ADHERENCE OF PRIMARY CARE MEDICAL PROVIDERS TO ORAL HEALTH SCREENING AND REFERRAL GUIDELINES

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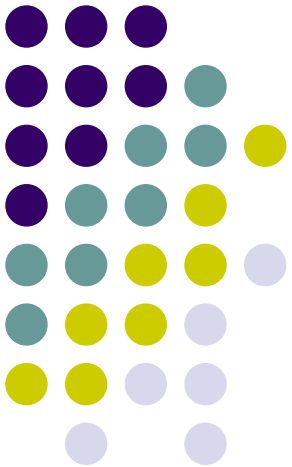


Objectives

- To determine:
  - Oral health screening and referral practices of primary care physicians participating in the North Carolina Child Health Insurance Program Reauthorization Act (CHIPRA) Quality Improvement (Part C) Initiative
  - Adherence to guidelines recommended by the American Academy of Pediatrics
  - Barriers to implementation of guidelines

What We Know about Referral

- Identify disease with 88% accuracy
- Physicians' In NC had difficulty referring initially
  - Overall rate = 3%
  - With tooth decay = 33% (vs. .2%)
  - 3-fold increase in use with referral (36% vs. 12%)
- 2-5 yr-olds advised to see a dentist are 2.9 times more likely to have dentist visit based on national estimates

Pierce et al. *Pediatrics* 2002;109:E82-2.
Pahel et al. 2008.
Beil & Rozier. *Pediatrics*. 2010;126:e435-41.

Carolina Dental Home

- 3-county demonstration to increase referral and use of dental care by high-risk children participating in Into the Mouths of Babes (*IMB)*
- Developed Priority Oral Health Risk Assessment and Referral Tool (PORRT) to encourage risk-based guidelines for dental referral
- Increased referral rates, but under-referral for
  - Behavioral risk factors in child
  - Perceived poor motivation of parent to make visit

CHIPRA

- Child Health Insurance Program Reauthorization Act
- Part C – Quality Improvement
- Network of 10 pediatric practices participating in the ‘Into the Mouths of Babes’ (IMB) program
- Quality initiative to improve referral of highest risk Medicaid covered infants and toddlers to a dental home using PORRT

Sample

- Sample Frame: All primary care providers doing well-child visits in Cohort I of CHIPRA Connect practices
  - 10 practices in 4 Community Care Networks
  - 72 primary care providers
- Response rate: 53 responded (73.6%)

Questionnaire

- 93 items in 8 domains, mostly Likert-scales
- 4 scenarios

You complete an oral health screening and caries risk assessment on an 18-month-old child and find:

Risk Factors	Case 1: Low Risk	Case 2: Elevated Risk	Case 3: Early ECC	Case 4: Advanced ECC
Behavioral Risk factors				
Sweetened drinks between meals		√	√	√
No tooth brushing		√	√	√
Family history of ‘bad teeth’		√		√
Disease				
White spots			√	
Untreated tooth decay				√

Questionnaire: Scenarios

a) *What is the patient's risk status?*

[High, moderate, low, not sure]

b) *Based on your determination of the child's caries risk and assuming an adequate number of dentists in your community who will see this age child, how would you proceed…*

1. Refer the child to a dentist now?
2. Wait and refer the child at 3 years of age, but continue dental screenings during well-child visits?
3. Wait and refer the child at 3 years of age, but continue dental screenings and provide preventive dental services during well child visits?
4. Not sure?
5. Other?

Questionnaire: Scenarios

c) *Based on your determination of the child's caries risk and assuming an ~~adequate~~ **inadequate** number of dentists in your community who will see this age child, how would you proceed…*

1. Refer the child to a dentist now?
2. Wait and refer the child at 3 years of age, but continue dental screenings during well-child visits?
3. Wait and refer the child at 3 years of age, but continue dental screenings and provide preventive dental services during well child visits?
4. Not sure?
5. Other?

