FINAL REPORT AND ABSTRACT

Narrative:

PURPOSE OF PROJECT AND RELATIONSHIP TO SSA TITLE V MATERNAL AND CHILD HEALTH (MCH) PROGRAMS: Briefly describe the major purposes of the project and the needs and problems it addressed. Indicate the program priority under which the project was funded. Explain the relationship to the Title V MCH Program and state/local AAP chapter(s).

CHIPRV stands for Child Health Investment Partnership of Roanoke Valley. CHIP is an early childhood home visitation program based on a preventive medical model incorporating monthly home visits with a Community Health Nurse and Family Case Manager to monitor and assess health and development, provide parenting education, and offer wrap-around family support services such as transportation, community referrals, skills training, mental health support, and bilingual outreach. The CHIP model has been replicated in several sites throughout Virginia.

To address the overwhelming number of low-income children in the Roanoke Valley with long term dental disease, CHIP implemented the Begin With A Grin Program. The program is grounded in the Virginia Department of Health’s Bright Smiles for Babies: Early Oral Screening and Fluoride Varnish Program and addresses the barriers to early oral health care. CHIPRV is a public health program that receives Title V pass through funding from MCH through the local health department. The success and results of CHIPRV’s Begin with a Grin project has was a featured presentation at the February 2013 AMCHP National Conference in Washington, D.C.
GOALS AND OBJECTIVES: Describe the goals and objectives of the project and show how they relate to the item above.

The goal of CHIP's *Begin with a Grin Program* was to reduce the incidence of long term dental disease in the highly vulnerable population of low income children enrolled in CHIP specifically in the age range from tooth eruption to 36 months. We anticipated that the objectives of the program would: supplement current dental health care notable for limited availability of dental health providers in this locale, increase caregiver education about oral hygiene, and help to meet the basic preventive dental needs of young children in a high risk population.

METHODOLOGY: Briefly describe the program activities used to attain goals/objectives and comment on innovation, cost, and other characteristics of the methodology.

In the unique venue of a home visit by an established trusted nurse, CHIP children from the age at which teeth are erupting up until age 36 months were the target audience for this highly effective and successful strategy. All nursing staff of CHIP were educated to provide the *Bright Smiles for Babies* educational curriculum. Children and parents were educated about high risk behaviors for caries development, the importance of good nutrition, healthy snacking, effective tooth brushing and referred to area dental providers for assessments and care. Early in the process, it became evident that there were not enough dental providers for low income children with Medicaid insurance in the area to meet the recommended guidelines of first dental visit by age one year.
An additional strategy was adopted early in the *Begin with a Grin* program to sponsor Dental Fairs twice yearly. The dental fairs provided a child/family friendly environment designed to enhance understanding of oral health education and reinforce the importance of early dental screening. Parents brought their children to these events where strategies were used to help desensitize child participants to dental exams and varnish applications. The dental fairs offered an environment in which children feel “safe” and could play with special stuffed animals with prominent teeth and practice tooth brushing, flossing, as well as dental play. In addition, the CHIP staff and volunteers offered games for healthy snack selection. The “tooth fairy” came for a visit and children were able to have a photo taken with the tooth fairy.

The fairs were augmented with a seasonal focus, e.g. in the Fall the fair was often around Halloween and children participated in crafts and holiday related activities. Using a child friendly desensitization process helped the children be more prepared to experience the dental screening where they are requested to “open wide.” The pediatric dentists who assisted with these fairs have often commented that the oral health literacy of the CHIP parents seem to be quite high and how few caries they actually see in our CHIP population compared to other “at risk” groups in other locales. This creative forum offered families and children an inviting, safe and informative resource for learning about the value of caring for teeth and facilitating healthy oral hygiene from an early age.
Major costs incurred in the implementation of this project related to operations (staff salaries and mileage) as well as supplies (toothbrushes, varnish, toothpaste, etc). In kind donations occasionally supplemented the supplies, e.g. area schools donated toothbrushes, area agencies donated volunteer time to assist with the dental fairs.

**EVALUATION:** Briefly describe the evaluation methods used to assess the effectiveness of the project in attaining goals/objectives.

CHIP RV has established outcomes for every aspect of health care coordination provided for children and families. Most specifically, parameters measured for efficacy related to *Begin with a Grin* related to: Percentages of children receiving at least one dental varnish application before turning 37 months, number of children receiving dental varnish, and percentage of families receiving in home dental education.

