

Effects of Preventive Dental Care in Medical Offices on Access To Care for Young Children Enrolled in Medicaid

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Declining workforce

- **47th in number of dentists**
- **28% counties \leq 2 DDS/10,000**
- **79% counties DHP SA**



Changing population

- **Grew by 21% in 1990s (vs. 13%)**
- **Projected to grow by 52% by 2030**
- **1st in % growth in Hispanics**
- **Child born into poverty every 23 min**



Declining health

- **40% of K students experienced decay**
- **60% untreated**

A satellite image of Earth showing three large cyclones or hurricanes. The text is overlaid on the image in a bold, yellow font with a black outline. The text is arranged in three separate blocks, each positioned over one of the cyclones. The background is a dark blue and black satellite view of the Earth's surface, with white and grey clouds forming the cyclones.

**Declining
workforce**

**Declining
health**

**Changing
population**



Perfect storm for reduced access to dental care!

***Fewer than 1 in 5
preschool-aged children
on public insurance use
any preventive dental
services***

North Carolina Response

- Primary medical care
 - Statewide Medicaid program initiated in 2000
 - Known as “Into the Mouths of Babes” (IMB)
- Medicaid reimburses medical providers for:
 - Dental risk assessment, screening & referral
 - Parent counseling
 - Fluoride therapy
- GOAL: Improve access to dental care
 - Increase total preventive visits in medical and dental settings—“preventive effect”
 - Increase needed treatment visits to dentists—“referral effect”