Cabana's Framework for Guideline Adherence

Barriers to guideline adherence			
	Lack of Familiarity Lack of Awareness	Lack of Agreement Low Self-Efficacy Low Outcome Expectancy	External Barriers Guideline Factors Environmental Factors

Analysis Strategy

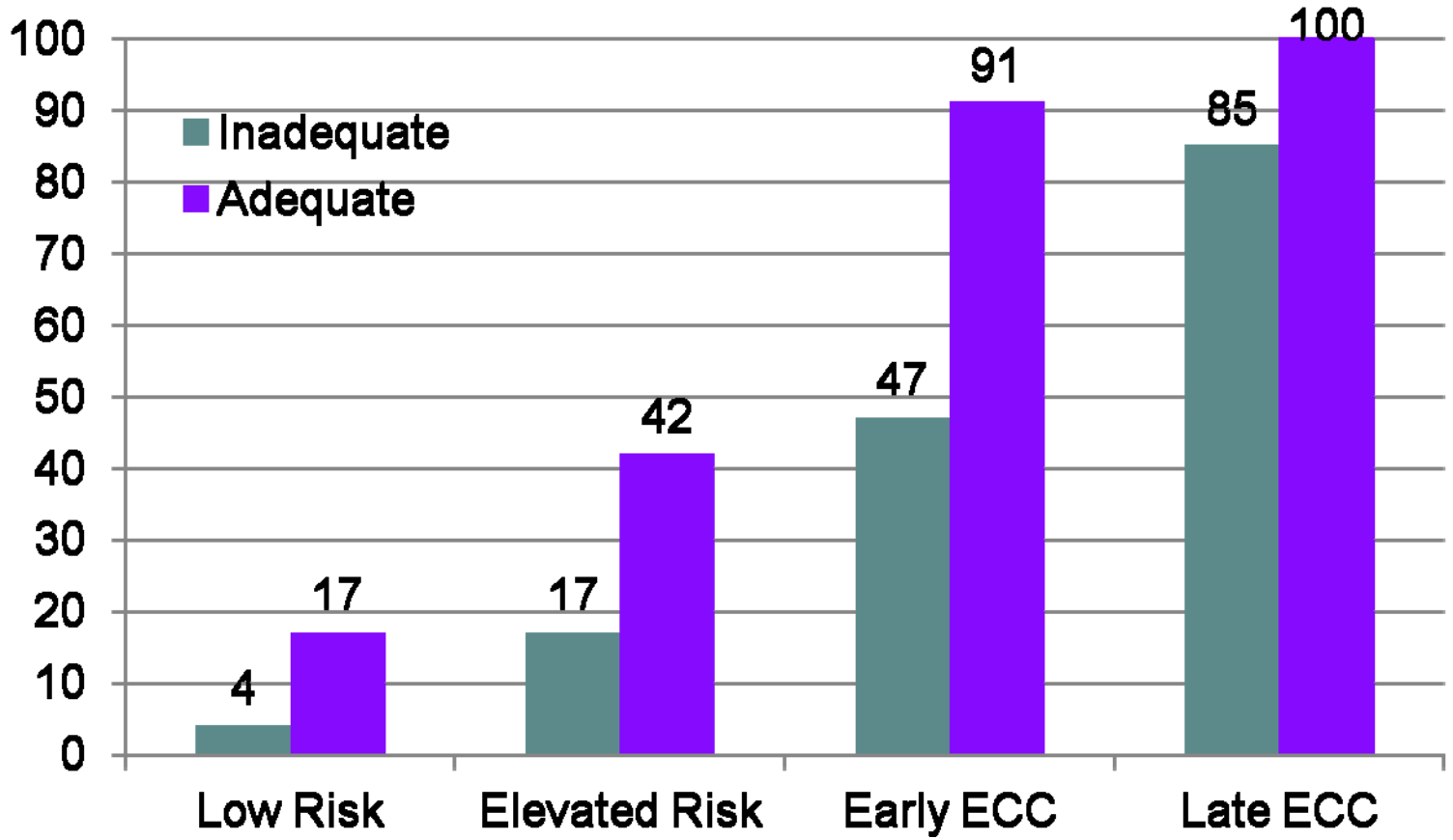
- Descriptive statistics for items in each domain
- Summary variables created from Likert scores
- Separate logistic regression models testing association of each domain summary with high adherence overall and by workforce status, controlling for:
  - Risk assessment from scenarios
  - Years in practice
  - Gender
  - IMB training

Participant and Practice Characteristics

Characteristic	% or Mean
Female	69.8%
Mean years in current practice	11.9
Provider type: Pediatrician	52.8%
Nurse Practitioner	28.3%
Physicians Assistant	18.8%
Mean number infants & toddlers per week	60.5
Non-English speaking parents	23.8%
Medicaid children	54.9%