**RESULTS/OUTCOMES:** Summarize the major results. Highlight any health status outcomes, systems changes, lessons learned and outcomes which have potential for transfer and replication. Provide the number of individuals identified by racial and ethnic group served.

CHIP nursing staff have been able to provide in-home oral health education for caregivers, and preventive fluoride varnish applications and dental care coordination for over 2000 children during the past five years. (Please see chart below). In addition, all day Dental Fairs were offered twice a year to provide a child/family friendly environment to enhance understanding of oral health education and reinforce the importance of early dental screening. The dental fairs are supported by pediatric dentists (from the Virginia Commonwealth University’s School of
Dentistry) who perform calibrated screenings of CHIP children for caries incidence, presenting oral health issues, and referral to area dentists. The data from these screenings is being collated for analysis of efficacy of early oral screenings and varnish applications on caries reduction in this “at risk” population.

CHIP of RV has continued to focus on identification and establishment of dental homes in the Roanoke area for CHIP children at a 50% rate as of Fiscal Year 2013. This is a strong accomplishment with the lack of pediatric providers of dental care in the area throughout the five year project period. Most recently we have been pleased to be notified that one of the pediatric dentists serving our dental fairs has opened a local practice to help meet the dental needs of our CHIP population. This opportunity for sustaining our children during and beyond their time in CHIP is very exciting and much needed. In addition, during the last four dental fairs we have added another screening service, i.e. hearing and speech screening for our children ages three and over. The “dental fair” venue has proved to be an accessible opportunity for many of our families in need of these services.

Since its implementation in September 2006, the Begin With a Grin program has provided 2913 dental varnish applications to 2222 eligible children (through March 2013). During FY 2012, 92% of eligible children age 36 months and under received at least one annual dental varnish, while 100% of enrolled families with children receiving Begin With a Grin services also received in-home dental education.
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<th># of fluoride dental varnishes provided</th>
<th>FY 2008</th>
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<th>FY 2011</th>
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<tr>
<th>OUTCOME MEASUREMENT</th>
<th>FY08</th>
<th>FY09</th>
<th>FY10</th>
<th>FY11</th>
<th>FY12</th>
<th>FY 13 *</th>
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<tr>
<td>100% of all program participants will be insured access to a dental home.</td>
<td>**</td>
<td>327/478 (68%)</td>
<td>308/493 (62%)</td>
<td>341/503 (68%)</td>
<td>404/541 (75%)</td>
<td>377/486 (78%)</td>
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<td>60% of all enrolled children will have an initial dental exam by age three.</td>
<td>**</td>
<td>183/378 (48%)</td>
<td>182/399 (46%)</td>
<td>192/407 (47%)</td>
<td>212/404 (52%)</td>
<td>270/380 (71%)</td>
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<tr>
<td>60% of children age three and over will receive regular dental care.</td>
<td>**</td>
<td>263/478 (55%)</td>
<td>239/493 (48%)</td>
<td>305/503 (61%)</td>
<td>317/541 (59%)</td>
<td>291/486 (60%)</td>
</tr>
<tr>
<td>90% of eligible children turning 37 months during the timeframe will receive at least one dental varnish application before turning age 37 months.</td>
<td>**</td>
<td>128/148 (86%)</td>
<td>127/135 (94%)</td>
<td>111/116 (96%)</td>
<td>134/145 (92%)</td>
<td>96/109 (88%)</td>
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<td>90% of all families will receive in-home education utilizing a dental care curriculum</td>
<td>**</td>
<td>342/344 (99%)</td>
<td>370/373 (99%)</td>
<td>338/338 (100%)</td>
<td>303/303 (100%)</td>
<td>235/235 (100%)</td>
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* Reported through March 31, 2013 (not possible to include partial quarter outcomes through Feb. 28, 2013)
**Project period began during the 4th quarter of FY08, so the first report period for outcomes fell within FY09.

**PUBLICATIONS/PRODUCTS:** List publications/products resulting from the project and the audiences for which each was designed. Products include but are not limited to: pamphlets, manuals, forms, surveys, questionnaires, CDs, DVDs, electronic educational products, slides, newsletters, training materials, web based training modules, protocols, standards, books, workbooks, brochures, articles, presentations, database formats. If the contact person for a particular publication/product is someone other than the Project Director, please provide their name, address, telephone number, and e-mail address.