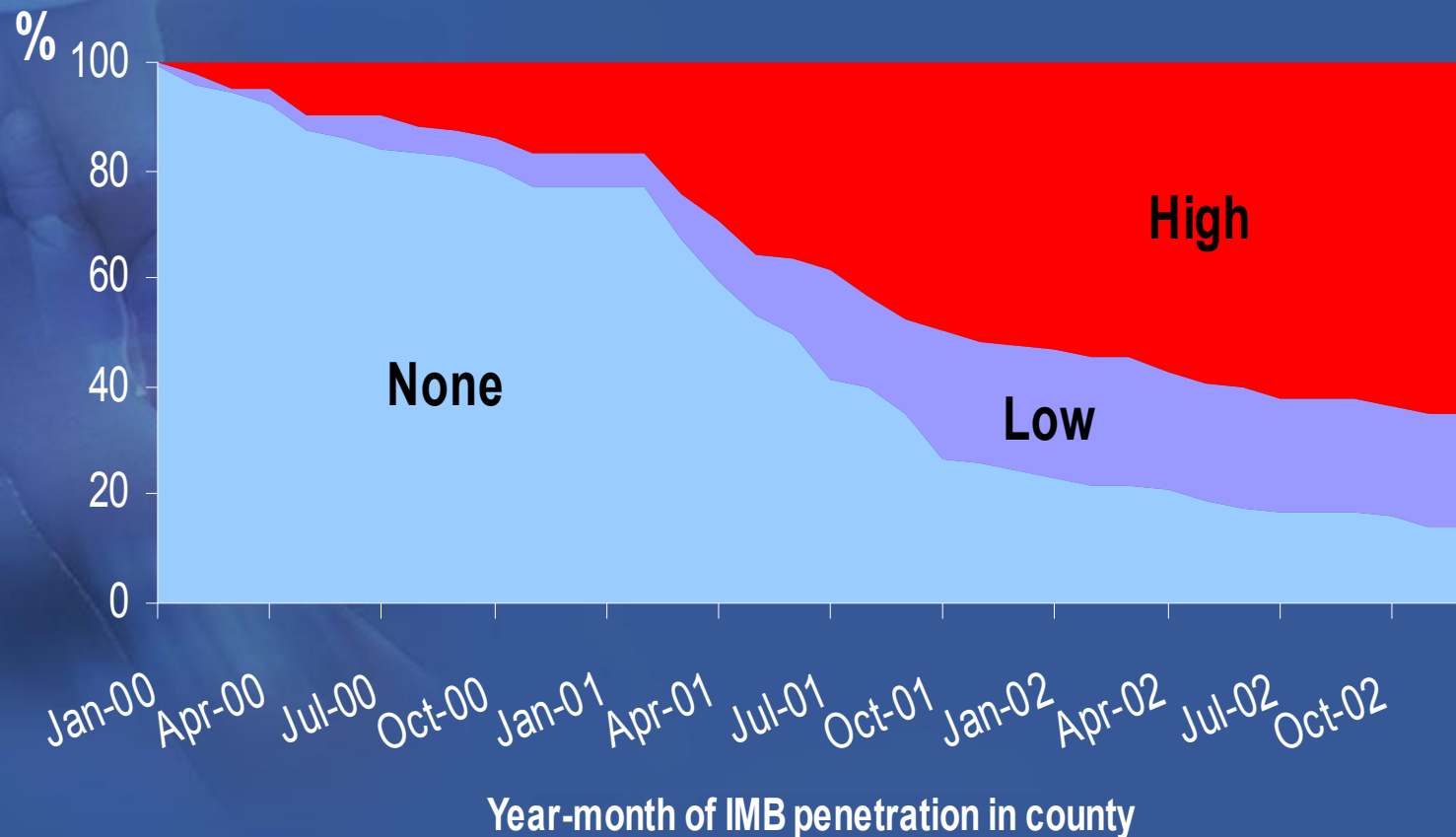
Purpose of Presentation

Determine effects of IMB on:

1. Overall child use of preventive dental services provided by physicians and dentists—“preventive effect”
2. Child use of non-treatment (preventive) and treatment services by dentists—“referral effect”

Methods: Research Design

Pre-post quasi-experimental design with IMB implementation varying by county



High = 10 or more visits provided on a regular basis
by physicians practicing in that county

Methods: Data Sources

- Medicaid enrollment & claims files
 - 3 years of claims data (Jan '00 – Dec '02)
 - Lifetime enrollment histories
- Analysis of children's experience from 12 through 35 months of age
- Outcome variables
 - Preventive dental visits in medical office (IMB)
 - Non-treatment (preventive) visits in dental office
 - Any visits in dental office

