Connecting the Docs: Early Childhood Oral Health Programs in North Carolina

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National Oral Health Conference
Pittsburgh, PA
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NC Goals for Oral Health

- Increase access to preventive dental services
- Reduce the prevalence of ECC
- Reduce treatment demands on the dental care system
  - Prevention
  - Referral of those most in need
Into the Mouths of Babes

- Began in 2000 after pilot testing
- Oral Health Section trains providers in oral health
- Medicaid reimburses for up to 6 preventive visits before 3 ½ years:
  - Risk and disease assessments
  - Parental counseling
  - Fluoride varnish application for child
What We’ve Learned

• High adoption rates among medical providers
• Increased access to preventive services
  – Wide geographic distribution
  – 43% of well-child visits
  – Physician visits 4 times greater than dentists
  – Multiple visits 20 times greater in medical offices
• Improved treatment outcomes
  – 49% reduction before 18 months
  – 18% reduction at 6 yrs with >4 visits

Number of Preventive Dental Visits in Medical Offices, by Year

Visits

Total number of visits = 847,498
What We’ve Learned: Screening and Referral

• Identify disease with 88% accuracy

• Referral practices
  - Overall rate = 2.8%
  - With tooth decay = 33% (vs. 0.2%)

• Referral effectiveness
  - 3-fold increase in use (36% vs. 12%)

Pahel et al. 2008.
Carolina Dental Home: Goal

To increase access to dentists for 1-5 year-old children enrolled in Medicaid by improving physicians’:

- referral rates
- appropriateness of referrals
Guidelines for Referrals

- Medical visit
  - Dental screening/
    Risk assessment
  - Available workforces and other community characteristics
  - Use of dental care
    - Counseling/Dental referral
    - Counseling/No referral

Evidence of Effectiveness for Interventions to Change Referral

• Systematic review of 17 studies

• Ineffective educational strategies
  – Passive dissemination (2 studies)
  – Feedback of referral rates (1 study)
  – Discussion with medical advisor (1 study)

• Effective educational strategies
  – Dissemination of guidelines with structured referral sheets (4 of 5 studies)
  – Involvement of local specialists in educational activities (2 of 3 studies)

Cochrane Collaboration, 2011
**Intervention**

- Develop risk based referral guidelines
  - Train physicians in their use
  - Feedback
- Train dentists in infant oral health care
  - BoHP (Baby Oral Health Program)
  - In-office training by pediatric dentist
- Develop support system
  - Referral process
  - Case workers
- Learning collaboratives
Experience in using the PORRT

PORRT Priority Oral Health Risk Assessment and Referral Tool

Coastal Children's Clinic NB HU MA

A. Questions for the Parent / Guardian:

Please check the following questions with a YES or NO response:

Yes, No
1. Do you brush your child's teeth at least once a day using toothpaste with fluoride?
2. Does your child drink fluoridated water?
3. Does your child drink juice or sweetened drinks between meals?
4. Have you or anyone in your immediate family had dental problems?
5. Does your child sleep with a bottle filled with drinks other than water?

B. Questions for the Provider:

Please check the following questions with a YES or NO response:

Yes, No
7. Does the child have cavities? (cavitated lesions)
8. Does the child have white spot lesions? (non-cavitated lesions)
9. Does the child have enamel defects?
10. Does the child have visible plaque on the teeth?
11. Does the child have any other oral conditions?

12. Does this child have special health care needs? □ Yes □ No

If yes, please describe:

On a scale of 1 to 10, what is this child's caries risk?

Please circle the number that indicates the level of risk.

1 2 3 4 5 6 7 8 9 10

Extremely Low Risk
High Risk

Does this child need to be evaluated by a dentist as a result of this assessment? □ Yes □ No □ Don't know

a. If yes, how urgent is it for this child to be evaluated by a dentist?
   □ Not urgent at all
   □ Urgent
   □ Very Urgent
   □ Don't know

Provider's Name

[Practice Name]

Oral Risk Assessment and Referral

A. Questions for the Parent / Guardian

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>Referral Recommendation</th>
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<tbody>
<tr>
<td>1.</td>
<td></td>
<td>If 3 or more risk factors</td>
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<tr>
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<td></td>
<td>(shaded boxes) are marked</td>
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<td></td>
<td></td>
<td>refer to a General Dentist</td>
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<tr>
<td>2.</td>
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B. Questions for the Provider Based on Clinical Assessment

