

## INTRODUCTION

- Dental caries, or tooth decay, is one of the most prevalent childhood diseases across the globe<sup>1,2</sup>. When left untreated, tooth decay can lead to unfavorable outcomes such as pain, local and systemic infection, and loss of function, which can ultimately affect learning, eating and other activities necessary for normal growth and development<sup>3</sup>. Pediatric dentists attempt to provide dental treatment in traditional settings. In high-risk populations, where there is a high prevalence of dental caries, patients often require extensive dental treatment for which sedation is recommended to ensure the safety and welfare of the child.
- As oral health practitioners, it is important to properly communicate and educate parents and legal guardians regarding the urgency of completing necessary dental treatment, and the consequences of failure to ensure treatment is completed. However, despite recommendation and explanation of dental treatment, there are incidences where treatment is not completed, at which point potential for dental neglect is considered.
- The American Academy of Pediatric Dentistry (AAPD) defines dental neglect as "willful failure of parent or guardian to seek and follow through with treatment necessary to ensure a level of oral health essential for adequate function and freedom from pain and infection"<sup>1</sup>. It is necessary to acknowledge that barriers exist that may prevent completion of dental treatment. This study will aid in identifying the most common barriers this patient population is subject to. It will also allow us to categorize these barriers as high or low risk for dental neglect. These findings can then be used to generate a protocol for reporting dental neglect to be used in our clinical setting.

## METHODS

- Data Collection:** Dentrix Enterprise software was used to complete a retrospective review of dental charts where dental treatment under general anesthesia or deep sedation was recommended. Chart reviews indicating a GA or IV treatment recommendation code, but not indicating a completion code, were identified. An in-depth chart review was done to determine the reason the treatment was not completed. The parent/guardian's self-reported reasons for failure to complete treatment were recorded and categorized by levels of risk for dental neglect (Figure 1). These findings will be used to establish a protocol for reporting dental neglect in the dental clinical setting.
- Identifying and Categorizing Barriers to Care:** Based on the information obtained through the chart review, barriers to care will be identified and categorized based on risk of dental neglect. Those barriers which may be temporary, or more easily overcome, were deemed low risk. Reasons for failure to complete treatment which made clear parents or guardians overlooked the importance of oral health, or for which adequate intervention methods do not exist, were deemed high risk (Figure 2).

**Statistics:** Descriptive statistics using frequencies and percentages were used to describe the number of patients for whom treatment under deep sedation or general anesthesia was recommended and to determine the number of patient who did or did not receive treatment. Descriptive statistics were also used to describe the self-reported reasons a patient did not present for treatment. A Chi-Square test for independence was done to determine whether a High-Risk reason for not completing treatment was truly indicative that a patient was at high risk of not completing dental treatment.

