

# Dental-related Visits at Nicklaus Children’s Hospital Emergency Department: Retrospective Study



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## Introduction

- Emergency department (ED) utilization for dental emergencies has increased in the United States (US).
- From 1995 to 2002, ED utilization for pediatric dental emergencies has increased by 38%.
- The reasons for dental emergencies in children vary from pain as consequence of dental caries, pulp and periapical lesions, gingival/periodontal lesions, mouth cellulitis, and dental trauma.
- Dental caries impact children quality of life for reasons including toothache, limitation on food intake, sleeplessness, irritability, diffidence, and social impairment.
- EDs are not generally equipped or staffed to provide comprehensive restorative dental care.

## Purpose

- To assess dental-related-visits at Nicklaus Children’s Emergency Department (ED) from 2016-2021.

## Methods

- Sample included encounters with a primary admitting diagnosis of caries, trauma, disorder of pulp and periapical tissues, disease and conditions of periodontium, and communicable diseases. Patients were categorized as having length of stay (LOS) < 24-hours and ≥24-hours. Counts and proportions were reported for categorical variables. Analysis were conducted in SAS version 9.4.

## Statistical Analysis Plan

- The records of 3176 patients, with 3220 visits for Emergency Department (ED) with dental related problem were analyzed.
- The subjects were children 0-18 years of age who visited the NCH-ED from 01/01/2016 to 07/02/2021.
- The information collected included encounter ID, encounter type, age, sex, primary diagnoses codes, length of stay (LOS) >24 hours, LOS <24 hours, and year of visit.
- All emergencies treated by ED attending, ED MD resident, ED MD fellow were included.
- Descriptive statistics were used to summarize and present the data.

Fig.1 Number of visit’s based on sex

Characteristics	Overall (%)	Group		p-value*
		<24 hrs (%)	>=24 hrs (%)	
Sex				
Female	46	46.2	45.4	0.8144
Male	54	53.8	54.6	

