

Advancing the Maternal & Child Health VISION  
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## Child Health Investment Partnership of Roanoke Valley, Virginia

### Begin with a Grin Program (2008-2012)

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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.

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## 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
- CHIP Staff conducted 5,994 home visits in FY12 with 1,075 children from 701 families and an additional 92 pregnant mothers







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## Health Care Coordination

Nurses..

- Help families establish a medical and dental home
- Help families 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



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## Family Strengthening & Support Services

Family Case Managers...

- Educate and facilitate parenting skills
- Assist 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
- Promote self-sufficiency through family goal setting, support and referrals



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## Mental Health

- More intensive case management for services for children at risk of serious emotional disturbance up to age 7
- Monitoring families with mental health needs
- Coordinating of services with other mental health providers



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## Early Childhood Dental Caries

- According to a Trends in Oral Health Status : United States Report; among 2-4 year olds, the prevalence of dental caries in primary teeth has increased in children living in households above 100% of Federal Poverty Level
- According to a report by the CDC, early childhood dental caries has remained the most prevalent chronic disease of childhood.



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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 for over 1900 children during the past five years



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## *Begin with a Grin*



- In-home dental varnish
  - Oral health education program
  - Designed to improve oral health for at-risk low income children



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### Dental Varnishes

CHIP of Roanoke Valley Varnishes	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	TOTAL FOR 5 YEARS
# of children receiving dental varnishes	352	407	439	384	371	1,953
# of fluoride dental varnishes applied	456	531	578	528	489	2,582

CHIP has continued to focus on identification and establishment of dental homes in the Roanoke area for CHIP children (75% rate as of Fiscal Year 2012).



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### Dental Fairs

- CHIP of Roanoke Valley has offered twice yearly, all day Dental Fairs for the last 5 years to further promote oral health
- Dental Fair activities include:
  -  Pictures with the tooth fairy
  -  Learning about Healthy Snacks
  -  Oral Health Education



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### Dental Fairs

- Strategies are used to help desensitize child participants to dental exams and varnish applications.






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### VCU Support & Research

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



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### Research Findings

- Outcomes
  - **Tooth Decay**
    - dmft (decayed, missing, filled) primary teeth
  - **Utilization of dental services**
    - One or more dental claims made within the study period
    - Number of dental claims made per Medicaid eligible child



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### Methods

- **Secondary data analysis:**
  - Enrollment data
  - Clinical claims records of individual children
- **Cohort of 216 CHIP-enrolled children had a dental screening**
  - Participation in Dental Days on 9/08, 3/09, 9/09, 3/10, and/or 9/10
  - Exams performed by calibrated VCU Pediatric Dental Residents
  - Identified presence of decay on any tooth surface
  - Total Number of decayed, missing, filled teeth (dmft)
  - Count of total number of teeth



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## Methods

- **Propensity Score Matching**
  - Using the Propensity Score method, control subjects were selected from the statewide Medicaid database using a caliper matching algorithm.
  - A vector of chosen covariates was used to match controls including risk factors, estimated propensity score, age, race, gender, and days of Medicaid eligibility.
  - Propensity scores were developed using a logistic regression.



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## Methods

- **Outcome variable**
  - One or more dental claims: Y/N (logistic regression)
  - Number of claims in study period (Poisson regression)
- **Independent variable**
  - CHIP Medicaid (cases) / non-CHIP Medicaid (controls)
- **Covariates**
  - Age, race, gender, and days of Medicaid eligibility



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## Results

- Total access for 216 CHIP enrolled children was 1,757 dental claims
- Propensity Score matched 216 Medicaid controls had 641 dental claims

**CASES (216 subjects)**

case_control	inclaims	Frequency
Cases	.	55 (0 claims)
Cases	1	1757 (claims)

**CONTROLS (216 subjects)**

case_control	inclaims	Frequency
Controls	.	114 (0 claims)
Controls	1	641 (claims)

**CASES**


One or more claims      74.5 %

Average number of claims (std. err.)    8.13 (0.55)

**CONTROLS**

One or more claims      47.2 %

Average number of claims (std. err.)    2.97 (0.30)



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## Discussion

- A CHIP enrolled child is three times more likely to have one or more dental claims than a regular Medicaid eligible child.
- We infer from this statistically significant result that the CHIP program helps low-income families access their Medicaid benefits.
- A typical CHIP enrolled child had higher access (average = 8.6 dental claims) to Medicaid dental benefits, than a regular Medicaid eligible child (average = 3.1 dental claims) which is 2.8 times more frequent.



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## Dental Health

- A home visiting model can provide:
  - Education that improves dental health literacy
  - Assistance in establishing a dental home
  - In-home fluoride varnish applications
- Implications for policy and practice:
  - Prevention of future dental disease
  - Cost savings over the lifespan
  - Increased focus on maternal child health programs to reduce early childhood caries



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