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Social Determinants of Participation in a Home Visitation  
Fluoride Varnish Program

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# MISSION STATEMENT

To promote the health of medically under-served children within the greater Roanoke Valley by ensuring comprehensive health care, strengthening families, and coordinating community resources in a public/private partnership.



# CHIP of Roanoke Valley

- Home Visiting Program
- Serves children ages birth to kindergarten-entry (or age 6)\* and pregnant moms
- Based on a preventive medical model



# Health Care Coordination

## Nurses..

- Help families establish a medical and dental home
- Stay up-to-date with well-child visits and immunizations
- Provide asthma case management
- Assist with medical needs and understanding treatment recommendations
- Provide in-home application of fluoride varnish
- Refer for early intervention screenings and services
- Provide support to families of children with chronic conditions



# Family Strengthening & Support Services

## Family Case Managers...

- Parenting skills
- Assists in developing parenting skills using the evidence based Parents as Teachers curriculum (PAT)
- Provide age-appropriate child development assessments and referrals
- Build Kindergarten readiness skills
- Promotes self-sufficiency through family goal setting, support and referrals



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# Begin with a Grin Program

Provides:

- In-home oral health education for children and caregivers
- Fluoride varnish applications and dental care coordination
- Nurse and Family Case Manager



# Dental Fairs

- CHIP of Roanoke Valley has offered twice yearly, Dental Fairs for the to further promote oral health and opportunity for a research exam.
- Strategies are used to help desensitize child participants to dental exams and varnish applications.



# VCU Support & Research

- The dental fairs are supported by VCU pediatric dentists
- Calibrated oral exams completed by pediatric dentists
- Data analyzed for efficacy



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# Study Purpose

- To examine and identify what social determinants predict which Child Health Investment Partnership (CHIP) children participated in the *Begin with a Grin* program (BwaG).
- The comparison of dental disease for a subset of CHIP children that received a dental exam.

# BwaG Home Visit

- Pediatric nurse practitioners provide:
  - Oral health anticipatory guidance
  - Fluoride Varnish application
  - dental care coordination with a dentist

# Data thus far

- Retrospective cohort study
- Children (n=2,425) enrolled in CHIP of Roanoke Valley.
- 6-year period (September 2008-September 2014).



- 57% of CHIP enrollees were BwaG participants
- Children who enrolled at an earlier age were more likely to participate in BwaG.
- BwaG children averaged 2.7 varnish treatments over enrollment with average of 1.2 per year

Factor	BWAG Participant	CHIP Only	P-value
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



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Hispanic participants were 3 times more likely to participate in BwaG.

Factor	BWAG Participant	CHIP Only	P-value
Race/Ethnicity			<0.0001
African American	40%	42%	
Hispanic	14%	5%	
White	34%	38%	
Other	12%	15%	



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# Caries Experience

- Caries experience of 19% for children who received a dental exam.

	Percent	Standard error
Total	36.7	1.8
2–5 years	22.7	2.1
6–8 years	55.7	2.4
Non-Hispanic white	30.5	2.3
Non-Hispanic black	43.6	2.8
Hispanic	45.7	2.9
Non-Hispanic Asian	35.9	3.4



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# Dental Visits

Factor	BWAG Participant	CHIP Only	P-value
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

# Claims Data

- When CHIP children were compared with Medicaid-only children, the CHIP child was 3 times more likely to have at least 1 dental visit (odds ratio: 3.0 (1.9–4.7)).
- *Pediatrics 2013;132:S147–S152*



# Conclusions

- By focusing on enrolling children at earlier ages, there is the potential to increase the use of dental care to match the recommended periodicity of dental care for young children.
- The home visiting model is an effective way to allow “equal footing” for a low income, high risk population.

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