N=53

Percent "Refer Now" with Adequate and Inadequate Dental Workforce, by Scenario



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Percent of Providers Adherent to Guidelines

Scenario	Risk Assessment	Workforce Supply	
		Adequate	Inadequate
No ECC or risk factors (low risk)	98%	21%	79%
No ECC, 3 risk factors (high risk)	55%	42%	17%
Early ECC, 2 risk factors (high risk)	96%	91%	45%
Untreated ECC, 3 risk factors (high risk)	98%	100%	85%
All 4 cases	51%	19%	9%

N=53

Knowledge & Awareness of 2003 or 2008 AAP Guidelines

Not aware	41.5%
Slightly familiar	24.5%
Moderately familiar	28.3%
Very familiar	5.6%

N=53

Opinions about Risk-based Dental Referrals for Infants and Toddlers (%)

Opinion	%
Physicians should refer all infants and toddlers to a dentist by the 1st birthday	26.4%
Physicians should refer infants and toddlers to a dentist based on their risk for tooth decay	75.4%
Physicians should refer infants and toddlers to a dentist only if untreated disease is present	30.1%
Infants and toddlers with behavioral risks for caries should be referred to a dentist even if they don't have obvious untreated tooth decay	51.9%
Dental referrals increase the number of infants and toddlers with a dental home	86.7%
The age 1 dental visit helps prevent tooth decay	44.2%

N=53
% "strongly agree" or "somewhat agree"

Percent Very Confident in…

Task	%
Examining teeth of infants and toddlers for decay	58.4%
Identifying tooth decay in infants and toddlers	64.1%
Evaluating risk of tooth decay in infants and toddlers	64.1%
Deciding if a child needs referral to a dentist	62.2%
Advising parents about dental visits during early childhood	86.7%

N=53

Belief that Advice to Parent to Make a Dental Appointment Has "No Effect" or a "Small Effect" (%)

Oral Health Condition of Child	%
Untreated tooth decay	20.7%
Behavioral risk factors for tooth decay but no disease	54.7%
No risk factors or tooth decay	67.9%

N=53

Barriers to Screening & Risk Assessment (%)

Barrier	%
Poor motivation by parents to change behaviors	94.2%
Lack of time during well-child visits	60.3%
Lack of practical risk assessment tool	58.4%
Lack of an information system to monitor outcomes	54.7%
Lack of skill in recognizing tooth decay or risks	50.9%
Inadequate reimbursement	48.0%
Lack of evidence-based guidelines	47.1%
Lack of staff support	28.3%