- Robin Haldiman served as a Co-Investigator for an ongoing research project, “Long-Term
Efficacy of Dental Varnish Application” along with Principal Investigator Tegwyn H. Brickhouse, DDS, Ph.D

• Poster Presentation - CHIP’s “Begin with a Grin” at HRSA Healthy Tomorrows Conference, Chicago, IL (Robin Haldiman, Dr. Lin Young)

• Robin Haldiman presented at the national Association of Maternal Child Health Programs (AMCHP) conference in Washington D.C. in Feb. 2013 providing research results of CHIP’s Begin with a Grin (Robin Haldiman, Carol Huffman)

• Manuscript accepted in peer reviewed journal, titled “Oral Health Prevention in an Early Childhood Home Visiting Program” (Brickhouse, Teg, Haldiman, Robin, Evani BM)

• Poster presentation, “Increasing Children's and Parent's Health Literacy Through CHIP,” was accepted for IHA’s 12th Annual Health Literacy Conference, in May 2013


• Poster presentation accepted for presentation at November 2013 American Public Health Association (APHA) Conference
DISSEMINATION/UTILIZATION OF RESULTS: Describe action taken to share information/findings/products/resources with others within and outside the State.

The previously mentioned publications and presentations at state and national conferences have and will contribute to disseminating Begin With A Grin findings. Ms. Haldiman has been named Chairperson of the 2013-14 Virginia Oral Health Coalition beginning in October 2013, and plans to utilize her position to provide Early Childhood Caries prevention best practices to stakeholders throughout the state of Virginia.

FUTURE PLANS/SUSTAINABILITY: Describe plans for continuing the activities initiated by the project and future funding. Include anticipated results and both the short and long term impact of the project.

Funding for continuation of the Begin with a Grin project was received from the Delta Dental of Virginia Foundation on January 1, 2013 in the amount of $10,000. Other local, state and federal sources of grants will be pursued to provide sustainability of the project. The bi-annual Dental Fairs and fluoride varnish treatments are critical components of CHIP’s dental program and will continue as part of CHIP’s overall home visiting program. The outcome measurements begun under the HRSA funding have become measurements of program success for CHIP.
ANNOTATION

To address the overwhelming number of low-income children in the Roanoke Valley with long-term dental disease, CHIP implemented the *Begin With A Grin Program*. The program is grounded in the Virginia Department of Health’s *Bright Smiles for Babies: Early Oral Screening and Fluoride Varnish Program* and addresses the barriers to early oral health care with much higher rates inherent to the low-income population of children CHIP serves. The program helped fill gaps in dental health by increasing the number of regional pediatric providers, increase caregiver education about oral hygiene through home visits, and meet the basic preventive dental needs of young children in a traditionally high-risk population through fluoride varnish treatments, establishment of a dental home and bi-annual dental fairs. CHIP helped establish best practices for the prevention of early childhood caries in high risk populations and disseminated its findings through national presentations and publications.

KEY WORDS

Keyword 1: Access to dental care  
Keyword 2: Dental education  
Keyword 3: Fluoride  
Keyword 4: Early childhood caries  
Keyword 5: Home Visiting Programs  
Keyword 6: Oral Health  
Keyword 7: Parent education  
Keyword 8: Prevention  
Keyword 9: Virginia  
Keyword 10: Treatment effectiveness evaluation
ABSTRACT OF FINAL REPORT

PROJECT IDENTIFICATION

Project Title: Begin With A Grin: In-Home Dental Varnish and Oral Health Education for Children

Project Number: H17MC08975

Project Director: Robin Haldiman

Grantee Organization: Child Health Investment Partnership of Roanoke Valley

Address: 1201 Third Street, SW, Roanoke, VA 24016

Phone Number: 540.857.6993

E-mail Address: robin.haldiman@chiprv.org

Home Page: www.chiprv.org

Project Period: March 1, 2008-Feb. 28, 2013

Total Amount of Grant Awarded: $185,701.00
PURPOSE OF PROJECT AND RELATIONSHIP TO SSA TITLE V MATERNAL AND CHILD HEALTH (MCH) PROGRAMS:

GOALS AND OBJECTIVES:

Goal: The Begin with a Grin program will reduce the incidence of long term oral hygiene disease in low-income children ages 6 months-36 months who are enrolled and followed by CHIP.