Methods: Analysis Strategy

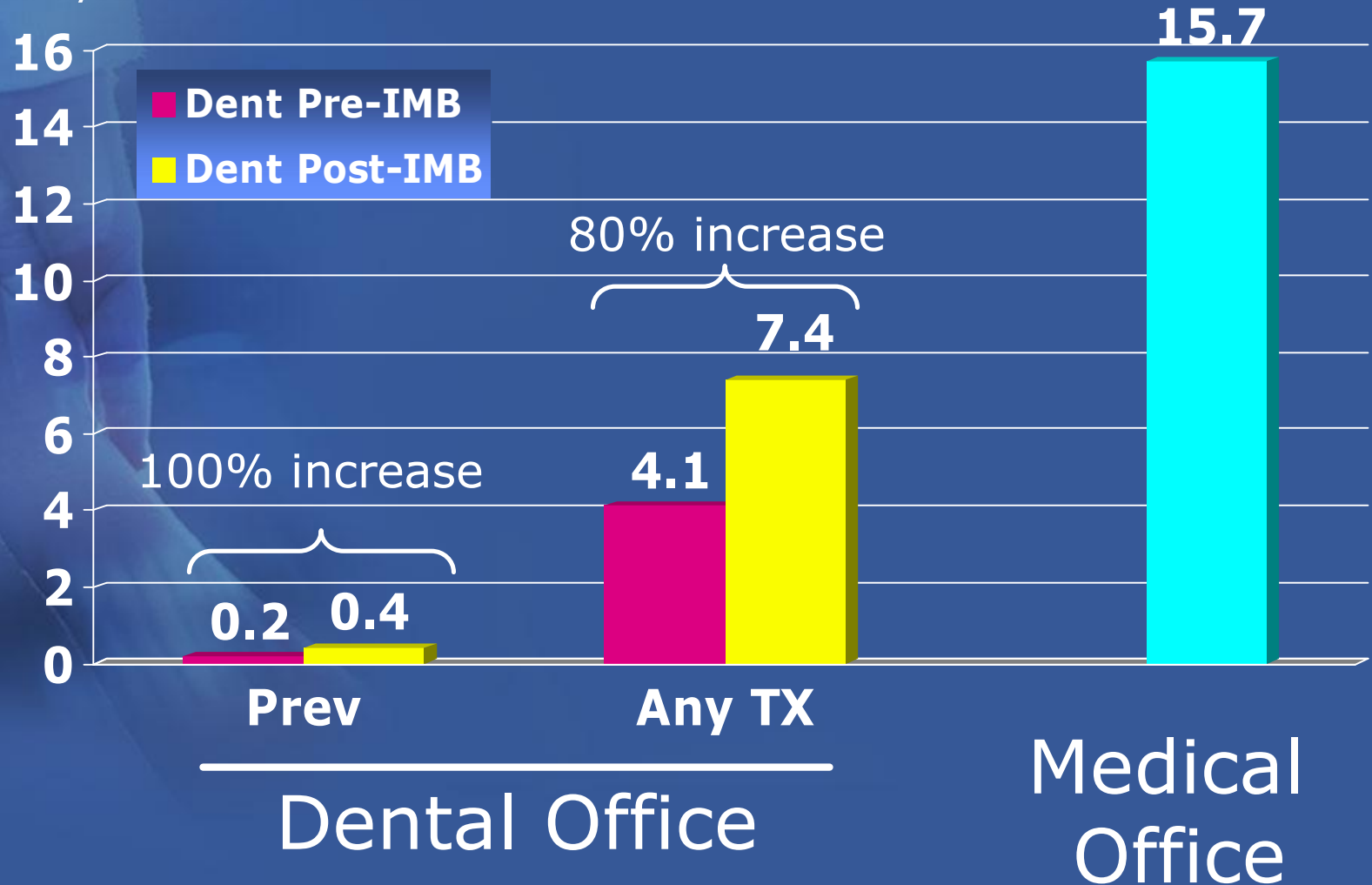
- Descriptive analysis of effect of IMB on access to preventive dental services
- Difference-in-differences logistic regression using county-level indicators of physician participation in IMB
 - Controls for any time trend in dental use
 - Allows for county variation in implementation date
 - Controls for child, provider supply, and county characteristics

Results: Sample Characteristics

- 291,494 children (3.6 million child months)
- Preventive visits in medical offices
 - 37,273 (12.7%) with ≥ 1 IMB visit
 - 278 medical practices in 87 counties
 - Children from all 100 counties
- Dental office visits
 - 1,386 (0.5%) visits without treatment (preventive)
 - 17,112 (5.8%) with visits for any reason
- Counties
 - 4.0 primary care physicians / 10,000
 - 3.7 dentists / 10,000
 - 5.8% unemployment
 - 84% >75% fluoridated drinking water
 - 62% metropolitan

