<td>8</td>
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<tr>
<td>≥12 months ago</td>
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<th>Age</th>
<th>Race/ethnicity</th>
<th>Caregivers</th>
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</thead>
<tbody>
<tr>
<td>&lt;3 years old</td>
<td>White, non-Hispanic</td>
<td>5</td>
</tr>
<tr>
<td>≥4 years old</td>
<td>White, Hispanic</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>African American</td>
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<thead>
<tr>
<th>Gender</th>
<th>Race/Ethnicity</th>
<th>Caregivers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>High School</td>
<td>2</td>
</tr>
<tr>
<td>Female</td>
<td>Some College</td>
<td>6</td>
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<tr>
<td></td>
<td>Bachelor’s degree or higher</td>
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<th>Race/Ethnicity</th>
<th>Annual Household Income*</th>
<th>Caregivers</th>
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<tr>
<td>White, non-Hispanic</td>
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<tr>
<td>White, Hispanic</td>
<td>$25,001-$45,000</td>
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<tr>
<td>African American</td>
<td>&gt;$45,001</td>
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<th>Type of Insurance</th>
<th>Number of Children</th>
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<tbody>
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<td>Public</td>
<td>0-1</td>
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<tr>
<td>None</td>
<td>&gt;3</td>
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References