Outcomes:

100% of all program participants will be insured access to a dental home.

60% of all enrolled children will have an initial dental exam by age three.

60% of children age three and over will receive regular dental care.

90% of eligible children turning 37 months during the timeframe will receive at least one dental varnish application before turning age 37 months.

90% of all families will receive in-home education utilizing a dental care curriculum

METHODOLOGY: Utilizing its established in-home visiting program and existing staff of Community Health Nurses, Family Case Managers, and a Pediatric Nurse Practitioner with prescriptive authority, CHIP implemented in-home preventive care with fluoride varnish and parenting instruction on oral hygiene for all CHIP-enrolled children between the ages of 6 months and 36 months. Bi-annual dental fairs were also used as a means to deliver the preventative care and fluoride varnish applications.

EVALUATION: CHIP RV’s outcomes for efficacy related to Begin with a Grin were evaluated by
the Health Care Advisory Committee of CHIPRV on a quarterly basis and analyzed. Outcomes related to: Percentages of children receiving at least one dental varnish application before turning 37 months, number of children receiving dental varnish, and percentage of families receiving in home dental education were evaluated. The success of the project and results of the Begin With A Grin project led CHIP to participate in a two year study along with Virginia Commonwealth University’s Dentistry School titled “Oral Health Prevention in an Early Childhood Home Visiting Program” which provided more in-depth evaluation of the project. (See Publications/Products section).

RESULTS/OUTCOMES: The Begin With a Grin program resulted in 2913 dental varnish applications to 2222 eligible children (through March 2013). Outcome measurements for the project also showed an improvement over the five year period of the grant for all 5 outcomes recorded. The following outcomes are listed with the rate of improvement between FY09 and FY13 for each measure:

100% of all program participants will be insured access to a dental home (FY09 68%/FY13 78%);
60% of all enrolled children will have an initial dental exam by age three (FY09 48%/FY13 71%);
60% of children age three and over will receive regular dental care (Y09 55%/FY13 60%);
90% of eligible children turning 37 months during the timeframe will receive at least one dental varnish application before turning age 37 months (FY09 86%/FY13 88%);
90% of all families will receive in-home education using a dental care curriculum (FY09 99%/FY13 100%)
PUBLICATIONS/PRODUCTS: Robin Haldiman served as a Co-Investigator for an ongoing research project, “Long-Term Efficacy of Dental Varnish Application” along with Principal Investigator Tegwyn H. Brickhouse, DDS, Ph.D; Poster Presentation - CHIP’s “Begin with a Grin” at HRSA Healthy Tomorrows Conference, Chicago, IL (Robin Haldiman, Dr. Lin Young); Robin Haldiman presented at the national Association of Maternal Child Health Programs (AMCHP) conference in Washington D.C. in Feb. 2013 providing research results of CHIP’s Begin with a Grin (Robin Haldiman, Carol Huffman, Tegwyn Brickhouse DDS); Manuscript accepted in peer reviewed journal, titled “Oral Health Prevention in an Early Childhood Home Visiting Program” (Brickhouse, Teg, Haldiman, Robin, Evani BM); Poster presentation, “Increasing Children's and Parent's Health Literacy Through CHIP,” was accepted for IHA’s 12th Annual Health Literacy Conference, in May 2013; co-author for New Developments in Maternal, Infant, and Early Childhood Home Visiting(2013), submitted by Dr. Terry Adirim to the Journal of Pediatrics; Poster presentation accepted for presentation at November 2013 American Public Health Association (APHA) Conference.

DISSEMINATION/UTILIZATION OF RESULTS: The previously mentioned publications and presentations at state and national conferences have and will contribute to disseminating Begin With A Grin findings. Ms. Haldiman has been named Chairperson of the 2013-14 Virginia Oral Health Coalition beginning in October 2013, and plans to utilize her position to provide Early Childhood Caries prevention best practices to stakeholders throughout the state of Virginia.
FUTURE PLANS/SUSTAINABILITY: Funding for continuation of the Begin with a Grin project was received from the Delta Dental of Virginia Foundation on January 1, 2013 in the amount of $10,000. Other local, state and federal sources of grants will be pursued to provide sustainability of the project. The bi-annual Dental Fairs and fluoride varnish treatments are critical components of CHIP’s dental program and will continue as part of CHIP’s overall home visiting program. The outcome measurements begun under the HRSA funding have become measurements of program success for CHIP.