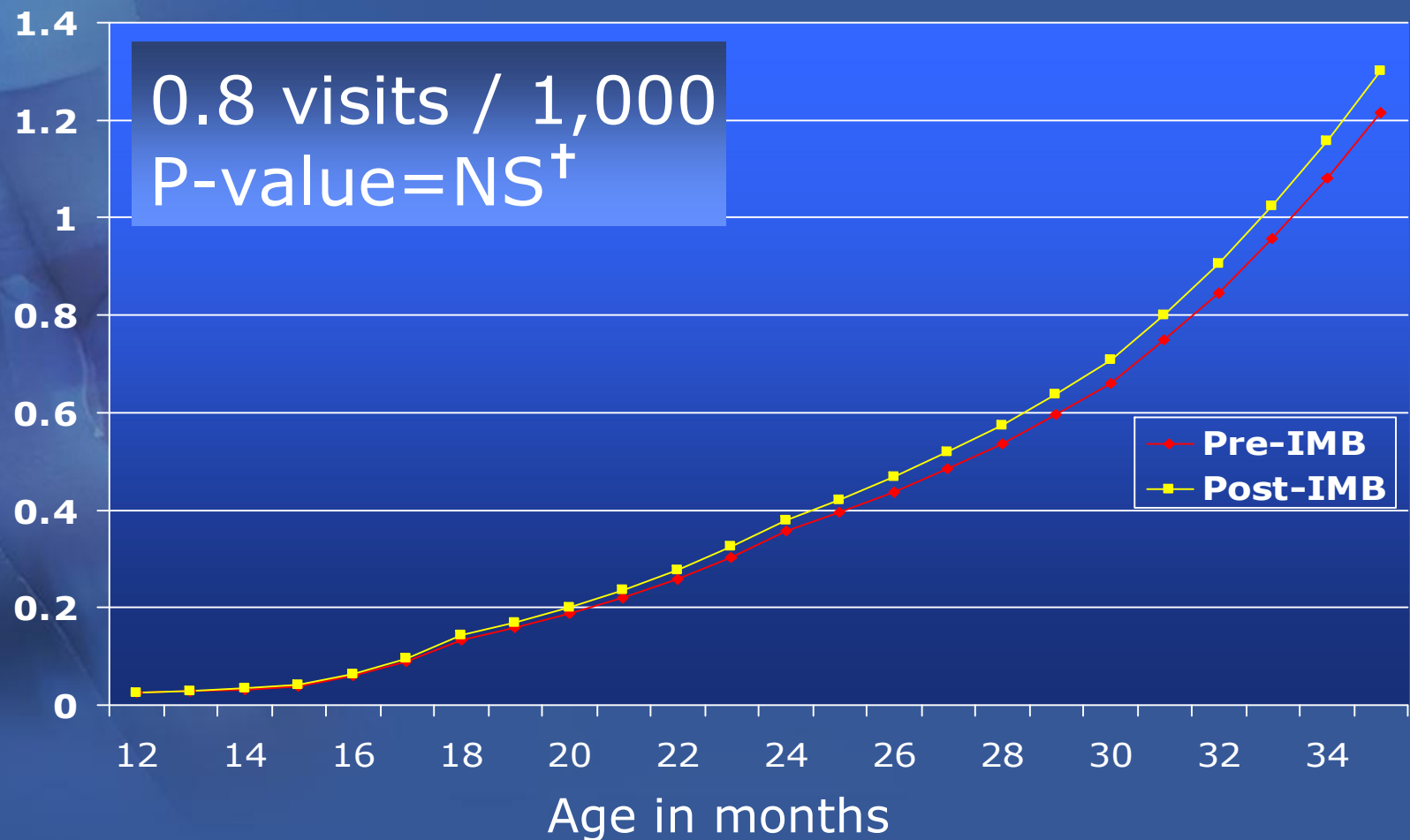
Results: Medical & Dental Office Visits

Visits/mo./
1,000



Results: Effect of IMB on Preventive Visits

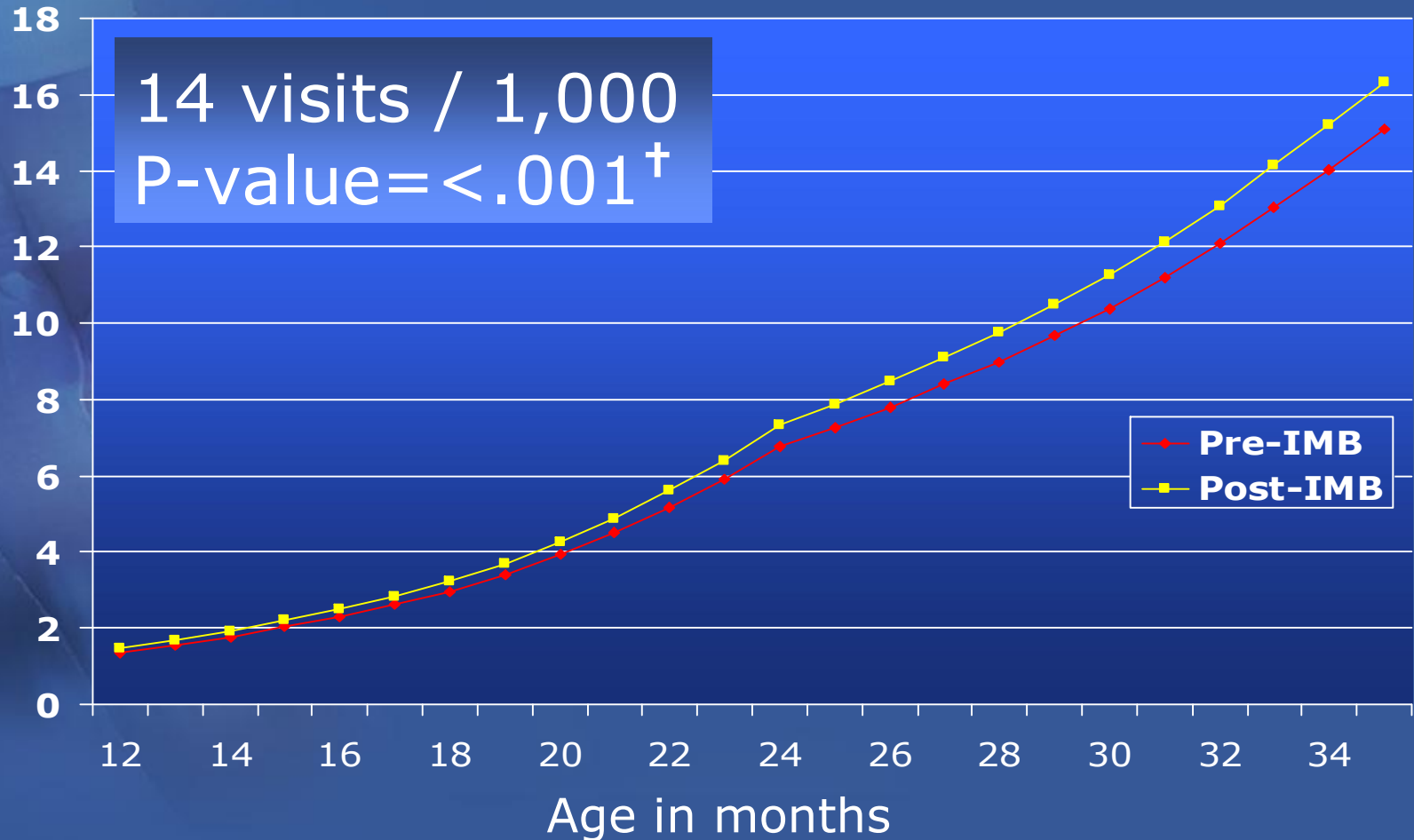
Visits/mo./
1,000



[†]Additional controls: age, sex, race, MD & DDS population ratios, population size, unemployment, water fluoridation status, monthly time dummies.

Results: Effect of IMB on Any Dental Visit

Visits/mo./
1,000



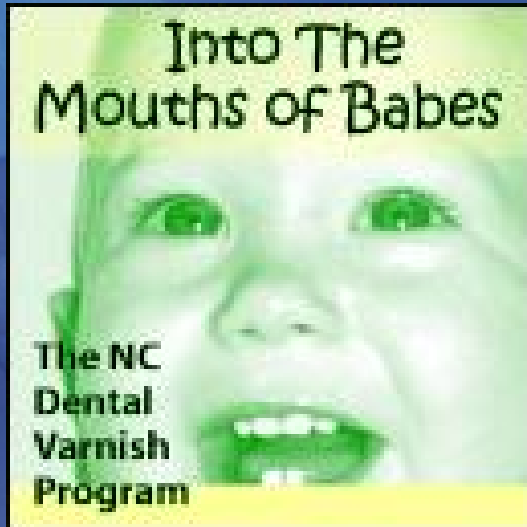
Pre-IMB
Post-IMB

[†] Additional controls: age, sex, race, MD & DDS population ratios, population size, unemployment, water fluoridation status, monthly time dummies.

Conclusions

- Descriptive analysis
 - Substantial increase in access to and use of preventive dental services (>30-fold)
 - Percent using preventive dental services remains small, possibly because of analysis during implementation phase and 'intent-to-treat' analysis
- Difference-in-differences analysis with controls
 - No substitution of physician for dentist services
 - IMB increased total visits to dentists
 - Increase in total visits probably due to referrals from physicians for detected disease
- Future analyses will focus on more mature stages of implementation

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- NC Oral Health Section
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- UNC School of Public Health
- NC Dental Society

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Questions...

