

Factors Associated With Comprehensive Dental Care Following an Initial Emergency Dental Visit

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ABSTRACT

Purpose: The purpose of this study was to characterize the patient population utilization of a dental home as grouped by: (1) age; (2) sex; and (3) payment method.

Methods: A retrospective chart review of 1,020 patients, who initially presented for an emergency visit, was performed. From the original data pool, 2 groups were delineated: (1) those patients who returned for comprehensive dental care; and (2) those who did not return for comprehensive dental care.

Results: Patients with private dental insurance or Medicaid dental benefits were statistically more likely to return for comprehensive oral health care than those with no form of dental insurance. Younger patients (≤ 3 years of age) were least likely to return for comprehensive dental care.

Conclusions: Socioeconomic factors play a crucial role in care-seeking behaviors. These obstacles are often a barrier to preventive and comprehensive oral health care. (J Dent Child 2005;72: 78-80)

KEYWORDS: COMPREHENSIVE DENTAL CARE, DENTAL HOME, EMERGENCY DENTAL CARE

According to *Oral Health in America: A Report of the Surgeon General*, dental caries is the single most common chronic disease of childhood. It is 5 times more common than asthma and 7 times more common than hay fever.¹ In Kentucky, dental caries is a major health and childhood development problem. The state's levels of both untreated decay and caries experience are much worse than national levels for the same indices.²

Amidst the growing oral health disparities of children and adolescents is the issue of access to preventive and emergency dental care. The medical profession has long embraced the idea of identifying a provider of record for a child for all aspects of medical care, including the management of acute illnesses.³ The concept of a dental home, however, is rather novel to the dental profession.⁴

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One indicator advocating for the dental home model is the number of children seeking emergency care from hospital emergency departments. Sheller et al determined that, for children 3.5 years of age and younger who had caries-related emergencies, the emergency department visit was the first contact for 52% of the study population.⁵

In a similar study, it was found that 62% of children treated for dental emergencies in a children's hospital from 1982 to 1991 had no regular source of dental care.⁶ While other studies have addressed pediatric dental emergencies in hospitals,^{5,7,8} few have discussed dental emergencies in an outpatient clinic. Agostini et al for example, found that 32% of emergency patients of a nonhospital pediatric dental clinic presented due to caries related emergencies, while 23% presented due to traumatic injuries. In that study, there was a slight female predilection and most emergency visits were of children 6 years of age or younger.⁹

In a recent longitudinal cohort study, the authors concluded that Medicaid-enrolled children who had an early preventive dental visit were likely to use subsequent preventive services.¹⁰

Demographic variables, as they relate to the concept of a dental home, have rarely been discussed in the pediatric dentistry emergency literature. Nowak and Casamassimo defined

the dental home as "a locus for preventive oral health supervision and emergency care. It can be a repository for records and the focus for making specialty referrals."⁴ In the present study, patients were considered to have a dental home if they first reported for emergency treatment and then returned for comprehensive care.

The purpose of this study was to characterize the patient population utilization of a dental home as grouped by: (1) age; (2) sex; and (3) payment method.

METHODS

CLINICAL SETTING

The University of Kentucky postgraduate pediatric dentistry clinic is a multiple operatory dental clinic which is the principle training site for pediatric dentistry residents. The clinic provides outpatient dental services to a multicultural, primarily underserved, and rural population. Patients with dental emergencies who present to the clinic are treated between 8 AM and 5 PM Monday through Friday.

DATA COLLECTION

Pursuant to approval by the University of Kentucky Institutional Review Board, for this retrospective chart review, utilization of a computerized patient tracking system yielded computer generated reports of all patients who presented for emergency visits during regularly scheduled office hours from January 1 to December 31, 2001. Their charts were retrieved and reviewed. Patients with a chief complaint of caries or other oral-related pain, nontraumatic in origin, were included. From the original data pool, 2 groups were delineated:

1. those patients who returned for comprehensive dental care, as defined by the occurrence of at least 1 prophylaxis and at least 1 restorative procedure after the emergency visit ("returnees");
2. those who did not return for comprehensive care ("nonreturnees").