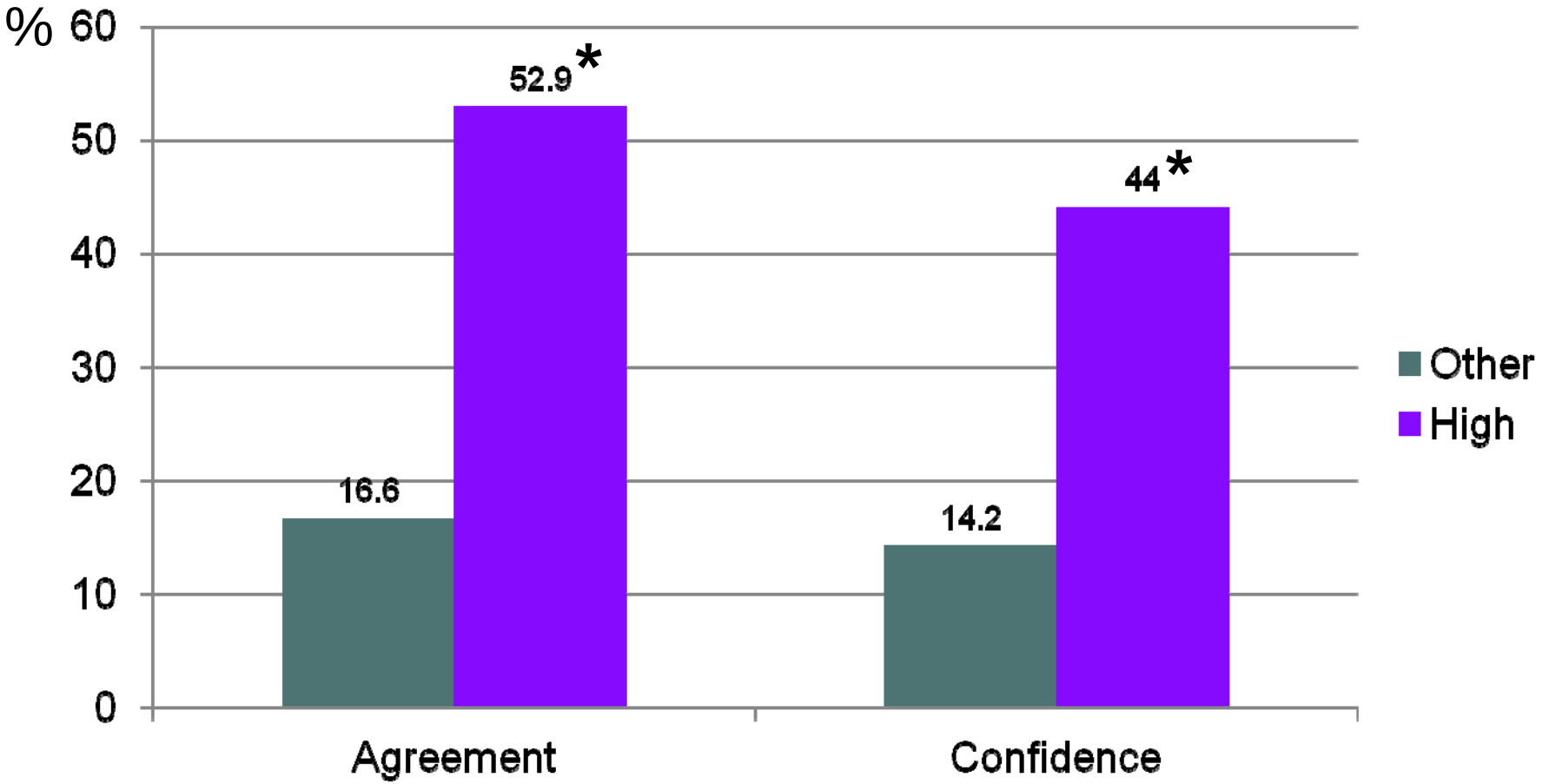
N=53

Barriers to Referral of Infants & Toddlers (%)

Barrier	%
Low importance parents place on dental referrals	86.7%
Limited availability of dentists in community	77.3%
Lack of an information system to monitor outcomes	67.9%
Lack of referral tools, forms or checklists	45.2%
Lack of evidence-based guidelines	43.4%
Lack of time during well-child visits	41.5%
Lack of staff support	35.8%
Inadequate reimbursement	25.0%

N=53

Percent with High Guideline Adherence, by "Agreement Level" and "Confidence" in Screening, Risk Assessment & Referral



*P-value <0.01 in logistic regression analysis

Summary and Conclusions

1. Overall adherence to guidelines is low (<20%)
   - Low for behavioral risk factors only
   - Moderate with incipient disease
   - High for advanced disease
2. Agreement with risk-based referral guidelines and confidence in screening, risk assessment and referral are associated with high adherence
3. Decision tools to implement guidelines
4. Training in their use

Acknowledgements

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- Division of Medical Assistance
- NC Division of Child Development, Head Start Collaboration Office

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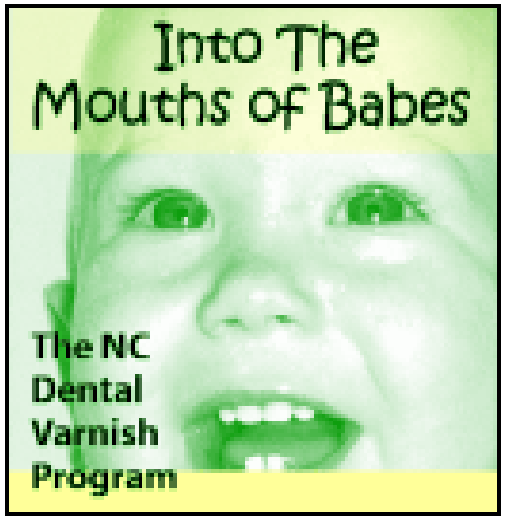


Opinions about Screening & Risk Assessment (%)

