Assessing for Racial Disparities in Pediatric Dentistry Patient Family Experience

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Introduction

- Racism has profound adverse effects on infant, child, and adolescent health and well-being.[1]
- The highest prevalence of early childhood caries exists among children of American Indian and/or Alaska Native and Native Hawaiian descent.[2-4] Non-Hispanic Black and Mexican American children also experience a significantly higher percentage of dental caries compared to non-Hispanic white children.[5] Black/African American caregivers experience greater dissatisfaction with the oral care their children receive and express greater unmet oral health care needs compared to White parents.[6]
- Patient family experience (PFE) metrics are used by pediatric healthcare institutions to measure perceived healthcare quality.
- PFE measures have been linked to a range of patient outcomes. Greater PFE measures have been positively associated with subjective and objective measures of health outcomes, adherence to recommended medication and treatments, and use of preventive care and healthcare resources.[7]
- Racism and other inequities have not been measured in the context of PFE in pediatric dentistry.

Objectives

- Identify, quantify, and describe the relationship between race and PFE metrics in an academic, hospital-based pediatric dental practice in the United States
- Evaluate the associations between patient-provider racial congruence, ethnicity, language, payor type, clinic location, and visit type and PFE scores
- Results from this study will inform strategies to improve oral health inequities and provide optimal oral health for all children.

Methods

- A cross-sectional review of 4,727 PFE survey responses from all ambulatory dental encounters between January 1, 2022 and January 1, 2024 was completed.
- Primary independent variables of interest included patient race, patient ethnicity, and patient-provider racial congruence. Additional covariates included in the multivariable models were patient age at encounter, patient sex, payor type, clinic location, neighborhood deprivation index, and visit type. Survey language was dropped from the final multivariable models due to model fit and collinearity with patient ethnicity.
- Outcomes included PFE survey scores for 3 questions that focused on respect, trust, and overall experience.
- PFE survey scores were categorized as either the presence or absence of a "top-box" score, which is an industry standard benchmark.
- General estimating equations (GEE) were used to account for the correlation of within-subject data for those patients who had repeated visits within the study period.

Results

PFE Survey Questions of Interest	Response Scale	"Top-Box" Responses
1. Did the dentist listen carefully to your questions and concerns? (Dentist Listened)	No Yes somewhat Yes mostly Yes definitely (1-4)	Yes definitely (4)
2. Did you trust the dentist with your care? (Trust in Dentist)		
3. Using any number from 0 to 10, where 0 is the worst dentist possible and 10 is the best dentist possible, what would you use to rate this dentist? (Dentist Rating)	0-10	9 or 10

Table 1. Cohort characteristics

	N Surveys	Percent
Total	4,727	100%
PATIENT CHARACTERISTICS		
Patient race		
White	2,221	47.0%
Black	1,234	26.1%
Asian	301	6.4%
Other	628	1.3%
Unknown/Refused/Missing	343	7.3%
Patient Ethnicity		
Hispanic	1,034	21.9%
Non-Hispanic	3,596	76.1%
Unknown	97	2.1%
Patient Sex		
Female	2,135	45.2%
Male	2,592	54.8%
Survey Language		
English	3,905	82.6%
Spanish	82	17.4%
Payor Type		
Public	3,890	82.3%
Commercial	547	11.6%
International	13	0.3%
Uninsured	277	5.9%
Clinic Location		
Base	3,397	71.9%
Fairfield	1,330	28.1%
Visit Type		
Consult	741	15.7%
Treatment	888	18.8%
Recall	3,098	65.5%
	Mean (SD)	**Median**
Age at encounter (years)	10.31 (5.49)	9.47 (6.33-13.64)
Neighborhood Deprivation Index	0.34 (0.13)	0.32 (0.25-0.40)
PROVIDER CHARACTERISTICS		
	N	**(%)**
Provider Race		
White	3,835	81.1%
Black	338	7.2%
Asian	511	10.8%
Other	26	0.6%
Unknown	17	0.4%
PATIENT-PROVIDER RACIAL CONGRUENCE		
Incongruent	1,823	38.6%
Congruent	1,894	40.1%
Missing	1,010	21.4%

Table 2. OR (95% CI) from adjusted GEE multivariable regression analyses of the association between top-box survey responses and patient sociodemographic characteristics, patient-provider congruence, clinic location, and visit type

