

INTRODUCTION

- Lack of dental care is the greatest unmet health need among American children (Newacheck et al., 2000).
- Impoverished children experience especially high rates of tooth decay (Pourat & Finocchio, 2010), with 33% of low income children experiencing 75% of the dental caries burden (Dye, Arevalo, & Vargas, 2010).
- Tooth decay has been associated with school absences, sleep problems, pain, financial stress, nutritional issues, poor concentration and other negative outcomes (Jackson et al., 2011).
- Latinos and African Americans also show higher dental caries rates and longer delays between dental visits than Caucasians (NIDCR, 2016).
- The current study examined the impact of social determinants on participation in oral health care opportunities provided through a non-profit organization in collaboration with a university based dental school.

METHOD

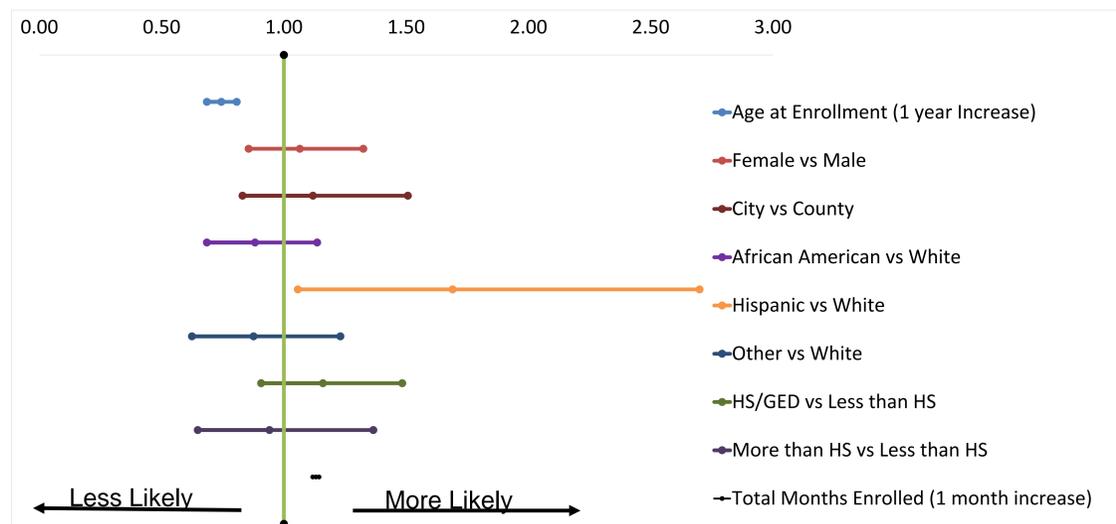
- 2,425 children, aged 2-5 years, participated in the study between 2008-2014.
- All participants were enrolled in the non-profit intervention program where they received comprehensive wrap-around services due to their poverty level, < 185-200% below the federal guidelines.
- Children enrolled in services at an average age of .99 years and were enrolled for an average of 23.8 months.
- All children participated in Begin with a Grin (BwaG), a program to enhance dental education, provide fluoride treatments and reduce fear.
- Children participate in BwaG from initial tooth eruption to age 3. Treatment and education occurs with a nurse in the home.
- Participants were additionally invited to participate in Dental Days (DD) where they receive a dental exam and general education in a fair-like setting with dentists and dental students from the university based dental school.
- 1,375 participants opted into DD. Participants received dental education, a varnish, and a calibrated visual dental exam in a fair-like setting.

Results

- Differences in health and social determinants between CHIP only and DD participants were examined. See chart.
- Adjusting for enrollment length ($p < .0001$), age of enrollment ($p < .0001$) and race/ethnicity ($p = .048$) were significantly associated with increased participation in DD. See Figure for odds ratio.
- For participants with clinical exam data ($n = 339$), 19% had tooth decay on at least one primary tooth.



Factor	DD Participant	CHIP Only	P-value
n (%)	1375 (57%)	1050 (43%)	
Age at Enrollment (Mean, SD)	0.7, 0.95	1.38, 1.61	<0.0001
Months Enrolled (Mean, SD)	35.07, 21.4	9.05, 9.2	<0.0001
Number of Dentist Visits (Mean, SD)	0.92, 1.42	0.22, 0.71	<0.0001
Average Dentist Visits Per Year (Mean, SD)	0.28, 0.86	0.19, 0.65	0.0070
At least 1 Dentist Visit Per Year (%)	43%	13%	<0.0001
Varnish Treatments (Mean, SD)	2.70, 1.62	0.06, 0.30	<0.0001
Average Varnish Treatments Per Year (Mean, SD)	1.17, 0.98	0.08, 0.43	<0.0001
Gender (%Male)	51%	55%	0.0958
Locality (%City)	83%	83%	0.7466
Race/Ethnicity			<0.0001
African American	40%	42%	
Hispanic	14%	5%	
White	34%	38%	
Other	12%	15%	
Guardian's Education			0.1140
Less than High School	35%	36%	
High School/GED	50%	52%	
More than High School	15%	12%	
Caries Present (n=330)	35%	Not Available	



DISCUSSION

- Only 1 in 5 children enrolled in Medicaid receive a preventative dental visit (HHS, 2000). On average, 80% of the intervention enrolled children (all Medicaid eligible) have established a dental home; 90% receive a varnish before age 3; and 100% receive in-home dental education.
- DD participants differed from the intervention-enrolled participants in the current study based on enrollment and ethnicity factors.
- Children who were enrolled at an earlier age, who had been enrolled longer, and who identified as Hispanic were more likely to participate. Trust due to rapport building may be major factors in opting in to dental days.
- Those who opted in received more dental treatment: varnishes and dental visits than those who opted out. The odds of having a dental visit was 4.9x higher for DD participants.
- Given that the dental caries rate for average 2-5 year olds now stands at 22.7% (NIDCR, 2016), the 19% caries rate in the intervention group is promising.
- The low rate of caries is especially noteworthy given that impoverished children (100% of the sample) and African American and Hispanic children (>50% of the sample) have significantly higher caries rates, 43.6% and 45.7% respectively (NIDCR, 2016).
- Hispanic populations are known to have lower dental service utilization rates than Caucasian populations (Eke et al., 2006) and to suffer greater dental caries and untreated decay (NIDCR, 2016). In the current study, DD utilization was 1.7x higher than the Caucasian participants.
- In conclusion, the focus on oral health literacy and healthcare coordination via the intervention program seems highly effective.
- Future work will attempt to examine costs savings.

Collaborators