## METHODS

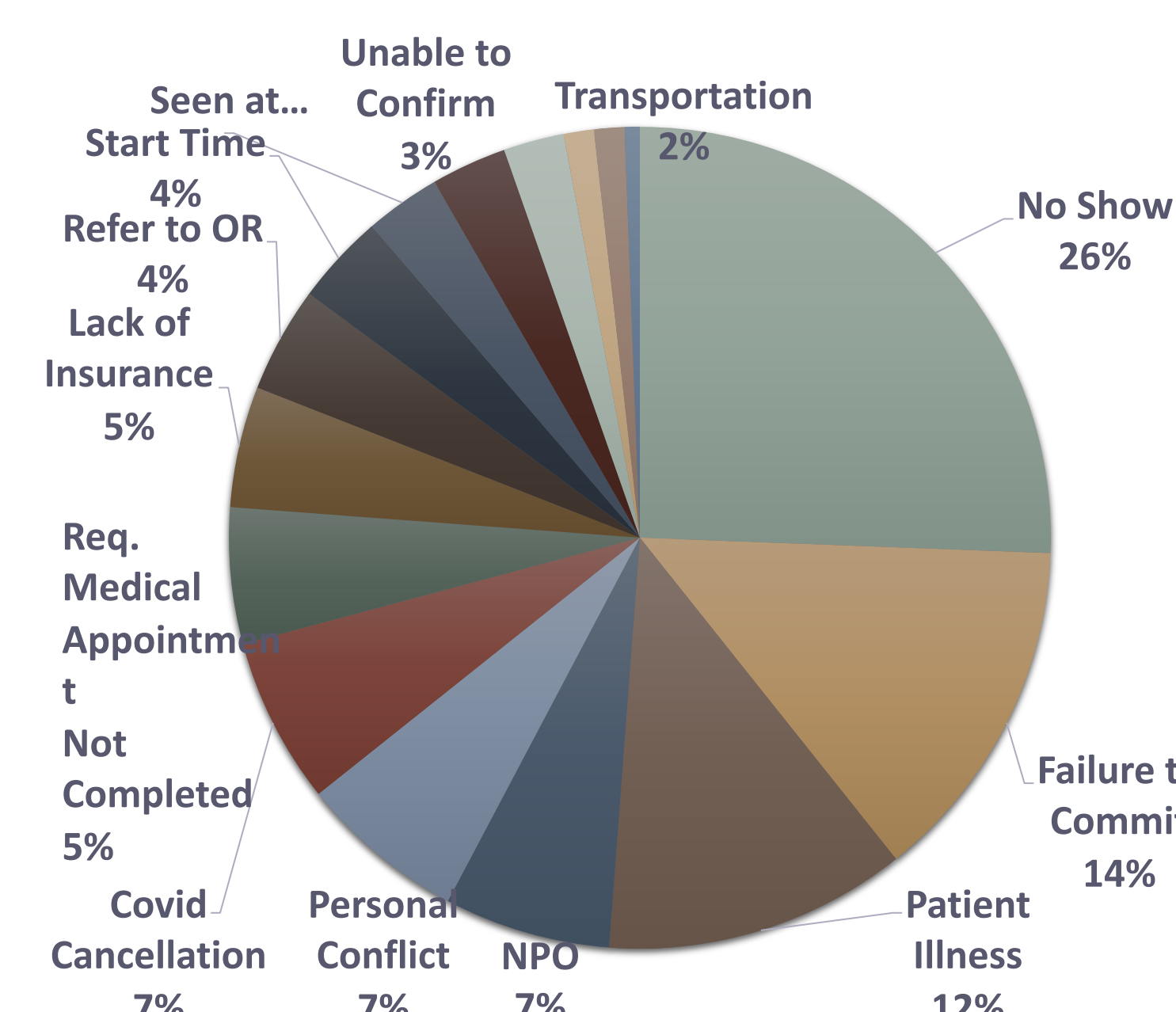
High Risk for Dental Neglect	
Start Time	Patient failed to show at an appropriate time for procedure to take place
No Show	Patient did not arrive for appointment after appointment was confirmed
Unable to Confirm	Schedulers were unable to contact family to confirm appointment
Failure to Commit	Patients appointment was not scheduled after guardian agreed to suggested treatment
Cancelled Without Reason <24 Hours Before Appointment	Guardian cancelled previously confirmed appointment <24 hours before appointment without reason
NPO Violation	Patient appointment cancelled due to inappropriate eating or drinking prior to treatment
Low Risk for Dental Neglect	
Transportation Issues	Patient was unable to secure transportation for appointment
Patient Illness	Guardian reported patient had an illness that warranted delay of appointment
School Excuse	Patient had a school commitment that could not be missed
Personal Conflict	Patient's guardian's morals or ideology did not align with suggested treatment
Employment Conflict	Guardian could not take of work to bring child to appointment
Family Emergency	Guardian reported an urgent family matter
Lack of Insurance Coverage	Patient did not have active insurance at the time of the appointment
Required Medical Appointment Not Completed	Patient required clearance visit to specialty physician or PCP and did not attend

Figure 2: Categorization of Self-Reported Reasons Patient Failed to Complete Treatment

