



Introduction

Despite significant reductions in dental decay over the past two decades, nearly 50% of school-aged children in North Carolina still experience untreated caries (NCDHHS, 2023). In many cases, extensive treatment, including full-mouth dental rehabilitation (FMDR) under general anesthesia (GA) is necessary. The purpose of this study is to evaluate the effectiveness of access to dental care for pediatric patients requiring GA treatment at East Carolina University School of Dental Medicine (ECU SoDM) from 2016 to 2023 and to explore the role of a dental home in mitigating recurrent decay and the need for additional GA procedures. By examining factors such as demographic trends, treatment recurrence, and follow-up care, this research aims to provide insights into how early interventions and preventive care can reduce the long-term burden of dental disease in young children, particularly in underserved populations.

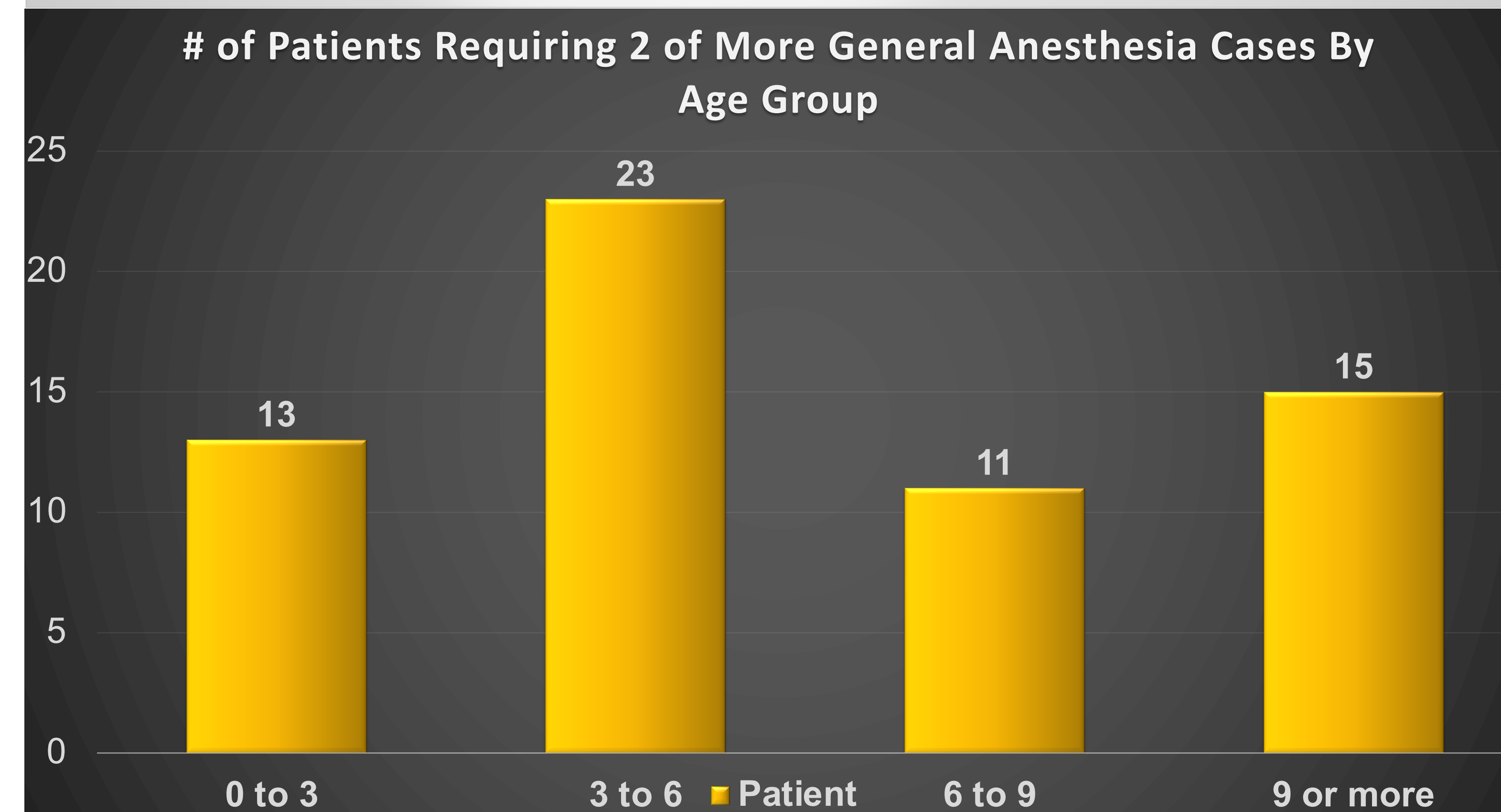
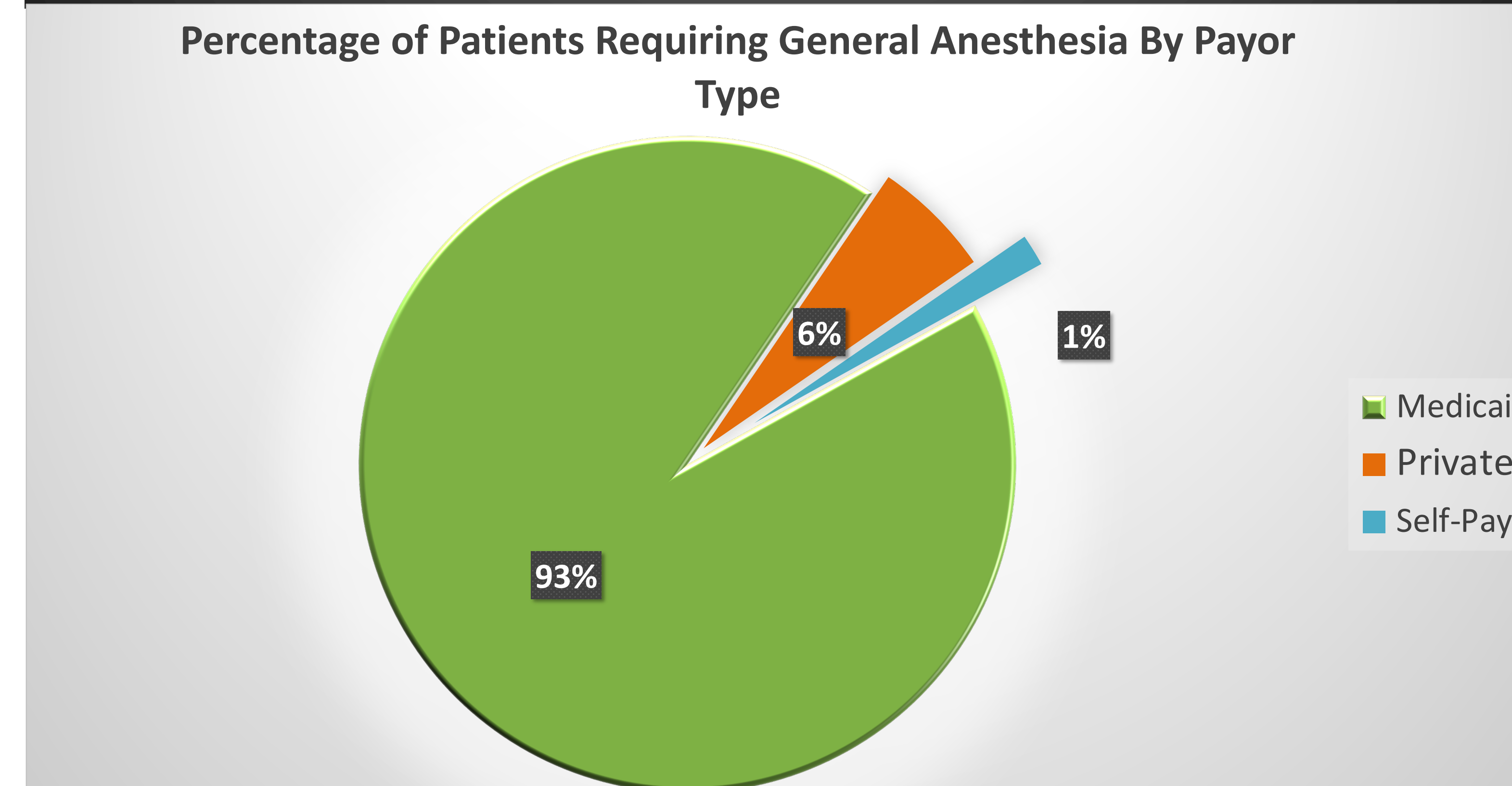
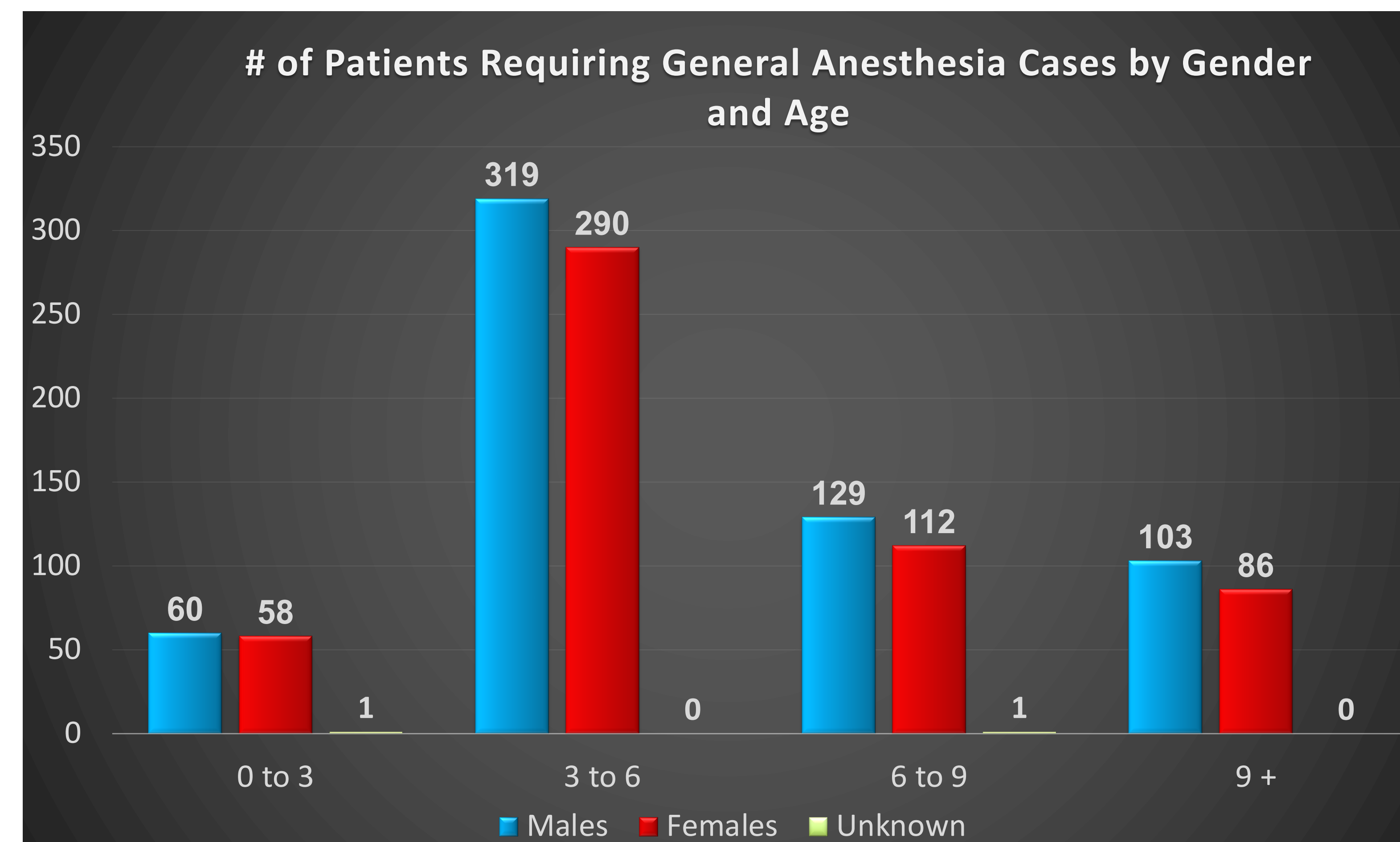
Methods