The 2 data sets were then evaluated relative to: (1) age; (2) gender; and (3) payment method. Age groups were divided to highlight various stages of development (ie, infant/toddler, school age, preadolescent, adolescent). A *P* value of $\leq .01$ was considered statistically significant for this study.

RESULTS

A total of 1,020 patients were identified who met the selection criteria. Chi-square analysis found a statistical difference ($P = < .0001$) in the payment status of returnees and nonreturnees. Patients with commercial dental insurance or Medicaid dental benefits were statistically more likely to return to the clinic for comprehensive oral health care than private pay patients (ie, those with no form of dental insurance). Gender was not a factor affecting patients establishing a dental home. Interestingly, the youngest patient group (0 to 3 years of age) was statistically the least likely to return to the clinic for comprehensive care ($P = < .0007$). Results are shown in Tables 1 and 2.

Table 1. Status by Payment Category ($P < .01$)

Status	K-Chip and Medicaid	Private insurance	Private pay	Total
Returnee	185	172	44	401
Non-returnee	183	170	266	619
Total	368	342	310	1020
Statistic	DF	Value	Probability	
Chi-square	2	81.8716	<.0001	

Table 2. Status by Age Category ($P < .01$)

Status	0-3	4-6	7-12	13-18	Total
Returnee	42	93	206	76	417
Non-returnee	105	159	237	102	603
Total	147	252	443	178	1020
Statistic	DF	Value	Probability		
Chi-square	3	16.8970	0.0007		

DISCUSSION

This project's results support previously published studies. Hardison et al found that 24- to 59-month-old Kentucky children demonstrated the highest caries rates. In fact, approximately 31% of this age group had severe early childhood caries.² The present study found that the youngest children (0-3 years) were the least likely group to utilize the comprehensive treatment offered by a dental home. Nearly 72% of children in the youngest age cohort never returned for comprehensive treatment. It should be noted that children may wait an average of 3 to 6 months for a preventive and treatment planning appointment. Consequently, they may elect to seek care elsewhere. Data from the Kentucky Children's Oral Health Survey² and NHANES III,¹¹ however, support this study's findings and suggest that this age group is in the most need of emergency and comprehensive treatment and, thus, a dental home.

Tang et al¹² reported that children at or near poverty levels do not use dental services as frequently as their nonpoor peers. This study's results suggest similar care-seeking behaviors. Medicaid recipients and individuals with private insurance were much more likely to return for comprehensive treatment than patients with no form of dental insurance coverage. Socioeconomic status and ability to pay negatively affect the utilization of dental services and dental care accessibility.^{13,14,15}

Certain limitations exist within the current study. There was no method to control for patients seeking other care providers for emergency and/or comprehensive treatment. This is unlikely, however, especially in the eastern Kentucky population, because there is a paucity of oral health care

professionals—particularly pediatric dentists. Seale and Casamassimo also found that very young children (especially those with high caries levels) and Medicaid-covered children have difficulty finding dental care in the general practice community.¹⁶ The information may be extrapolated to include the treatment preferences of Kentucky general practitioners. Another limitation which should be highlighted is the definition of a dental home used in this study. Long-term patient follow-up would have provided further insight into the utilization of a dental home for preventive, comprehensive, and emergency dental services.

The ability to congregate patients based upon race, family income, and parental education levels would have provided further information to compare to national norms. Therefore, future similar studies should administer a survey to parents/caregivers of new emergency care patients. This assessment tool would question parents/caregivers about each of the specific potential barriers to care outlined in this manuscript to determine if those barriers propelled them to seek emergency and episodic care for their children.

Coupled with additional demographic, educational, and socioeconomic status questions, this survey's results will provide additional insight into the care seeking behaviors of parents in Kentucky that may ultimately be extrapolated to other relevant areas of the United States.

CONCLUSIONS

Based on this study's results, the following conclusions can be made:

1. Socioeconomic factors play a crucial role in care-seeking behaviors and often provide a barrier to preventive and emergency treatment.
2. Kentucky's youngest age cohort (≤ 3 years of age) is the least likely to receive comprehensive dental care.
3. The future goal will be to identify and remove barriers to care so that all children in the state can be a part of a dental home.

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