Oral Health Promotion in Pediatric Primary Care

Purpose: The purpose of this quality improvement project was to implement oral health promotion recommendations into early childhood well-visits from the American Academy of Pediatrics and American Academy of Pediatric Dentistry. Currently this urban, hospital-based pediatric resident’s clinic was screening for oral health protective factors but not offering fluoride varnish or using the AAP Oral Health risk assessment, which is reimbursable and addresses both risk factors and protective factors for early childhood caries.

Background: To reduce the burden of early childhood caries (ECC), primary care providers can use risk assessment tools to identify children at risk for caries and apply fluoride varnish at well-child visits. ECC is the most common chronic disease of childhood, and children from low-income and minority families have a higher prevalence of caries than the general population. Fluoride varnish is typically provided with oral health anticipatory guidance, and these activities together have shown a reduction in dental caries among young children.

Design: Using the Plan-Do-Check-Act framework, a standardized oral health risk assessment tool and fluoride varnish applications were integrated into early childhood well-visits at an urban hospital-based pediatric primary care resident clinic. Education sessions based on the Smiles for Life curriculum provided background and rationale for these oral health promotion activities. The percentage of 9-, 12-, and 15-month-old children who were screened for oral health risks, referred to a dentist, or offered fluoride varnish before and after education sessions were measured.

Findings: A retrospective chart review was conducted to determine the percentage of patients screened for oral health risk, offered fluoride varnish, and referred to pediatric dentists before and after the education sessions. The findings indicated an increase in dental referrals for all age groups and an increase in oral health screening and fluoride varnish for children of all age groups from before project implementation. The results provided an indication of clinic adherence to fluoride varnish recommendations and utilization of the AAP risk assessment over the course of the project implementation period.

Clinical Implications: The findings from this project, and implications for the second PDCA cycle, can be shared with other practices as they incorporate oral health promotion activities into well child visits. Interdisciplinary efforts are needed to improve childhood oral health and reduce the burden of ECC.

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References:


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BACKGROUND

Early Childhood Caries (ECC)
- Most common chronic illness of early childhood
- Largest predictor of caries in permanent teeth
- Negatively affects self-esteem, school attendance & performance, nutrition & social functioning
- Nationally 28% of children have ECC

AAP and AAPD Recommendations
- Risk assessment for 6 & 9 month patients; continue until the establishment of a dental home.
- Apply fluoride varnish at least once every 6 months until dental home established.

Project site: using a non-standardized screening and no fluoride varnish.

Purpose: Improve the identification of at risk children through a standardized oral health risk assessment, increase dental referrals, & increase the number of fluoride varnish applications for young children.

CLINICAL QUESTION

- Will the addition of a standardized oral health risk assessment and fluoride varnish application into the electronic health record and Smiles for Life provider education sessions increase the number of children seen for 9, 12-, and 15-month well-child visits who are screened for oral health risk, referred to dental providers, and offered fluoride varnish?

METHODS

- Framework: Plan-Do-Check-Act
- Setting: Urban hospital based primary care clinic; 25 Pediatric Resident physicians; 2 Pediatric Nurse Practitioners; 6 Pediatric Attending Physicians
- Population: All patients seen for 9, 12, 15 month well-visits (N=355)
- Data Collection: Retrospective chart review
  - Pre-QI June-August 2016 (n=180)
  - Post-QI Oct.-Dec. 2016 (n=175)
- Interventions:
  - Smiles for Life and/or 1hr in person Michigan Caries Prevention Program Training
  - AAP Oral Health Risk Assessment and Fluoride Varnish Procedure templates built into Athena EHR
  - Fluoride varnish offered to all children with teeth 9-month-35-month olds
  - Fully implemented October 1
- Data Analysis: Descriptive statistics with graphical display

RESULTS

Figure 1. Average % of Patients Receiving Recommended Oral Health Services by Age Pre- & Post-Intervention

- Use of the AAP Risk Assessment and fluoride varnish increased in all age groups over the first two months post-intervention.
- Screening rates varied by age group with no identifiable trend
- Referrals increased for all age groups, highest rate in 15-month olds.

Figure 2. Percentage of patients seen for 9, 12, & 15 month well-visits receiving recommended oral health services

- Staff Education: Fluoride Varnish

CONCLUSIONS

- Increase in the provision of oral health services over time
- Majority of eligible patients are not receiving all 3 oral health services.
- In some cases, patients were screened by the AAP Risk Assessment but not referred to a dentist or offered fluoride varnish

Strengths:
- Referrals for all age groups increased
- All pediatric residents became certified to apply and bill for fluoride varnish

Limitations:
- Multiple providers with different experience levels and schedules
- EHR procedure templates cannot be automatically populated for young well-child visits

- It is possible to implement recommended oral health services in a pediatric resident’s clinic and educate multiple providers.
- Need to continue education and reinforce the guidelines.

IMPLICATIONS FOR PRACTICE

- Reinforce rationale for assessing for oral health risk and providing protective fluoride varnish to promote adherence.
- Provide yearly didactic education sessions for resident and attending physicians.
- Interdisciplinary efforts are important to promote oral health, especially in areas with limited pediatric dentists.