

## Introduction

- Children's access to Dental Health Care is a long-established issue in the U.S.

## Objectives

- Assess possible associations between *Dental* and *Medical Conditions* based on patient's socio-demographics to further understand the population we serve, aiming to improve dental care
- Quantify disease burden in the area as a proxy for the Community's overall healthcare
- Create a risk assessment model for Dental providers & parents to assess the child's needs

## Materials & Methods

### Data Analysis

- This Cross-Sectional Study reviewed EHRs (axiUm) of all Children (M & F) aged 0–12 years seen at TU-CDM's Pediatric Dental Clinic between 07/01/2018 and 12/30/2022

- Dependent variables: Dental, presence of Caries & Plaque (Y/N) and Medical Conditions (Autism, Asthma, ADHD, Developmental Disorders, Special Needs, etc.)
- Independent variables: Age Groups, Sex, Race, Insurance status & Median Household Income
- Analysis: Frequency Distribution and Logistic Regression Analysis were Performed Using SPSS v 28

## Results

### Dental Conditions

### Medical Conditions

		Caries				Non-cavitated Caries Lesions				High Caries Risk				Visible Plaque				Asthma			Autism			Special Needs			Developmental Disorder						
		AOR	95%CI		p-value	AOR	95%CI		p-value	AOR	95%CI		p-value	AOR	95%CI		p-value	AOR	95%CI		p-value	AOR	95%CI		p-value	AOR	95%CI		p-value				
			Lower	Upper			Lower	Upper			Lower	Upper			Lower	Upper			Lower	Upper			Lower	Upper			Lower	Upper		Lower	Upper		
Age-group	0-2 yrs.		ref			ref			ref			ref			ref			ref			ref			ref			ref			ref			
	3-5 yrs.	<b>10.3</b>	2.8	37.3	<.001 ***	8.1	1.8	36.4	0.006 **	<b>3.3</b>	1.5	7.3	0.003 **	<b>6.7</b>	1.9	23.7	0.003 **	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	6-9 yrs.	<b>14.1</b>	4.0	50.3	<.001 ***	11.7	2.7	51.2	0.001 **	<b>2.4</b>	1.1	5.1	0.021 **	1.3	0.4	4.6	0.692	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	9-12 yrs.	<b>11.7</b>	3.3	41.8	<.001 ***	10.1	2.3	44.4	0.002 **	1.6	0.8	3.4	0.203	0.0	0.0	0.0	0.993	-	-	-	-	-	-	-	-	-	-	-	-	-			
Sex	Female		ref			ref			ref			ref			ref			ref			ref			ref			ref			ref			
	Male	1.0	0.7	1.3	0.826	1.1	0.8	1.5	0.521	0.9	0.7	1.1	0.311	0.9	0.6	1.5	0.694	<b>2.5</b>	1.3	4.7	0.004 **	<b>4.8</b>	1.3	17.3	0.016 **	1.2	0.6	2.5	0.568	<b>1.8</b>	1.0	3.3	0.048 **
Median Household Income (% of poverty)	0-99		ref			s			ref			ref			ref			ref			ref			ref			ref			ref			
	100-199	1.3	1.0	1.8	0.053 *	1.3	1.0	1.8	0.083 *	<b>1.5</b>	1.1	2.0	0.007 **	1.5	0.9	2.6	0.091	0.9	0.5	1.7	0.795	0.8	0.3	2.6	0.765	1.0	0.4	2.0	0.901	1.0	0.6	1.9	0.931
	200-399	<b>3.9</b>	1.5	9.9	0.005 ***	<b>2.4</b>	1.0	5.5	0.043 **	<b>2.4</b>	1.0	5.7	0.045 **	0.0	0.0	0.0	0.998	2.6	0.7	9.5	0.153	5.2	1.0	28.1	0.055	1.8	0.4	9.1	0.466	1.3	0.3	5.9	0.747
	>400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Insurance Status	Self-pay		ref			ref			ref			ref			ref			ref			ref			ref			ref			ref			
	Public	1.6	1.0	2.4	0.051 *	<b>1.9</b>	1.1	3.1	0.015 **	1.4	0.9	2.2	0.103	1.3	0.6	2.8	0.583	0.7	0.3	1.6	0.368	2.5	0.3	19.9	0.401	1.7	0.5	6.0	0.397	0.9	0.4	2.0	0.775
	Private	1.5	1.0	2.5	0.074 *	<b>1.8</b>	1.0	3.0	0.041 **	1.5	0.9	2.5	0.087 *	1.5	0.6	3.5	0.373	1.1	0.4	2.5	0.908	1.9	0.2	17.3	0.577	1.1	0.3	4.4	0.899	0.6	0.2	1.5	0.262
Child is a Recent Immigrant	No		ref			ref			ref			ref			ref			ref			ref			ref			ref			ref			
	Yes	<b>3.8</b>	1.7	8.7	0.002 **	<b>2.2</b>	1.1	4.5	0.033 **	<b>4.0</b>	1.7	9.4	0.002 **	2.2	0.7	6.5	0.153	0.4	0.1	3.4	0.439	1.3	0.1	11.7	0.804	<b>7.5</b>	2.9	19.3	<0.001 ***	2.5	0.8	7.5	0.114
Caregiver has Caries	No		ref			ref			ref			ref			ref			ref			ref			ref			ref			ref			
	Yes	1.4	0.8	2.7	0.255	<b>2.1</b>	1.1	3.9	0.023 **	<b>2.3</b>	1.2	4.5	0.013 **	<b>4.9</b>	2.5	9.5	<0.001 ***	0.9	0.2	4.0	0.85	1.8	0.2	16.0	0.612	1.5	0.4	5.8	0.593	0.4	0.1	3.5	0.433

### Dental Conditions

### Medical Conditions

- As ages increases, the odds of a person presenting with caries was higher than those in the 0-2 year cohort
- Caries and non-cavitated lesions in the 6-9 age-group was slightly higher than other age-groups
- High caries risk and visible plaque was significant for the 3-5 year cohort
- Higher income groups presented with more caries, more non-cavitated lesions and had high caries risk
  - This is different from previous literature showing the opposite trend
- Recent immigrants had higher chance of presenting caries and non-cavitated lesions as well as high caries risk
- Caregiver(i.e. mothers) with caries had children with higher plaque levels

- Sex played a role in patients presenting with Asthma, Autism, Special Needs or Developmental Disorders
  - Other sociodemographic factors did not play a significant role
- Special needs conditions had higher odds of presenting among the recent immigrant population

## Conclusions

- Sociodemographic(i.e. age group and poverty level) seem to play a major role in dental conditions compared to medical health
- Parents education and knowledge of own health is important
- Caregivers that take care of themselves will be able to properly take care of their kids
- Future study to look into the association between race and dental conditions at Touro College of Dental Medicine