Outcome = Top-box response	1. Dentist Listened	2. Trust in Dentist	3. Dentist Rating
Patient Race			
White (ref)	ref	ref	ref
Black	0.92 (0.67, 1.25)	0.75 (0.55, 1.03)	0.72 (0.52, 0.99)*
Asian	0.67 (0.45, 1.00)*	0.56 (0.37, 0.84)*	0.78 (0.50, 1.21)
Patient Ethnicity			
Non-Hispanic (ref)	ref	ref	ref
Hispanic	0.50 (0.34, 0.72)*	0.39 (0.27, 0.57)*	1.04 (0.62, 1.73)
Patient-Provider Racial Congruence			
Incongruent (ref)	ref	ref	ref
Congruent	1.34 (1.02, 1.77)*	1.08 (0.81, 1.43)	1.10 (0.82, 1.46)
Age at encounter (years)	1.03 (1.01, 1.04)*	1.03 (1.01, 1.04)*	1.03 (1.01, 1.05)*
Patient Sex			
Female (ref)	ref	ref	ref
Male	0.99 (0.81, 1.21)	1.08 (0.88 1.31)	0.90 (0.73, 1.11)
Payor Type			
Public (ref)	ref	ref	ref
Commercial	1.05 (0.78, 1.41)	1.05 (0.77, 1.43)	0.65 (0.49, 0.86)*
Uninsured	0.60 (0.33, 1.08)	0.82 (0.43, 1.55)	1.85 (0.69, 4.98)
Clinic Location			
Base (ref)	ref	ref	ref
Fairfield	0.68 (0.55, 0.85)*	0.79 (0.63, 0.99)*	0.92 (0.72, 1.18)
Neighborhood Deprivation Index	1.05 (0.96, 1.15)	1.02 (0.94, 1.12)	1.12 (1.01, 1.23)*
Visit Type			
Recall (ref)	ref	ref	ref
Consult	0.60 (0.46 0.78)*	0.56 (0.43, 0.73)*	0.71 (0.54, 0.94)*
Treatment	0.81 (0.63, 1.04)	0.76 (0.59, 0.97)*	0.86 (0.67, 1.10)

OR (95% CI) = adjusted odds ratio (95% confidence interval)
***p<0.05**

Conclusions & Discussion

- **Race:** Black patients and families had 28% lower odds for top-box scores on the overall dentist rating compared to White patients and families. However, the two groups did not differ in their responses to questions about if the dentist listened and trusting their dentist. Asian patients and families had 33% lower odds to report a top-box response in their dentist listening and 44% lower odds for a top-box score in trusting their dentist compared to White patients and families. However, the overall rating for their dentist did not differ.
- **Ethnicity:** Hispanic patients and families were less likely to report a top-box score in questions about their dentist listening by 50% and trust in their dentist by 61% compared to Non-Hispanic patients and families. The two groups did not differ in the overall rating of their dentist.
- **Racial Congruence:** Racial congruence was a significant predictor of a top-box score in the dentist listening by 34%.
- **Payor Type:** Patients with commercial payors reported a lower dentist rating compared to other payor types. Payor type is used as a proxy for socioeconomic status. Those with commercial payors may have different expectations than other payor types.
- **Clinic Location:** Patients seen at the Fairfield clinic reported lower top-box responses in the dentist listening and trusting the dentist compared to those seen at the Base clinic. However, clinic location was not a significant predictor in overall dentist rating. Appointments at the Fairfield clinic are shorter. Patients spend more time with auxiliary staff and less time with the dentist.
- **Visit Type:** Patients and families seen for consult visits were less likely to report top-box scores across all 3 questions compared to those seen for recall visits. Patients and families seen for treatment visits were less likely to report a top-box score in trusting their dentist compared to those seen for recall visits. Those seen for consult appointments may have higher acuity with the perception that care should be delivered during their visit.
- Limitations: Patients and families encounter a variety of personnel during their visit, from the front desk staff, to the hygienist and dental assistant, to the dentist. A top-box response may not correspond to just the dentist but instead to the overall patient experience. PFE surveys during this timeframe were only offered in English and Spanish, so patients and families who speak other languages could not be included in this study. PFE surveys are also not offered in a verbal or audio format, so patients and families with lower health literacy may have also been left out.

References

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