

Expanding Preventive Dental Care in Medical Offices for Young Children Enrolled in Medicaid

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Background

- **Dental decay - most common chronic disease among preschool children in U.S.**
- **1 in 4 children born into poverty**
 - Twice as much tooth decay as affluent peers
 - <1 in 5 Medicaid children use *preventive* dental care
- **General dentists**
 - Not trained to provide care to infants and toddlers
 - Poorly reimbursed by Medicaid
- **Alternative setting for preventive dental care**
 - Pediatric primary care
 - >90% of preschool children have well visits

North Carolina Model “Into the Mouths of Babes (IMB)”

- Medicaid reimburses for up to 6 visits before age 3
 - Screening, risk assessment and dental referrals (as needed)
 - Parent counseling
 - Topical fluoride therapy



Research Questions

1. Does IMB affect use of dental care (access)?
 - 1a. Care in medical & dental offices
(Preventive, Restorative)?
 - 1b. Physician referrals for dental treatment?
2. Does IMB reduce need for restorative care (effectiveness)?

Methods & Data : Access Analysis (1a)

Likelihood of use of preventive & restorative care

■ Study design

- Pre-post quasi-experimental design
- Intent-to-treat analysis using difference-in-differences regression
- Model includes child (age, gender, race), provider supply (dentists, physicians), and area (urban/ rural, fluoridation) characteristics

