

Abstract

Purpose: Pediatric dental management of cardiac patients requires accurate medical histories. Relying solely on caregiver-reported information can lead to omissions or inaccuracies, posing safety risks. This study highlights the importance of pediatric dentists accessing medical records, regardless of socioeconomic status of caregiver.

Methods: This retrospective chart review included pediatric cardiology patients who receive both medical and dental care at Children's Healthcare of Atlanta (Children's). Patients were seen in the Children's Pediatric Dentistry Clinic between July 1, 2023 and July 31, 2023. 84 records were reviewed using Dentrix™ (electronic dental record [EDR]) and Epic™ (electronic health record, [EHR]). Medical and socioeconomic data was gathered and compared from both records.

Results: Of 84 caregiver-reported records, 33 (39.3%) were and 51 (60.7%) were inaccurate. There was no statistical significance between caregiver accuracy of medical records and socioeconomic status, however trends were noted. Lower accuracy were observed among families needing English interpretation (p = 0.103). Private insurance was linked to higher reporting accuracy vs state insurance (p = 0.196). Median income by ZIP code was not significantly associated with reporting accuracy (p > 0.05).

Conclusion: No statistical significance was noted between caregiver accuracy of medical records and socioeconomic status. There were patterns noted to warrant further investigation for necessity for pediatric dentists to have direct access to the EHR. This access minimizes the risk of incomplete medical information and alleviates the burden on caregivers, who may struggle to relay complex medical information accurately.

Background

Pediatric patients present with a variety of special health care needs, including physical, developmental, sensory, behavioral, cognitive, or emotional impairments that require specialized medical management, healthcare interventions, and other supportive services.¹ These patients often necessitate close medical and dental coordination.² The American Academy of Pediatric Dentistry recommends that a comprehensive medical history includes details on medical conditions, surgical history, current medications, allergies, and other relevant health information.³ Despite the need for integrated care, EDR and EHR systems predominantly function as separate entities.³ Existing patient portals and platforms enable medical providers to securely share patient information with other healthcare professionals.

However, similar integration does not yet exist for electronic dental record software. Implementing such a system would greatly enhance the ability of pediatric dentists to access medical records of mutual patients, improving care coordination and overall patient safety.⁴

This separation requires pediatric dentists to rely on self-reported medical information provided by parents and caregivers. The need for precise medical information becomes even more vital for pediatric patients with complex medical conditions, such as congenital cardiac diagnoses.⁴ The literature supports that caregiver-reported medical histories have potential to compromise patient safety and allow for medical error.⁴

This research aims to highlight the value of pediatric dentists having direct access to electronic health records, as this could improve quality of care and reduce the burden on caregivers to accurately relay complex medical information, regardless of their socioeconomic status.

Methods

This retrospective chart review included pediatric cardiology patients who receive both medical and dental care at Children's Healthcare of Atlanta and were seen in the Children's Pediatric Dentistry Clinic between July 1, 2023 and July 31, 2023. 84 charts were reviewed using Dentrix™ and Epic™. Data collection was completed by a single examiner trained in both systems.

The accuracy of caregiver-provided medical information on standardized dental forms in Dentrix™ was compared to records in Epic™. The medical data collected included cardiac diagnoses, medications, allergies, and surgical history. The socioeconomic data comprised of the caregiver's need for English interpretation, patient's insurance type, and median income by ZIP code of the caregiver. ZIP codes of caregivers were sourced from government-issued identification documents scanned into the dental chart. The median income data based on ZIP code was obtained from the U.S. Census Bureau⁵.

