

Recent Advances in the Fluoride Legacy:

Evaluation of the Medical Model for Increasing Access to Fluoride Varnish

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Background

- Growing concerns over oral health of young children, particularly minorities and poor
- States are experimenting with a number of innovative approaches
- Non-dental PCCs are increasingly being called upon to provide dental services
 - AAP Policy Statement (2003)
 - Surgeon General's Report & Conference (2000)
 - ADA Future of Dentistry Report (2001)

Background

- Fluoride varnishes promoted for use by non-dental PCCs since mid-1990s
 - Can be used safely in very young children
- WIC clinics, Early and Head Start Programs
- Public health clinics
- Primary care medical offices
 - Most young children have medical visits, but not dental visits
 - 12 Medicaid programs reimburse physicians

Purpose of Presentation

- Review the medical model
 - Advantages & disadvantages
- Describe the North Carolina program
- Present selected results from our evaluation studies

Background Physician's Role?

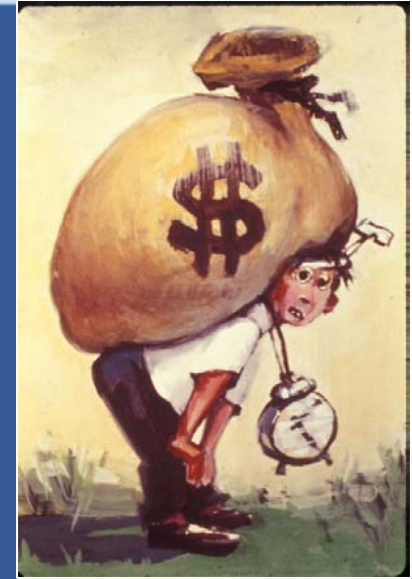
- Does FV fit within scope of services?
- Barriers to adoption?
- Effectiveness of CME?
- Effectiveness of services?

Physician's Role? Scope of Services


- Self report high level of activity:
 - Screen for disease (>85%)
 - Prescribe fluoride supplements (>75%)
 - Counsel on oral health (>85%)
- Fluoride varnish
 - Familiar with procedure (22%)
 - Should be part of well-child visit (21%)
 - Would consider reimbursement (74%)

Physician's Role? Barriers to Adoption

- Medical practices are very busy
 - Over 300 age-specific preventive services recommended 0-5 years
 - Average physician would need to cut patient load in half to meet USPSTF guidelines
- Pattern of child visits
 - Pediatricians see 80% of children, but only 28% are for well-child visits
 - Children average only 36% of recommended preventive visits during 1st year of life and 32% during 2nd year



From: Casamassimo

A person is riding a bicycle on a gravel path that winds through a dense forest. The path is made of light-colored gravel and is flanked by lush green trees and foliage. The person is in the middle ground, riding away from the camera. The overall scene is bright and natural.

**Changing a pediatric
practice is like trying to
change the tire on a
bicycle while you are
riding it!**

W. Carl Cooley
Center for Medical Home Improvement
Hood Center for Children and Families
Lebanon, NH

Physician's Role?

Effectiveness of CME

- Little effect
 - Didactic lecture-based
 - Mailed unsolicited materials
- Moderate effect
 - Audit and feedback, especially if delivered by peers or opinion leaders
- Relatively strong effect
 - Reminder systems
 - Academic detailing
 - Multiple interventions

A close-up photograph of two hands clasped together, one appearing to be an adult's hand and the other a child's, set against a soft, out-of-focus background. The image is overlaid with a semi-transparent blue filter.

North Carolina Experience

North Carolina Initiatives

- Training of medical primary care clinicians
 - 'Smart Smiles' Project
 - 'Into the Mouths of Babes' Project (Medicaid)
- Medicaid reimburses medical providers providing services for up to 6 visits for each child before the 3rd birthday
- Required services
 - Screening & risk assessment
 - Referral for dental care
 - Caregiver counseling
 - Fluoride varnish

Goals of Program

- Increase access to preventive dental care for low-income children
- Reduce the prevalence of ECC in low-income children
- Reduce the burden of treatment needs on a dental care system already stretched beyond its capacity to serve young children