Fig.2 Number of visits based on age

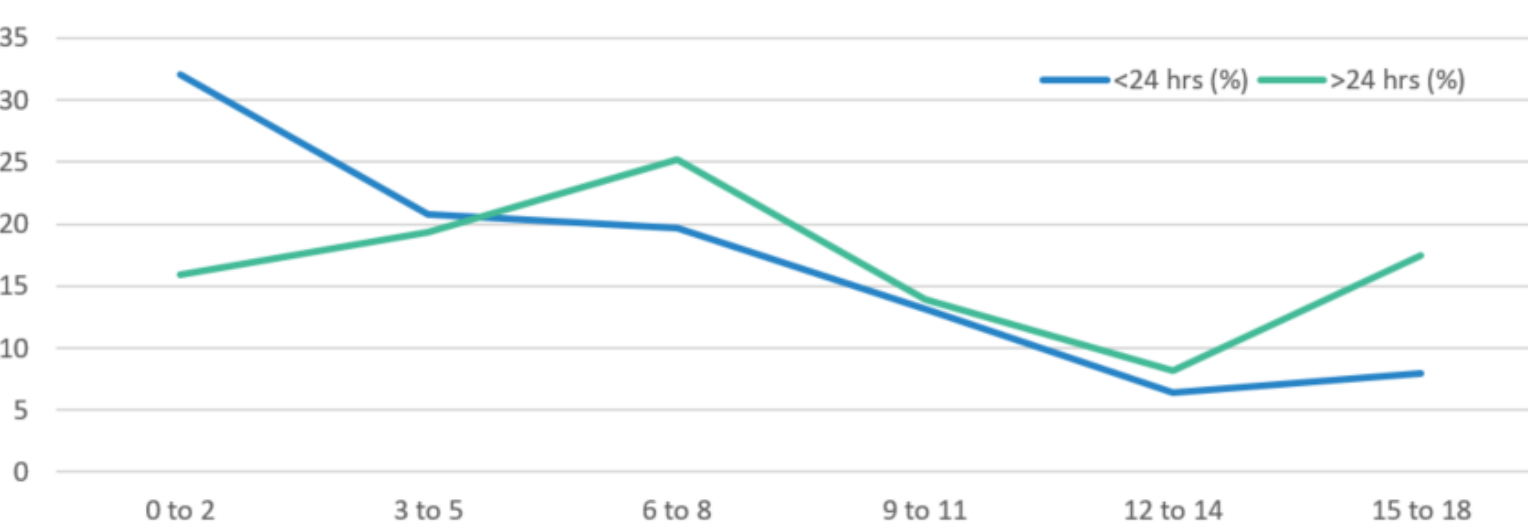


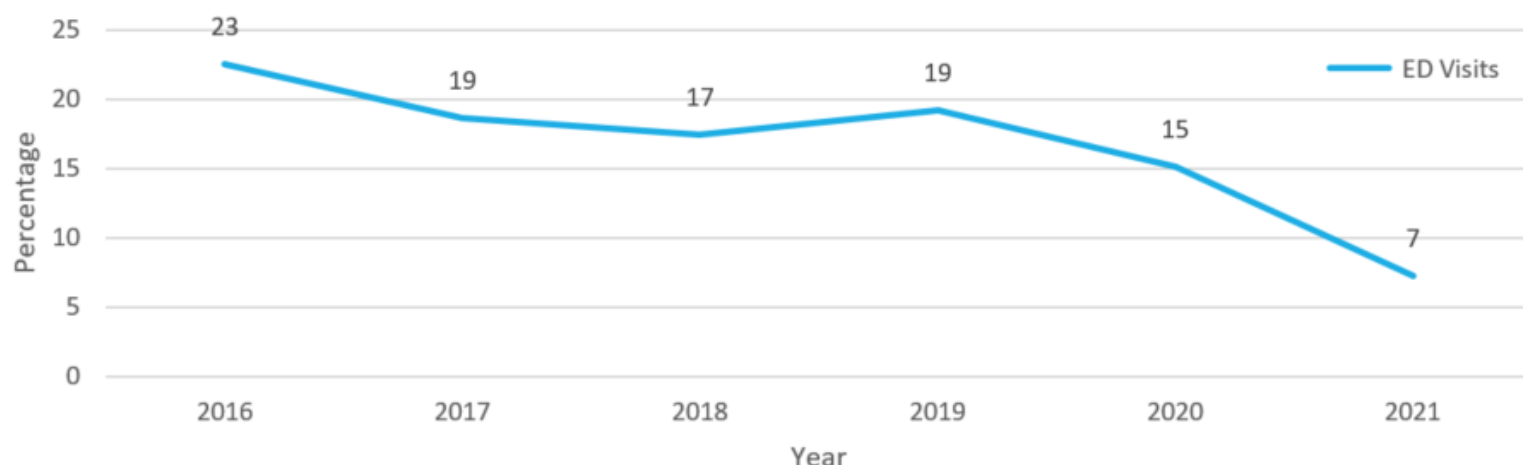
Fig.3 Most common ICD 10 codes

ICD 10 codes group	Overall (%)	Group	
		<24 hrs (%)	>=24 hrs (%)
Dental caries	16	17	3
Trauma and Related Conditions	15	16	2
Disorder of pulp and periapical tissues	15	12	50
Disease and conditions of the periodontium	14	15	5
Communicable disease	13	12	17

Fig 4. ICD codes by age

Age	Dental caries		Disorder of the pulp and periapical tissues		Disease and conditions of the periodontium	
	<24 hrs (%)	>=24 hrs (%)	<24 hrs (%)	>=24 hrs (%)	<24 hrs (%)	>=24 hrs (%)
0-2	2	2	2	2	23	12
3-5	3	2	12	60	13	6
6-8	3	5	20	74	11	3
9-11	5	0	19	56	8	0
12-14	11	0	17	38	9	10
15-18	9	4	17	49	9	2

Fig.5 Number of visits by years



## Results

- In total, 3,220 visits were included in the analysis and 92% had LOS of < 24-hours. There was a slight male predilection with 54% males and females 46%.Children 0-2 years old had the highest proportion of ED-visits with LOS of < 24-hours, while children 6-8 years had the highest proportion of ED-visits with ≥24-hours. The most common admitting diagnosis for ED-visit were dental caries (17%) with < 24-hours LOS, while disorder of pulp and periapical tissues (50%) was the most common among visits with ≥24-hours of LOS. About 2% of the patients had multiple visits. Overall, a decline was observed in dental-related ED-visits from 2016 (22%) to 2021 (7%).

## Conclusion

- Proportion of dental-related-visits at the Emergency Department decreased in the past few years at Nicklaus Children’s Hospital in South Florida.
- Caries continues to be the most common admitting diagnosis.
- Disorder of the pulp and periapical tissues was the most common admitting diagnosis on patients staying for more than 24 hours.
- The lack of an established dental home for the 0-2 year age-group may be one contributing factor for the highest number of ED-visits.

## Works Cited

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