

**Purpose:** This retrospective study aimed to evaluate the role of dental insurance type on utilization of advance behavior guidance [ABG] modalities: moderate sedation (MS), IV sedation (IV) and general anesthesia (GA), in pediatric patients.

**Methods:** A retrospective chart review of pediatric patients (≤18 years) at UTHealth School of Dentistry spanning 2016-2023 was conducted. ABG procedure codes were categorized into MS, IV and GA. Type of dental insurance was categorized as public [Medicaid, CHIP], private, or uninsured. The influence of insurance type ABG codes completion was analyzed using chi-square test, generalized linear models with Poisson errors, and ANOVA models;  $P < 0.05$  was considered significant.

**Results:** There were 19,122 records [Mean age=8.2 ( $\pm 4.8$ ), Female=48%] which met the inclusion criteria. The distribution of insurance type was 54% public, 36% uninsured, and 10% private. Uninsured children had less MS and GA codes completed than children with public or private insurances ( $P < 0.001$ ). Children with public insurance had the least number of IV codes completed ( $P < 0.001$ ). Children with private insurance had more GA codes completed than publicly insured ( $P < 0.04$ ) or uninsured children ( $P < 0.001$ ). There was no significant difference in utilization of MS for children with private and public insurance ( $P = 0.9$ ).

**Conclusion:** Uninsured children were less likely to be treated using MS and GA compared to children with public or private insurance, yet more likely to be treated with IV. Insurance type, and by extension socioeconomic factors, appear to be a determining factor for type of ABG modality utilized in children.

## BACKGROUND

- The ACA included pediatric dental care as an essential health benefit, mandating coverage be available in the federal and state health insurance marketplace.<sup>1</sup>
- Low-income children have a greater incidence of caries, greater unmet need and require more dental care than their higher income peers<sup>2</sup>
- Cost remains the major barrier for accessing dental care. Additional barriers include geographic location, dentist density, special health care needs and lack of insurance.<sup>1</sup>
- Parents are becoming more accepting to pharmacological behavioral guidance, including moderate sedation and general anesthesia.<sup>3</sup>
- Insurance coverage often determines what treatment families will accept. Insurance may refuse reimbursement when treatment is deemed “not medically necessary”.<sup>3-4</sup>

We hypothesize that advanced behavior guidance will be utilized more often for children with insurance than those without insurance.

## METHODS

- UTHealth Houston Institutional Review Board Approval: HSC-DB-24-0329
- Patients aged 0-18 seen in the UT Graduate and Pre-Doctoral Pediatric Dentistry Clinics for in-office moderate conscious sedation, IV Sedation, and GA in a hospital setting were identified.
- 19,122 charts were selected and the following information was obtained:
  - Age, gender and ethnicity of patient
  - Caries risk level
  - Payor type: Public (Medicaid/CHIP), Private or Uninsured
  - Number of advanced behavior guidance codes completed
- Data was collected in Microsoft Excel and analyzed using R statistical software (R Core Team 2022)

## RESULTS

- Public insurance was the most common type of insurance utilized for treatment (54%).
  - Uninsured children made up 36% of the study population, with Private insurance utilization comprising the remaining 10% (Figure 1).
- 6704 records (35%) had documentation of ABG codes completed.
  - Moderate sedation was the most common type of ABG completed, followed by GA (Figure 2).
- Children with insurance had more MS codes completed than uninsured children ( $P < 0.001$ ; Figure 3).
  - There was no significant difference in completion between children with public vs private insurance ( $P = 0.9$ ).
- Uninsured children had IV sedation codes completed more often than children with insurance ( $P < 0.001$ ; Figure 4).
  - Children with public insurance had the least amount of IV codes completed ( $P < 0.001$ ).
- Children with private insurance had GA codes completed more than children with public insurance ( $P < 0.04$ ) or uninsured children ( $P < 0.001$ ; Figure 5).