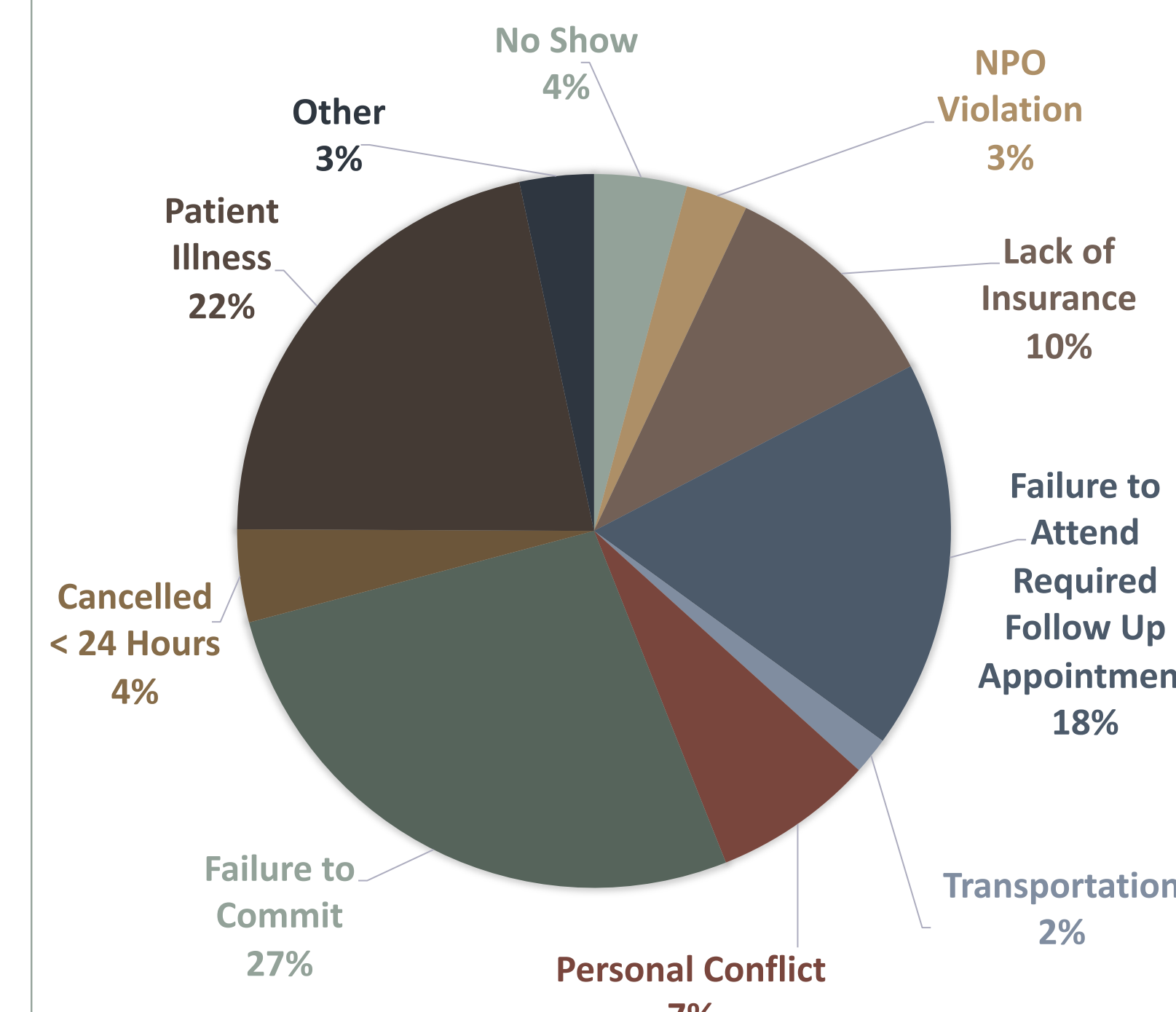
Self-reported reasons for failure to complete treatment were recorded and categorized based on risk for dental neglect. Those self-reported barriers which can be overcome were considered low risk. These are also barriers which may be temporary (i.e., illness), or have interventions already in place (i.e., hospital transportation, financial advisors). Those that are considered high risk are those that suggest the parent or guardian chose to neither seek or follow through, with treatment recommended to the patient.