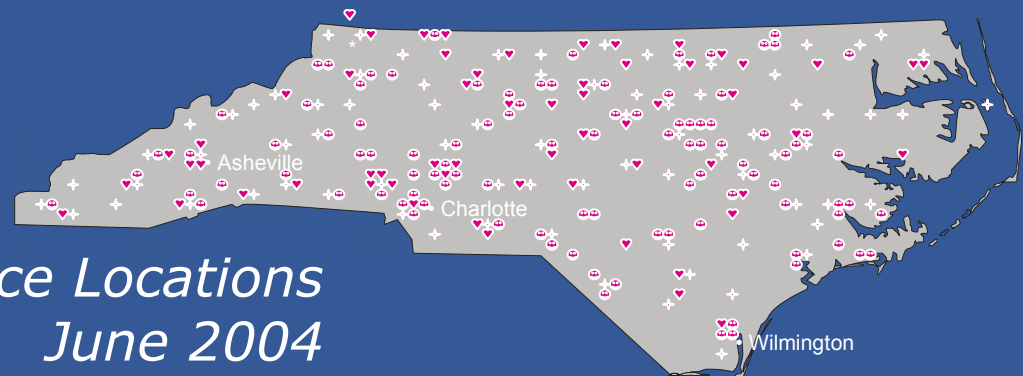
CME Course

- Format
 - 1½ - 2 hours
 - Lecture, slides, case presentations, discussions
 - Demonstrations: video or patient if in office
- Enhancements
 - Toolkit: presentation, parent education materials, other sources, practice guidelines, poster of protocol, instructions on billing
 - Newsletter
 - Technical assistance

Provider Participation

Since 2000:

- More than 2,000 providers trained
- Wide geographic coverage of practices
 - 138 pediatric offices
 - 126 family medicine offices
 - 84 local health departments



*Practice Locations
June 2004*

Number of Visits



Research Agenda

Adoption

- Will PCCs provide services?
- Best way to encourage adoption?



Delivery

- Quality of care?
- Pattern of visits?
- Increase access to services?



Outcomes

- Increase dental visits?
- Reduce treatment services?
 - Reduce costs?
- Improve oral health?
- Improve OHRQoL?

Effectiveness
of CME

Effectiveness
of IMB
Services

CME Effectiveness: Results

- Enhanced CME results in high probability of adoption (~60%)
- Parents rate quality of care highly
- Access to fluoride increased by 8-fold



**Effectiveness of
IMB Services:
Treatment
Outcomes Study**

Treatment Outcomes Research Question

- Determine the effects of IMB visits on caries-related treatment outcomes
 - Screening and referral should increase use of dental services and treatment costs for disease detected
 - Fluoride varnish with preventive counseling should decrease subsequent use and treatment costs

Treatment Outcomes

Design & Methods

- Longitudinal cohort study of caries-related dental treatment in those with and without IMB services
- Medicaid enrollment & claims files
 - ~4 years of claims data (Oct '99 – Jun '03)
 - Lifetime enrollment histories
- Preliminary analysis uses children's experience from 6 through 35 months