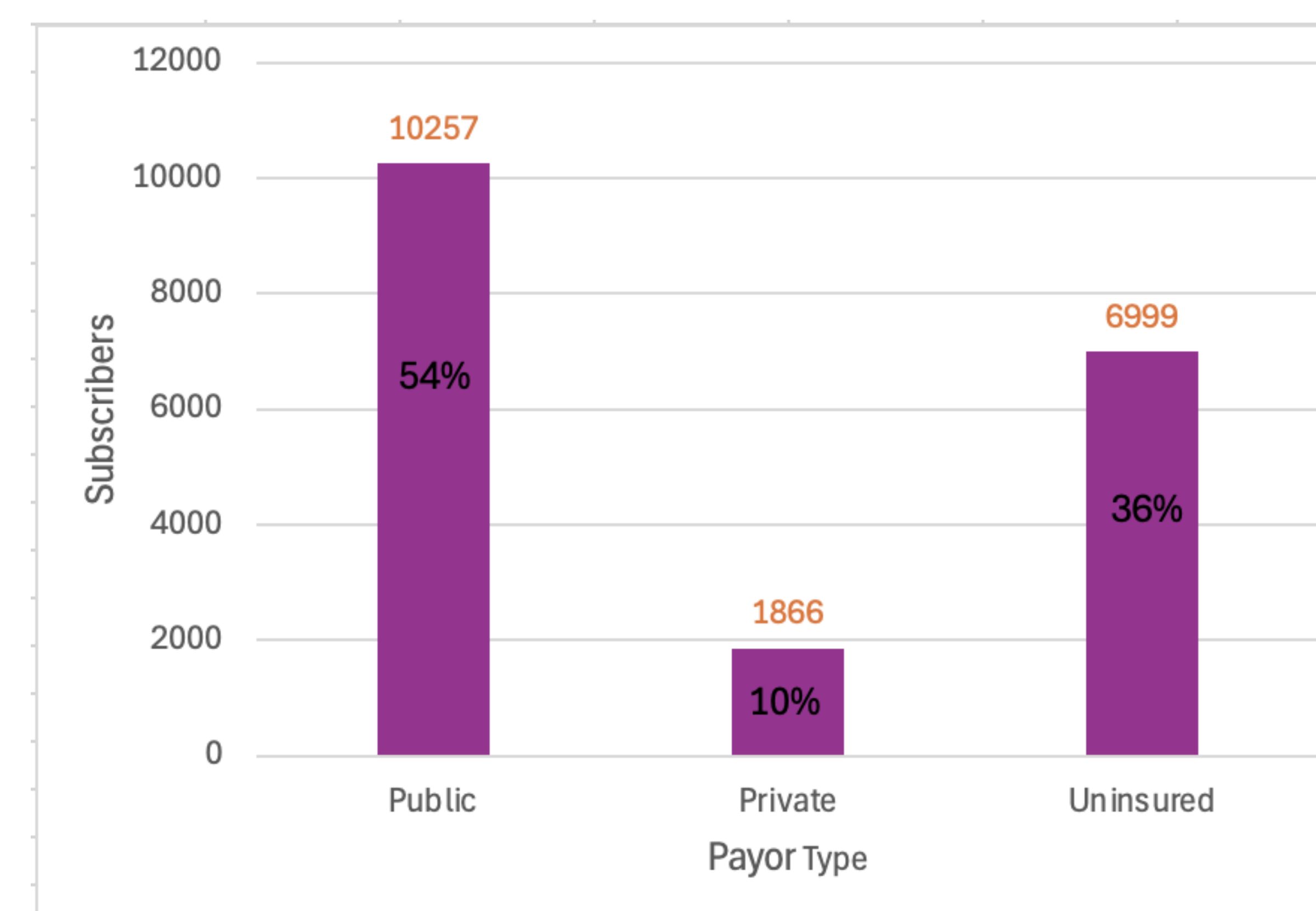


Figure 1. Number of subscribers by payor type

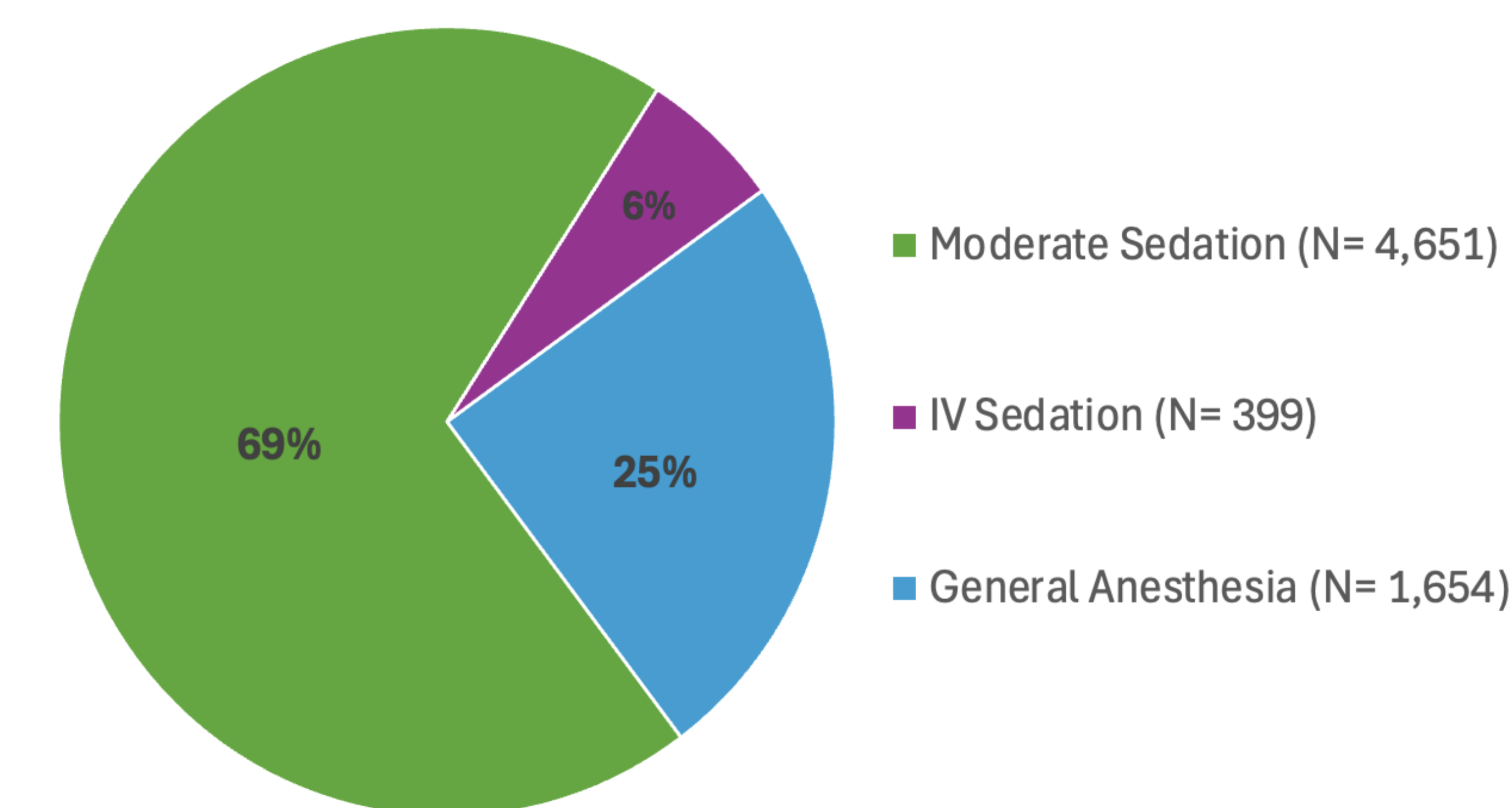


Figure 2. Advanced Behavior Guidance Codes Completed

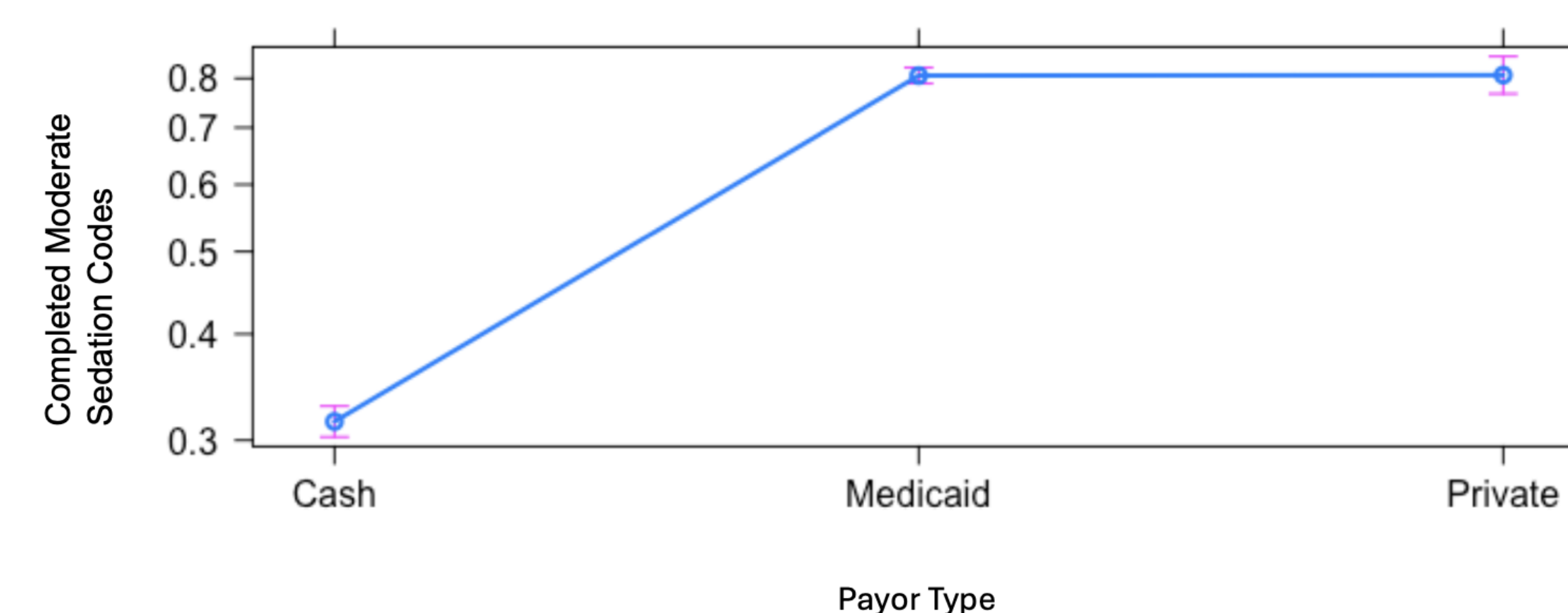


Figure 3. MS codes completed by Payor type

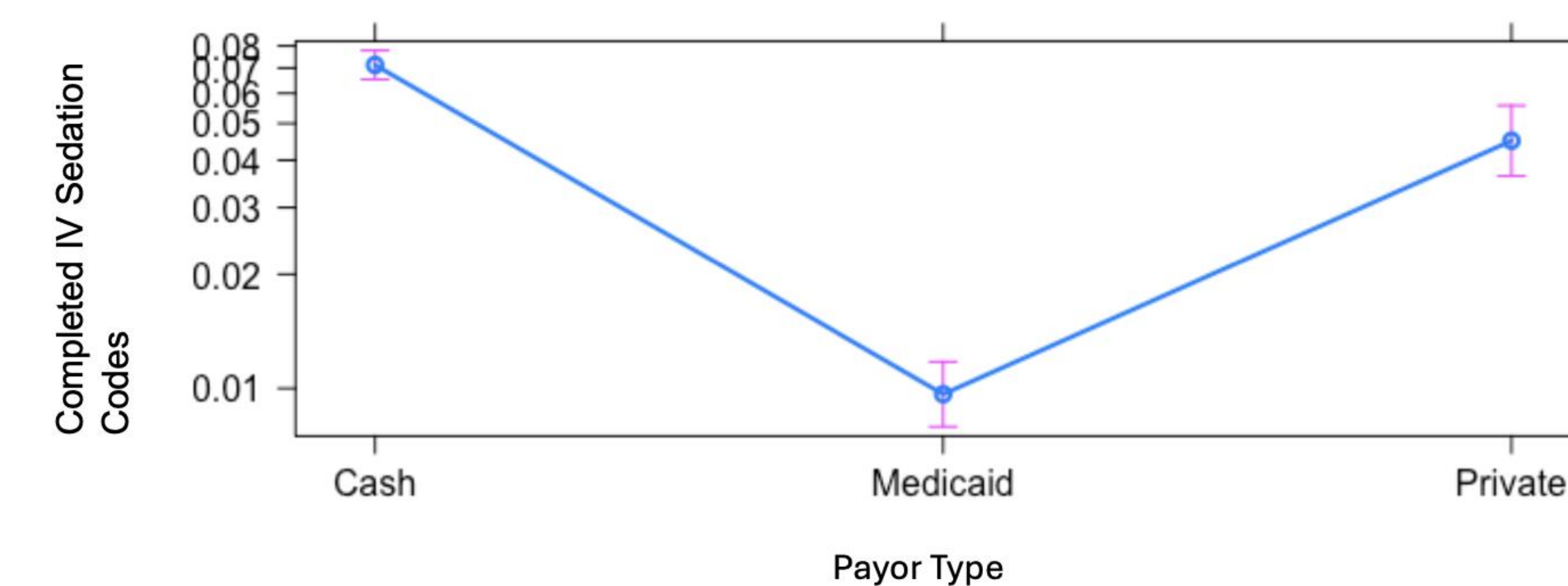


Figure 4. IV codes completed by Payor Type

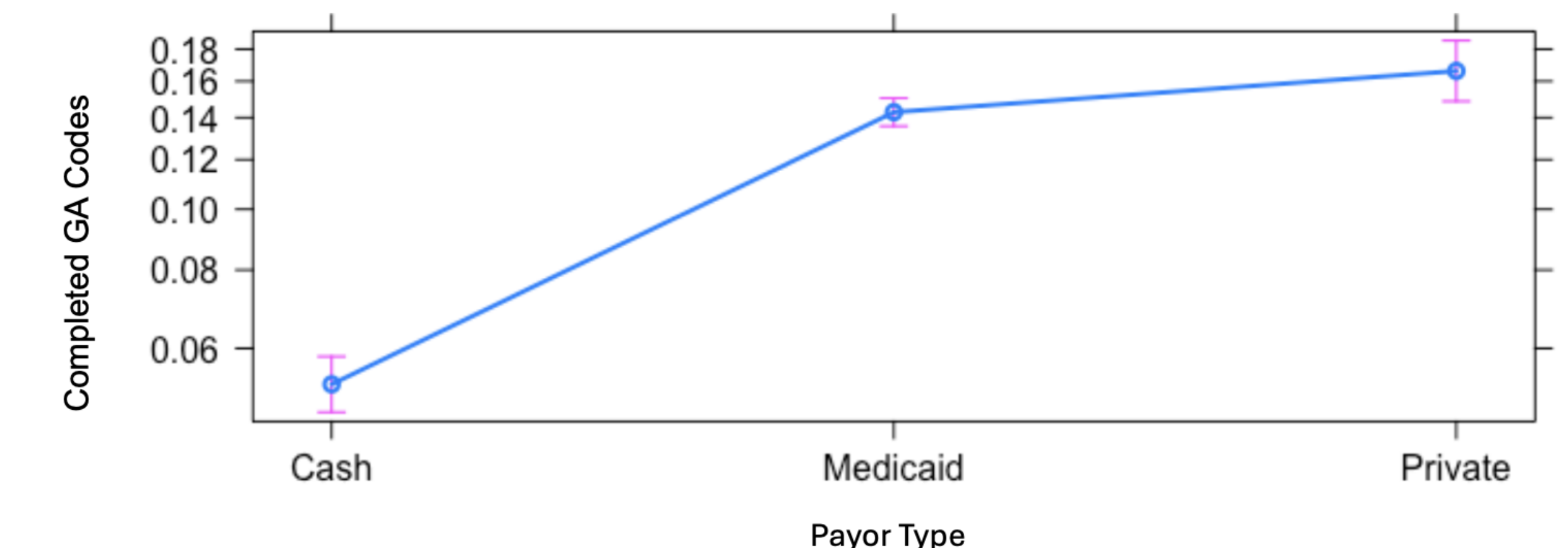


Figure 5. GA codes completed by Payor Type

## CONCLUSIONS

- Children with insurance are more likely to be treated utilizing Advanced Behavior Guidance techniques.**
- Limitations:**
  - possibility of dual enrollment in public and private insurance
  - demographics such as parent education and SES were not considered
  - IV was not consistently available as an option during the study time period.

## REFERENCES

- Song, J., Kim, J. N., Tomar, S., & Wong, L. N. (2021). The impact of the affordable care act on dental care: An integrative literature review. In *International Journal of Environmental Research and Public Health* (Vol. 18, Issue 15).
- Krol, D. M., & Whelan, K. (2023). Maintaining and Improving the Oral Health of Young Children. *Pediatrics*, 151(1).
- Green LK, Lee JY, Roberts MW, Anderson JA, Vann WF Jr. A Cost Analysis of Three Pharmacologic Behavior Guidance Modalities in Pediatric Dentistry. *Pediatr Dent*. 2018;40(7):419-424
- Patel M, McTigue DJ, Thikkurissy S, Fields HW. Parental Attitudes Toward Advanced Behavior Guidance Techniques Used in Pediatric Dentistry. *Pediatr Dent*. 2016;38(1):30-36.