Results

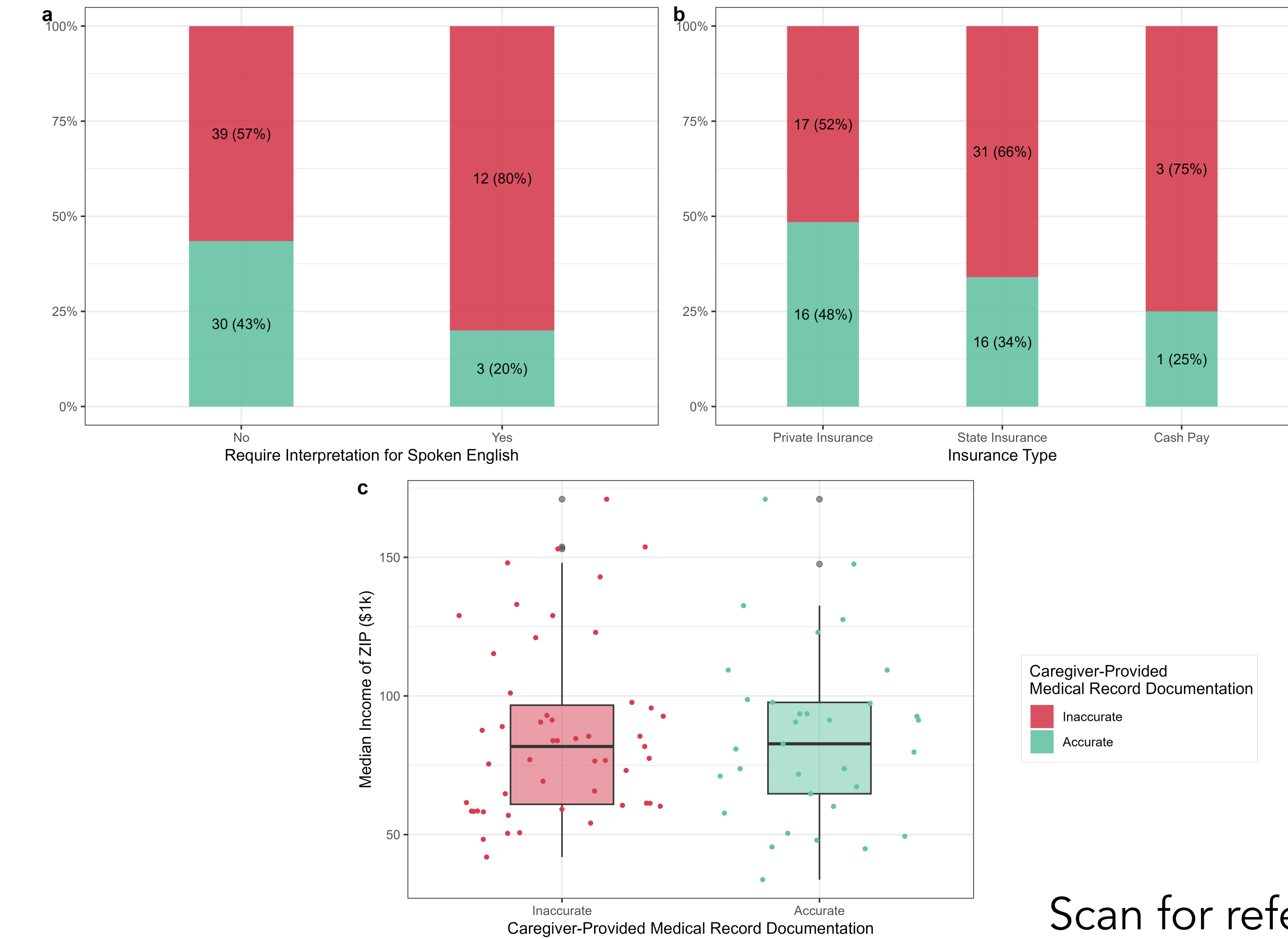
Of the 84 caregiver-reported records reviewed, 33 (39.3%) were accurate and 51 (60.7%) were inaccurate. Univariable logistic regression showed that those requiring English interpretation had lower odds of reporting accurate histories, though not statistically significant. Patients with private insurance were nearly twice as likely to provide accurate information compared to those with state insurance. Median income by ZIP code was not significantly associated with reporting accuracy. The odds ratio for caregivers who required English interpretation vs. those who did not, and for those with private insurance vs. cash pay, suggest moderate effect sizes despite the non-significance.

Summary of Statistics of Socioeconomic Status by Scores

Characteristic	Inaccurate, N = 51 [†]	Accurate, N = 33 [†]	UV OR (95%)	p-value ²
Require interpretation for spoken English, Yes	12 (80.0%)	3 (20.0%)	0.33 (0.07, 1.13)	0.103
Insurance Type				
Private Insurance	17 (51.5%)	16 (48.5%)	Ref.	
State Insurance	31 (66.0%)	16 (34.0%)	0.55 (0.22, 1.36)	0.196
Cash Pay	3 (75.0%)	1 (25.0%)	0.35 (0.02, 3.09)	0.389
Median Income of ZIP (Continuous)	81,774.0 (60,921.5, 96,669.0)	82,747.0 (64,734.0, 97,684.0)	1.00 (0.98, 1.01)	0.999
Median Income of ZIP (Categorical)				
< \$60,000	11 (61.1%)	7 (38.9%)	Ref.	
\$60,000- \$99,999	28 (59.6%)	19 (40.4%)	1.07 (0.35, 3.36)	0.910
> \$100,000	12 (63.2%)	7 (36.8%)	0.92 (0.24, 3.51)	0.898

[†]Median (IQR); n (%)
UV: Univariable Logistic Regression; OR: Odds Ratio; CI: Confidence Interval
The unit of median income of ZIP (continuous) was rescaled to \$1k.

Socioeconomic Status by Medical Record Accuracy



Conclusion

- No statistical significance was noted with caregiver reporting accuracy amongst those requiring English Interpretation, insurance type, and median income range.
- These patterns may indicate meaningful trends that warrant further investigation by increasing the sample size in future studies to improve statistical power and strengthen conclusions.
- Pediatric dentists' access to the electronic health record would enhance the accuracy of medical information, improve the quality of care, and increase patient safety.



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