

The Effect of the Social Determinants of Health on Oral Health Measures

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BACKGROUND

Social Determinants of Health (SDoHs) have been linked to oral health and oral health behaviors¹⁻⁶. A call to action in the AAPD Policy on the Social Determinants of Children's Oral Health suggests a better knowledge of the relationships between SDoHs and health is imperative to taking the next step towards developing effective "strategies that incorporate [SDoH]-related knowledge to improve oral health behaviors, prevent dental disease, and address oral health inequalities in children."⁷

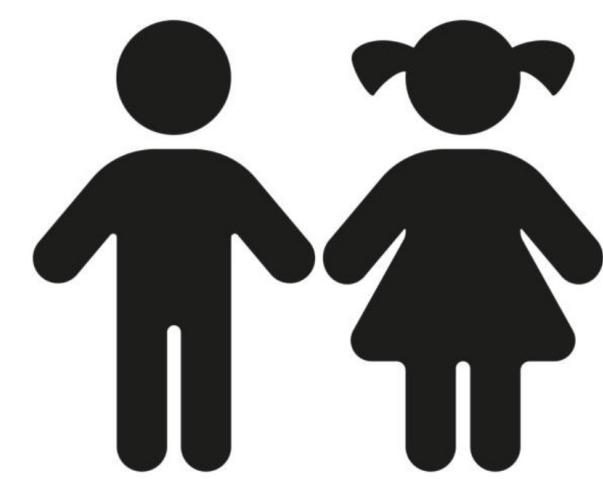
OBJECTIVES

The objectives of this retrospective records review were to evaluate the relationships between **self-reported SDoH needs** and:

- (1) **health service utilization**
- (2) **oral health measures**

METHODS

INCLUSION CRITERIA



2-5 years old



Took SDoH survey
July 2018-March 2020



Dental encounter
+/- 3 months from
survey

For patients meeting inclusion criteria, a data pull of their EHR was performed to collect the following variables:

DEPENDENT	COVARIATES	INDEPENDENT	
SDOH Needs	Demographics	Service Utilization	Oral Health Outcomes
NO	Age	No-show rate, all	Behavior rating
YES	Gender	# of ED encounters	Caries risk
	Race	No-show rate, Dental	Plaque level
	Language	# of Dental surgeries	Caries, 1+ tooth
	Dental Insurance	# of Dental sedations	Caries, 2+ quadrants
		# of Dental ER appts	Caries, max. anteriors
		# of Dental Recall appts	

Variables of those with and without SDoH needs were compared. A linear regression was used for continuous variables and a Poisson regression was used for discrete variables. A **p-value of 0.05** was used to determine significance.

RESULTS

SAMPLE DESCRIPTION

Sample Size	Mean Age	SDoHs	Gender	Race	Language
2,646 patients	3.7 years	9.7% Endorsed SDoH Needs	51% Male 49% Female	47% Black 19% White 7% Multiracial	58% English 18% Spanish 8% Somali

SIGNIFICANT FINDINGS

Demographics

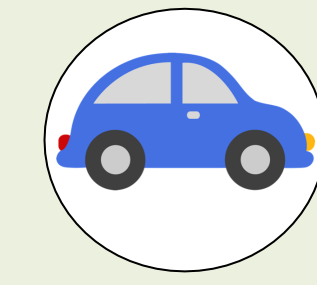


- **Black patients** had a disproportionately **higher rate of SDoHs** (p-value = 0)
- People with SDoHs were more likely to be **English-speaking** (p-value = 0)

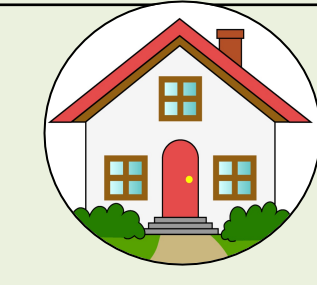
Service Utilization



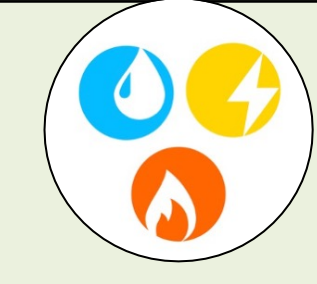
- **Higher no-show rate at Dental clinic** (p-value <0.05)



- **7.6% higher no-show rate at all hospital clinics** (p-value <0.0001)
- **21% fewer Dental recall visits**



- **10% higher no-show rate at all hospital clinics** (p-value <0.0001)



- **16% fewer Dental recall visits** (p-value < 0.05)



- **17% fewer Dental recall visits** (p-value < 0.01)

No significant relationships: # of ED encounters, # of dental surgeries, # of sedations, # of ER appointments

Oral Health Outcomes



- **Light plaque level** (p-value <0.05)
- **Presence of maxillary anterior caries** (p-value <0.001)

No significant relationships: Behavior rating, Caries Risk, Caries 1+ tooth, Caries 2+ quadrants

DISCUSSION

- **There is a statistically significant association between unmet social needs and utilization of preventive non-emergent dental care services and attendance at scheduled medical and dental appointments**
- While research has shown that people with SDoH needs are more likely to have caries, our study did not find a significant difference in caries rate^{3,4}
- Patients with a higher incidence of dental recall appointments were more likely to have light plaque, suggesting these patients may have better oral hygiene or that recall visits help decrease plaque level
- The finding that a higher incidence of dental recall appointments relates to the presence of maxillary anterior caries requires further investigation
- Only 9.7% identified having SDoH needs, despite 88% of the clinic's population being on Medicaid
- **Limitations:** the survey relies on self-reporting of needs, does not correspond with the exact date of the dental encounter, some variables were likely to have inter-rater reliability bias
- **Strengths:** large sample, diversity of variables examined, long time span over which the variables were analyzed

CONCLUSIONS

Children in this population demonstrated associations between SDoHs, health measures, and health behaviors, suggesting a likely more complex association between SDoHs and health. More research is needed to better understand these complicated relationships.

REFERENCES