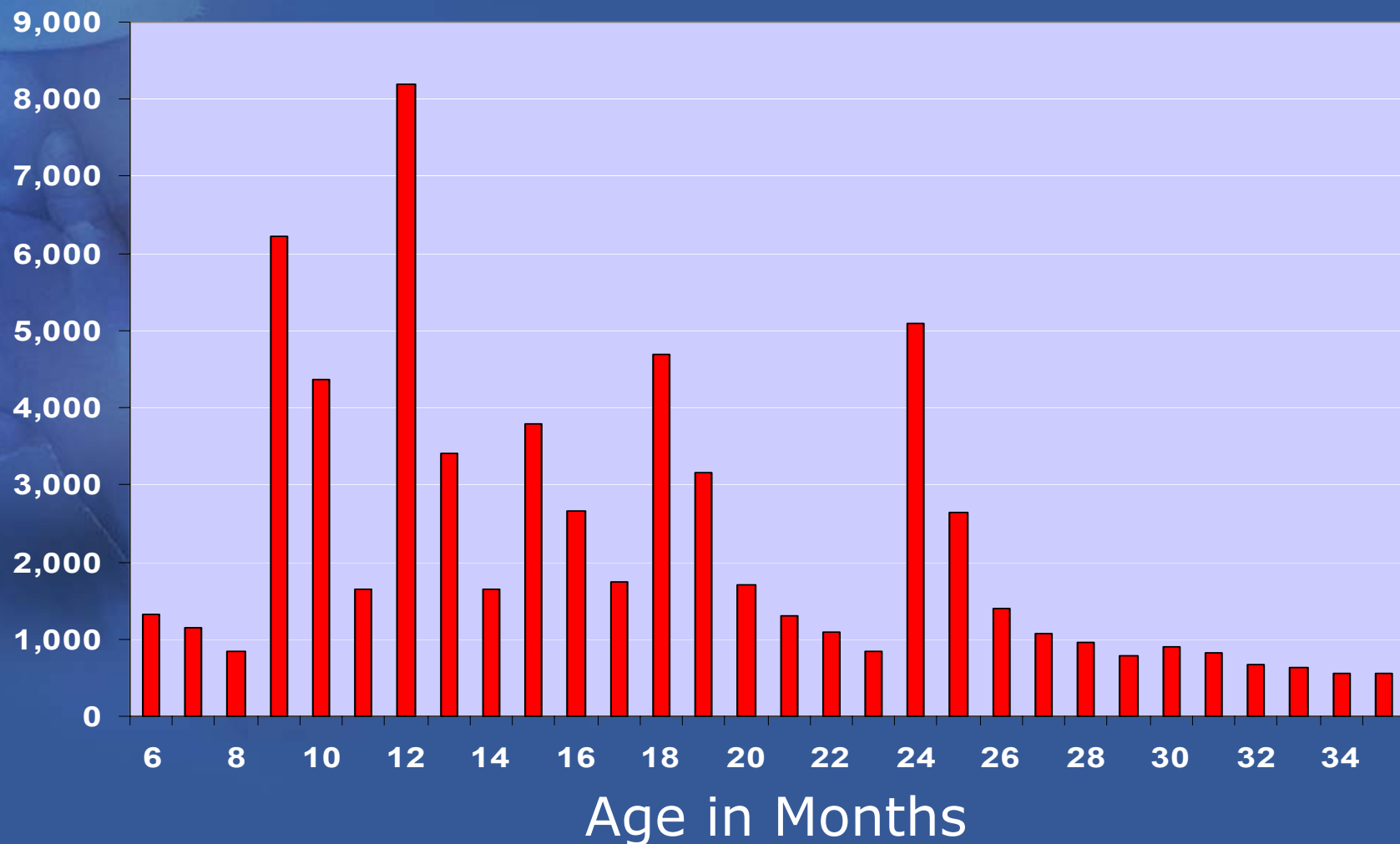
Treatment Outcomes Enrollment and Use

- 292,120 children 6-35 months of age
 - 83.9% medical visit
 - 60.7% well-child visit
 - 15.5% IMB visit (n=45,432)
 - 5.7% dental visit (n=16,838)
 - 12.5 caries-related treatment procedures / eligible yr