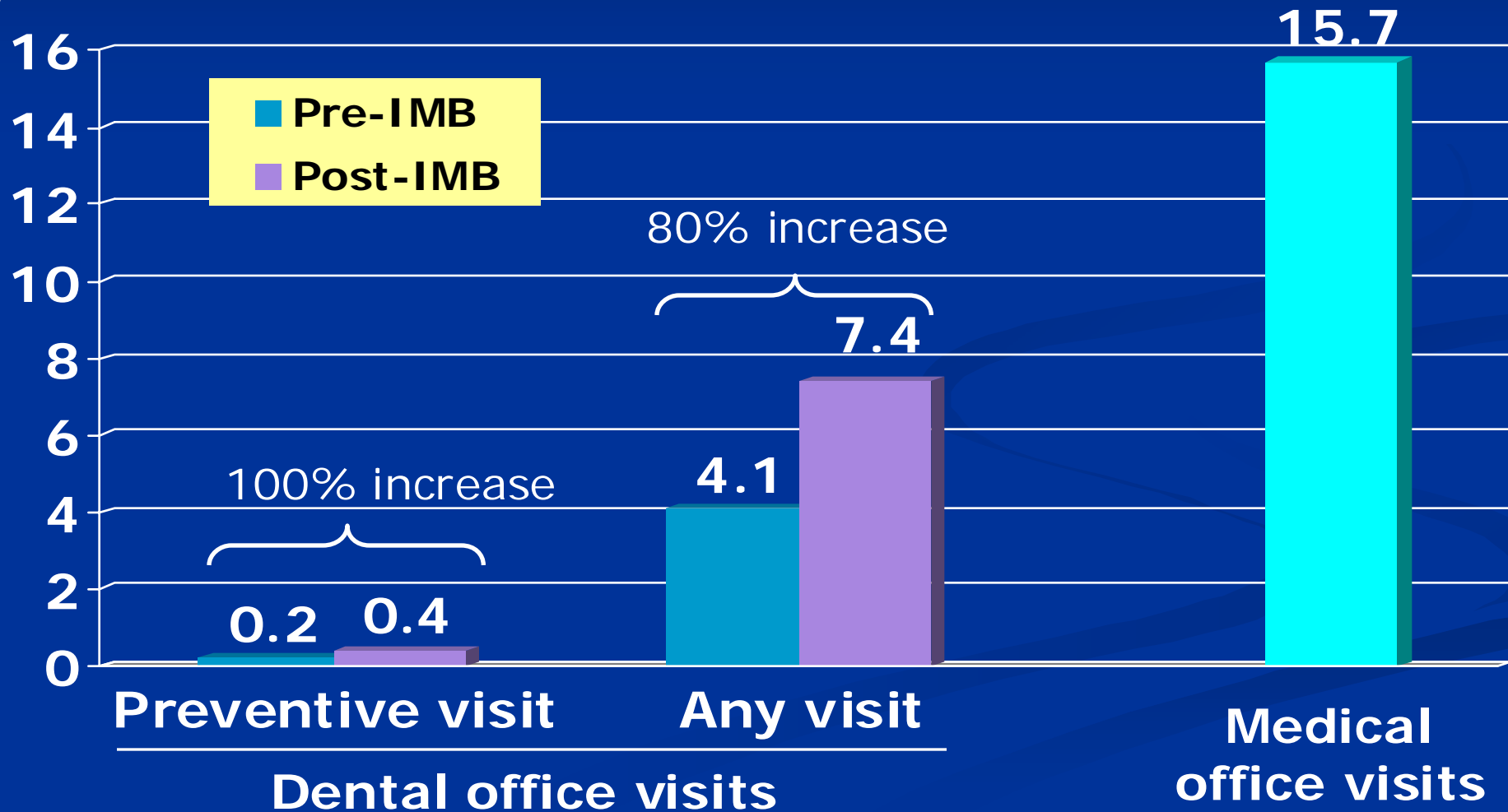
■ Data sources

- 3½ years of longitudinal Medicaid claims files (Jan'00 - Jun'03)
- Child-month records for ~292,000 children

Results : Access Analysis (1a)

Likelihood of use of preventive & restorative care

Visits/month per
1,000 children



Results : Access Analysis (1a)

Likelihood of use of restorative care

■ Intent-to-treat analysis

For 1000 children age 24 months

- 6.8 children treated in absence of IMB
- 7.3 children treated after IMB implementation

Methods & Data : Access Analysis (1b)

Physician referrals for dental treatment

■ Study design

- Cross-sectional analysis of 27,000 children (2001-2002)
- Two-level logistic regression model
- Model includes child (age, gender, race), provider supply (dentists, physicians), and area (urban/ rural, fluoridation) characteristics

■ Data sources

- Patient encounter forms merged with Medicaid claims
- Dental caries and referral information at 1st IMB visit

Results : Access Analysis (1b)

Physician referrals for dental treatment

- **Effect of untreated decay on likelihood of referral**
 - Overall effect of untreated decay
 - OR=15.4 (95% CI [7.5, 31.7])
 - Effect of untreated decay stratified by urban/rural county
 - Metro counties (OR=31.9)
 - Non-metro counties (OR=12.7)

Methods & Data : Effectiveness Analysis (2)

Effect of IMB among the treated

■ Study design

- Cohort treatment study
- Compare children with 4+ IMB visits to no IMB visits
- Two part regressions – # treatments conditional upon some treatment
- Likelihood of treatment for tooth decay

■ Data source

- Medicaid claims (Jan'00 - Jun'03)
 - 98,411 children with no IMB treatments
 - 1,472 children with 4+ IMB visits

Results : Effectiveness Analysis (2)

Effect of IMB among the treated

Effect of 0 vs. 4-6 IMB visits on Expected Dental Treatments
Per 1000 Children up to Four Years of Age By Tooth Category

	No IMB	4-6 IMB Visits	Reduction in # Treatments	% Reduction in Treatment
All Teeth	1697	1433	– 264	15.6%
Anterior Teeth	584	356	– 226*	39.0%
Posterior Teeth	598	527	– 70	11.9%

* Significant at $P \leq .05$

Conclusions and Policy Implications

■ IMB program

- Increased access to preventive dental care in medical and dental offices
- Increased access to dental treatment services
- Reduced need for restorations in anterior teeth

■ Future plans

- Extend effectiveness analyses for additional 3 years of follow-up
- Assess cost-effectiveness

Questions?