- Retrospective cohort study of 1,159 pediatric patients collectively treated under General Anesthesia at the ECU Health Surgi-Center, ECU Health Medical Center and Vidant Roanoke-Chowan Hospital (Ahoskie)
- 7-year Axiom Electronic Health Review chart review with exclusion and inclusion criteria from 2016 to 2023
- Patients were examined on number of GA visits required by age category, frequency of General Anesthesia treatment, post operative visits, and periodic exam history following initial GA treatment
- IRB Study #UMCIRB 18-002093

Table 1: Criterion for Patient Selection

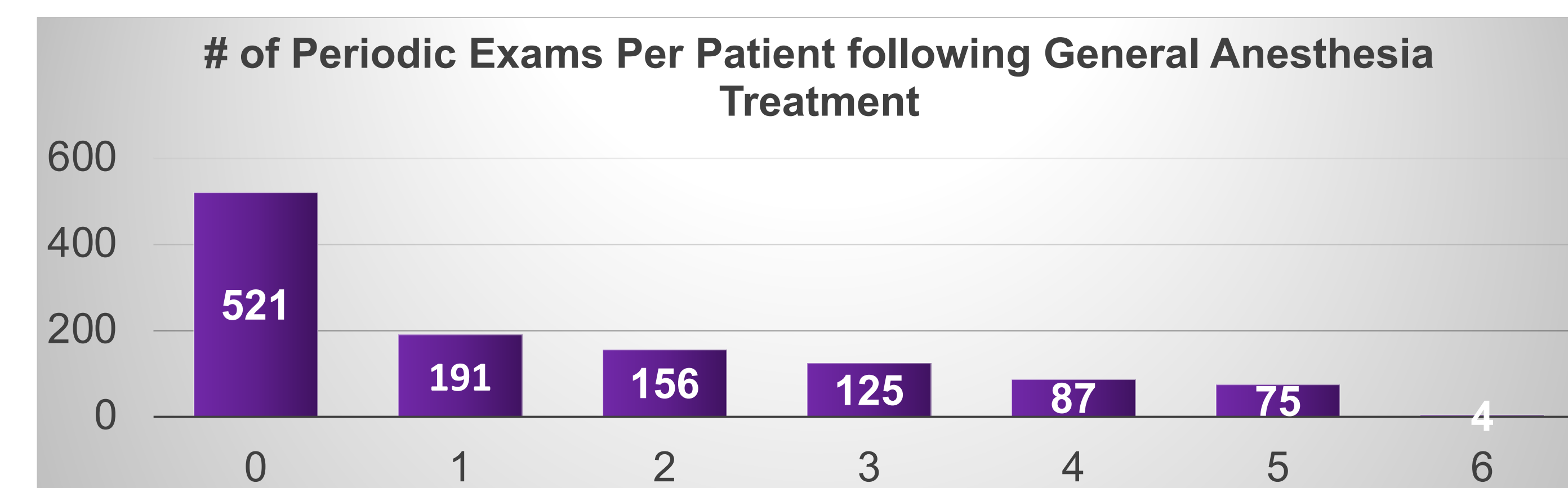
Inclusion Criteria	Exclusion Criteria
<ul style="list-style-type: none"> Patients up to 16 years of age requiring Full Mouth Dental Rehabilitation (FMDR) under General Anesthesia (GA) at the ECU Health Surgi-Center, ECU Health Medical Center or Vidant Roanoke-Chowan Hospital (Ahoskie) Patients with documented Axiom Electronic Health Records (EHR) data, including dental procedure details, postoperative visits, and examination history. 	<ul style="list-style-type: none"> Patients without documented GA procedures or incomplete EHR data. Patients who underwent procedures that did not involve general anesthesia. Cases where the patient's data was missing or could not be accurately matched to the study period (2016-2023)

Results



Discussion

- Repeat GA Treatments:** The 3–6 age group had the highest proportion of GA treatments (52.5%, n=609) and 62 of these patients required repeat GA, indicating the highest recurrence rate within this cohort.
- Sex Distribution:** Males represented 52.7% (n=611) of treated patients under GA
- Socioeconomic Factors:** 92.5% of patients were Medicaid beneficiaries, reflecting socioeconomic influences on caries risk.
- Post Operative Visits:** Of the 62 patients requiring repeat GA, 88.7% (n = 55) of patients did not return for a post operative visit following treatment.
- Dental Home:** Only 55% (n = 638) of patients treated under GA have had at least 1 periodic exam following general anesthesia treatment and have retained ECU as their dental home



References

- Azadani EN;Peng J;Kumar A;Casamassimo PS;Griffen A;Amini H;Ni A; "A Survival Analysis of Primary Second Molars in Children Treated under General Anesthesia." *Journal of the American Dental Association* (1939), U.S. National Library of Medicine, pubmed.ncbi.nlm.nih.gov/32718486/.
- Centers for Disease Control and Prevention. (2023, December 18). *FastStats - oral and Dental Health*. Centers for Disease Control and Prevention. <https://www.cdc.gov/nchs/fastats/dental.htm>
- Jiang, H., Shen, L., Qin, D., He, S., & Wang, J. (2019, September 9). *Effects of dental general anaesthesia treatment on early childhood caries: A prospective cohort study in China*. *BMJ open*. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6738709>
- Oubenyahya, Hanan, and Najib Bouhabba. "General Anesthesia in the Management of Early Childhood Caries: An Overview." *Journal of Dental Anesthesia and Pain Medicine*, U.S. National Library of Medicine, Dec. 2019, www.ncbi.nlm.nih.gov/pmc/articles/PMC6946837/.
- RM, Choi J Doh. "Dental Treatment under General Anesthesia for Patients with Severe Disabilities." *Journal of Dental Anesthesia and Pain Medicine*, U.S. National Library of Medicine, pubmed.ncbi.nlm.nih.gov/33880402/.
- Services for individuals and families*. Services for Individuals and Families | Division of Public Health. (n.d.). <https://www.dph.ncdhhs.gov/programs/oral-health/services-individuals-and-families>.