Recent Advances in the Fluoride Legacy:
Evaluation of the Medical Model for Increasing Access to Fluoride Varnish

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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


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%)

Lewis et al., 2000; Ismail et al., 2002
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
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
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
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?
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
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
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
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
Number of IMB Visits

Number of Children

Number of Visits

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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
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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