## RESULTS

SELF-REPORTED REASONS PATIENTS FAILED TO COMPLETE TREATMENT UNDER DEEP SEDATION



SELF-REPORTED REASONS PATIENTS FAILED TO COMPLETE TREATMENT UNDER GENERAL ANESTHESIA



## RESULTS

- Deep Sedation:** A total of 359 patients who were referred to IV sedation for dental treatment from September 1, 2018 through August 31, 2019 were included in our former retrospective chart review. Based on the Chi Square test results, identified risk factors (high vs low risk for dental neglect) were not significant in terms of completion of treatment ( $X^2(1, N = 88) = 1.89, p = .170$ ). Due to this, study extended to August 31, 2021.
- A total of 604 patients who were referred to IV Sedation for dental treatment from September 1, 2018 and August 31, 2021 were combined and included in this retrospective chart review. 436 of these patients attended their appointment at the originally scheduled time, while 168 (27.8%) did not. Of those patients who did not show up to their first appointment, 76 rescheduled while 92 did not. 46 patients were rescheduled a third time. Of the 604 patients for whom dental treatment under deep sedation was recommended, 104 never received treatment, or 17.2%. Based on Chi Square test, a significant correlation between those risk factors identified as High Risk for dental neglect and patients who failed to complete treatment was made evident ( $X^2(1, N=156) = 5.497 p= 0.019$ ).
- General Anesthesia:** From September 1, 2018 through August 31, 2019, dental treatment under general anesthesia was recommended for a total of 1302 patients, who were included in this study. 872 patients completed treatment on the initial visit, while 434 did not (33.3%). Of those who did not show, 235 rescheduled. 77 patients rescheduled a 3<sup>rd</sup> time. 217 (16.7%) of the initial 1302 patients never received dental treatment in our treatment facility. Based on the Chi Square test, a significant correlation between those risk factors identified as High Risk for Dental Neglect and patients who failed to complete treatment was made evident ( $X^2(1, N = 430) = 44.270, p = .000$ ).

## CONCLUSIONS

- The most frequently reported reasons for failure to complete treatment under deep sedation are Failure to Commit and No Show. Both reasons were deemed high risk for dental neglect in this study.
- The most frequently reported reasons for failure to complete treatment in the OR under general anesthesia are Failure to Commit, which was deemed high risk for dental neglect, and patient illness, which was low risk.
- Based on Chi Square findings, for treatment under deep sedation and general anesthesia, there was a significant correlation between high risk factors and those patients who failed to complete treatment.
- Because there was a statistically significant correlation between those who reported High-Risk reasons for failure to complete treatment in the OR and IV, patients who report these reasons in the future should be monitored closely.
- The data generated through this project will be used to develop a protocol for reporting dental neglect to be used in our clinical setting.

## REFERENCES

- Fisher-Owens SA, Lukefahr JL, Tate AR; American Academy of Pediatrics, Section on Oral Health; Committee on Child Abuse and Neglect; American Academy of Pediatric Dentistry, Council on Clinical Affairs, Council on Clinical Affairs, Council on Scientific Affairs; Ad Hoc Work Group on Child Abuse and Neglect. Oral and Dental Aspects of Child Abuse and Neglect. *Pediatrics*. 2017 Aug;140(2):e20171487. doi: 10.1542/peds.2017-1487. PMID: 28771417.
- Mathur VP, Dhillion JK. Dental Caries: A Disease Which Needs Attention. *Indian J Pediatr*. 2018 Mar;85(3):202-206. doi: 10.1007/s12098-017-2381-6. Epub 2017 Jun 23. PMID: 28643162.
- Katner D, Brown C, Fournier S. Considerations in identifying pediatric dental neglect and the legal obligation to report. *J Am Dent Assoc*. 2016 Oct;147(10):812-6. doi: 10.1016/j.adaj.2016.04.019. Epub 2016 Jun 9. PMID: 27291824.