Treatment Outcomes

IMB Visits by Age

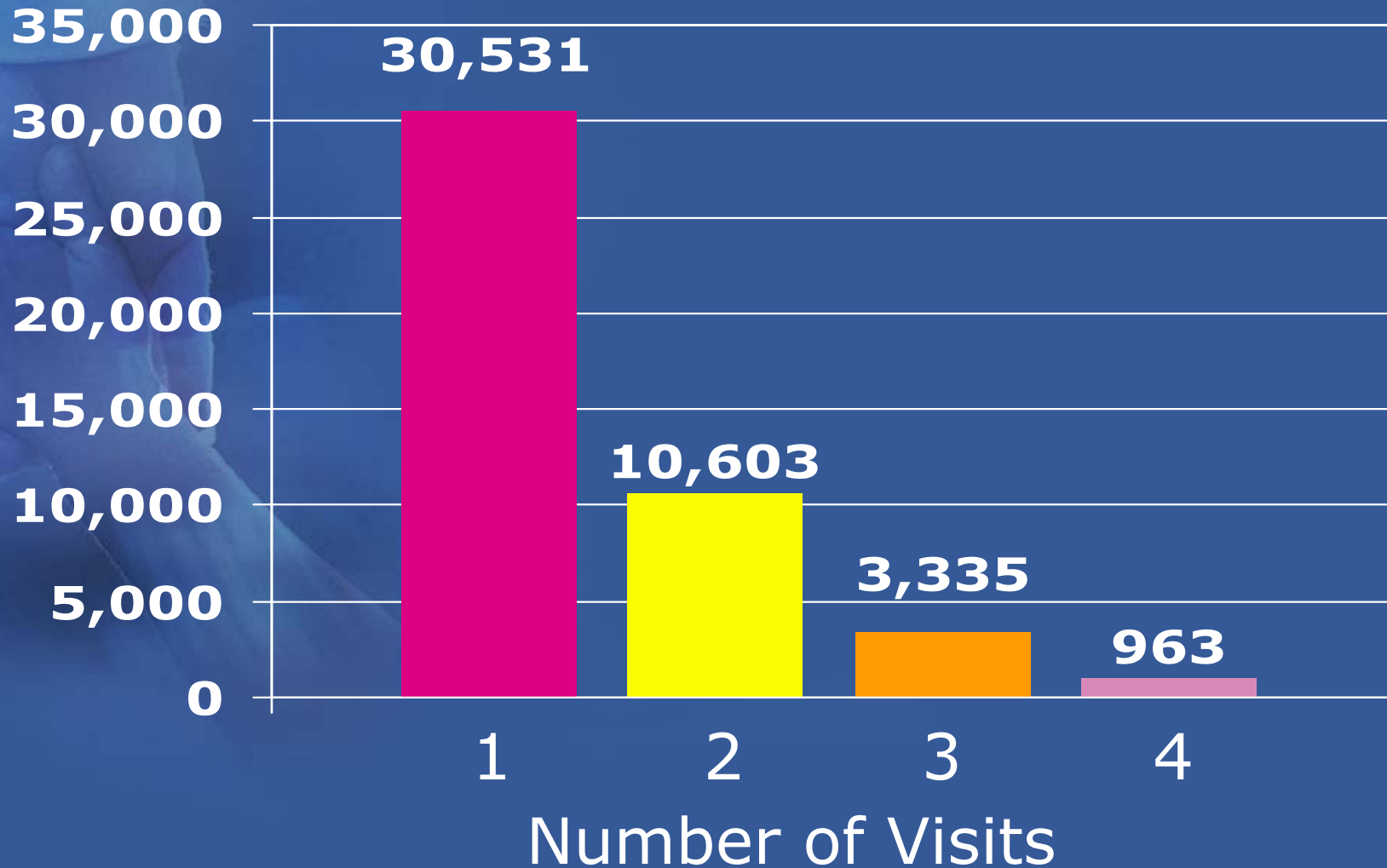
Number of Visits



Treatment Outcomes

Number of IMB Visits

Number of Children



Conclusions (1)

- PCCs report providing a number of services
 - Counseling
 - Fluoride supplements
 - Detection & referral
- A number of barriers to expansion of services exist in medical practices
- Will expand these services
 - Risk assessment
 - Use of fluoride varnish for the prevention & treatment of non-cavitated lesions

Conclusions (2)

- Based on NC results, adoption requires
 - Full documentation of problem
 - Effective CME methods
 - Adequate resources (e.g., coordinator)
 - Adequate reimbursement for time
- Will increase access to topical fluoride
- Preliminary analyses that adjust for unobserved case mix severity indicate that IMB visits are associated with a reduction in caries-related treatments

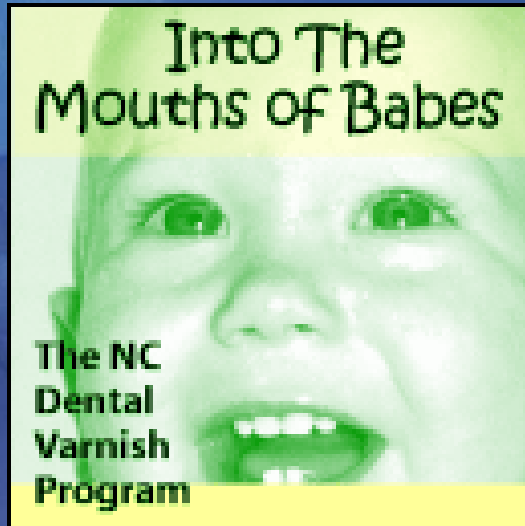
Conclusions (3)

- However...
 - The increase in caries treatment resulting from the screening and referral component of IMB may outweigh reductions from fluoride application and preventive counseling during the implementation phase of the program
 - The low rate of caries among very young children may mean that program costs will not be offset fully
 - Cost-effectiveness of the program should improve with age due to the increasing caries rate and potential reduction from IMB

Conclusions (4)

- Length of time that fluoride varnish is effective is important, especially because of the sporadic enrollment and visit patterns of many children in Medicaid
- Fluoride varnish programs should be part of comprehensive preventive dentistry programs in medical settings
- Innovations with non-dental PCCs need further outcome evaluations

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