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>If Yes, Refer To</th>
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</thead>
<tbody>
<tr>
<td>6.</td>
<td></td>
<td>Pediatric Dentist</td>
</tr>
<tr>
<td>7.</td>
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<td>8.</td>
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<td>11.</td>
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<td>General Dentist</td>
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</table>

12. Please check procedures performed today:

   a. Oral evaluation
   b. Fluoride varnish
   c. Parent education

13. Was the child referred to a dentist? □ Yes □ No □

If YES, please note name of dentist:

14. Was the child previously referred? □ Yes □ No □

Provider signature:

C. This section is to be completed by the Dental Office and faxed back to the referring physician.

1. Date of dental appointment ___/___/___

2. Did the patient show up for dental appointment? □ Yes □ No □

3. Did patient call to cancel the appointment? □ Yes □ No □

4. Brief summary of dental findings:

   __________________________________________________________

5. Next dental appointment Date: ___/___/___

1/5/09 - Version 5
Referral Guidelines

Cavitation or SHCN

Yes → Pediatric dentist
No → White spot lesions

Yes → General dentist
No → Enamel defects

Yes → Pediatric dentist
No → Other concerns

Yes → General dentist
No → ≥3 risk factors

≤3 risk factors → Physician manages caries risk
Evaluation Methods

• Three-county demonstration
• Quantitative methods
  – Pre-post single group design for referral rates and appropriateness
    • Completed PORRT forms
  – Post-intervention assessment of dentist visits using PORRT and other information
    – Interrupted time series design with comparison
      • DMA enrollment and claims data
• Qualitative methods
  – Interviews with physicians
  – Focus group with dentists
Prevalence of Risk Categories

- Cavitation or CSHCN
  - Yes (8%; 4%)
    - Pediatric dentist
  - No
    - White spot lesions
      - Yes (31%; 15%)
        - General dentist
      - Enamel defects
        - Yes (31%; 15%)
        - General dentist
      - Other concerns
        - No (61%; 80%)
      - ≥3 risk factors
    - No (61%; 80%)
    - <3 risk factors
      - Yes (8%; 4%)
        - Pediatric dentist
      - No (61%; 80%)
        - Physician manages caries risk

- Physically manages caries risk
Prevalence of Risk Factors

Biological
- *CSHC
- Other clinical
- Cavitated
- *Enamel defect
- *Non-cavitated
- Plaque

Behavioral
- Sleeps with bottle
- Family dental problems
- No F water
- *Not brushing with F toothpaste
- *Sugary beverages between meals

*P<0.01
Percent of Screened Patients Referred at Baseline and Follow-up, By Risk Category

- Low risk:
  - Baseline: 3%
  - Follow-up: 7%

- Moderate Risk:
  - Baseline: 11%
  - Follow-up: 25%

- High Risk:
  - Baseline: 35%
  - Follow-up: 50%

CCC Follow-up
Percent of Patients Referred and Percent with Dental Visit, By Risk Category

- Low risk: Referred - 8%, Visit - 58%
- Moderate Risk: Referred - 26%, Visit - 66%
- High Risk: Referred - 50%, Visit - 65%

CCC and ECIM
1. Physicians will use structured risk assessment checklists
2. Reduction in some risk factors
3. More likely to refer for disease than behavioral risk factors
4. Under-refer patients with elevated risk
5. More likely to refer early disease after intervention
6. Hesitate to refer if anticipate lack of parental follow through
7. Difficult to engage
8. Some referrals don’t get into system
9. Because number of parents needing or wanting support is unknown, impact difficult to determine
10. Once in system, referral is moderately effective
11. Dentists’ willingness to see patients exceeded referral demand
Future Directions

1. Understand the referral process
2. Refine risk assessment / referral guidelines
   1. Triage?
   2. Whose at risk?
   3. Are dentists specialists?
3. Set reasonable goals for referral outcomes
4. Test interventions for effectiveness and efficiency
Acknowledgement of Funding Sources

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- Various NC agencies