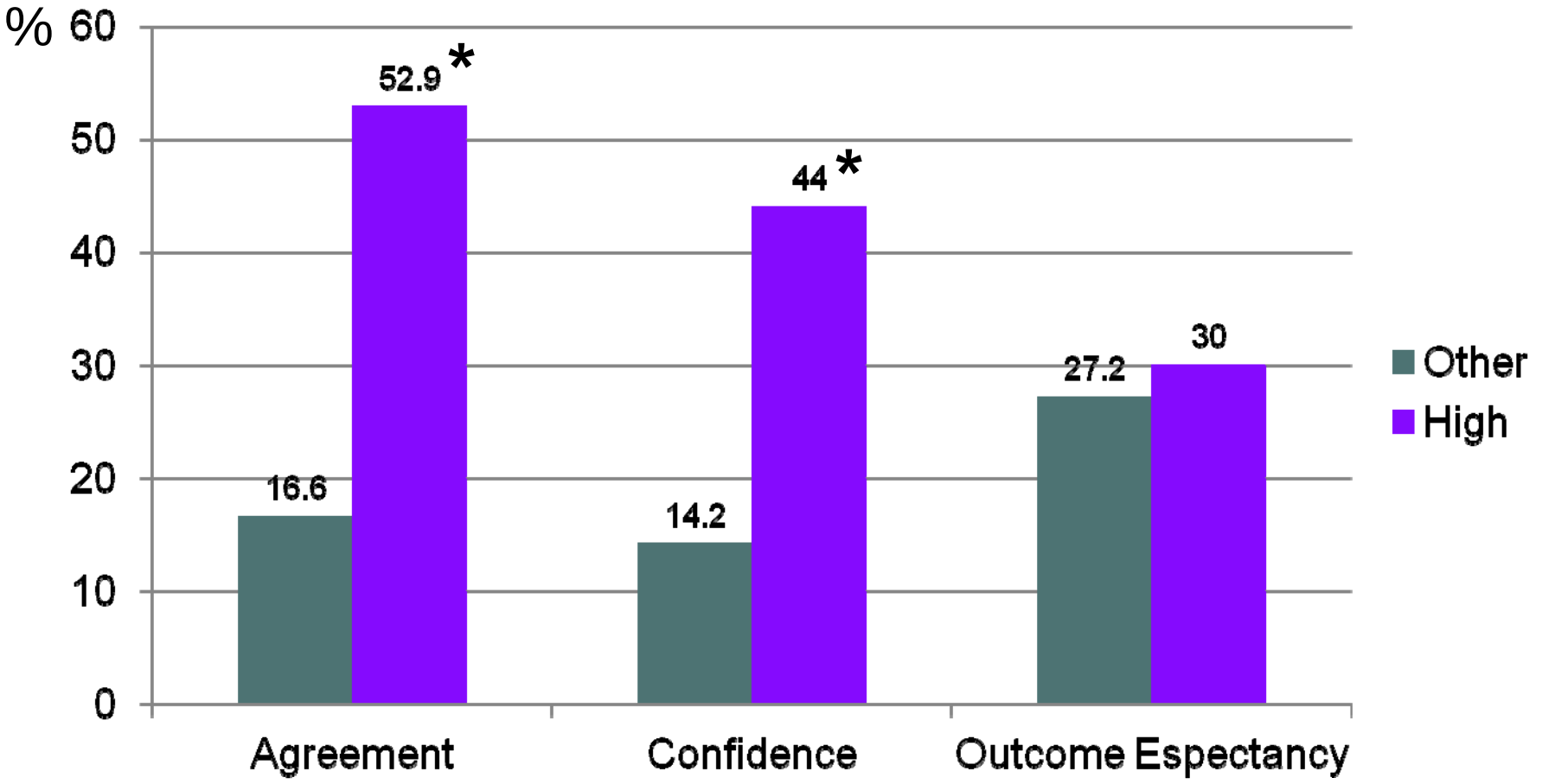
Opinion	%
Physicians should screen for tooth decay by 1 year of age	96.2%
Physicians should perform risk assessments beginning at 6 mos.	94.3%
Physicians can determine the oral health risk status of infants and toddlers	90.5%
Oral health risk assessments improve oral health	96.2%

N=53
% “strongly agree” or “somewhat agree”

Domains Related to Adherence:
Regression Results

1. Agreement on risk-based guidelines was associated with high adherence (1.3x)
2. High outcome expectancy for referral advice was associated with high adherence (1.4x)

Percent with High Guideline Adherence, by Domain



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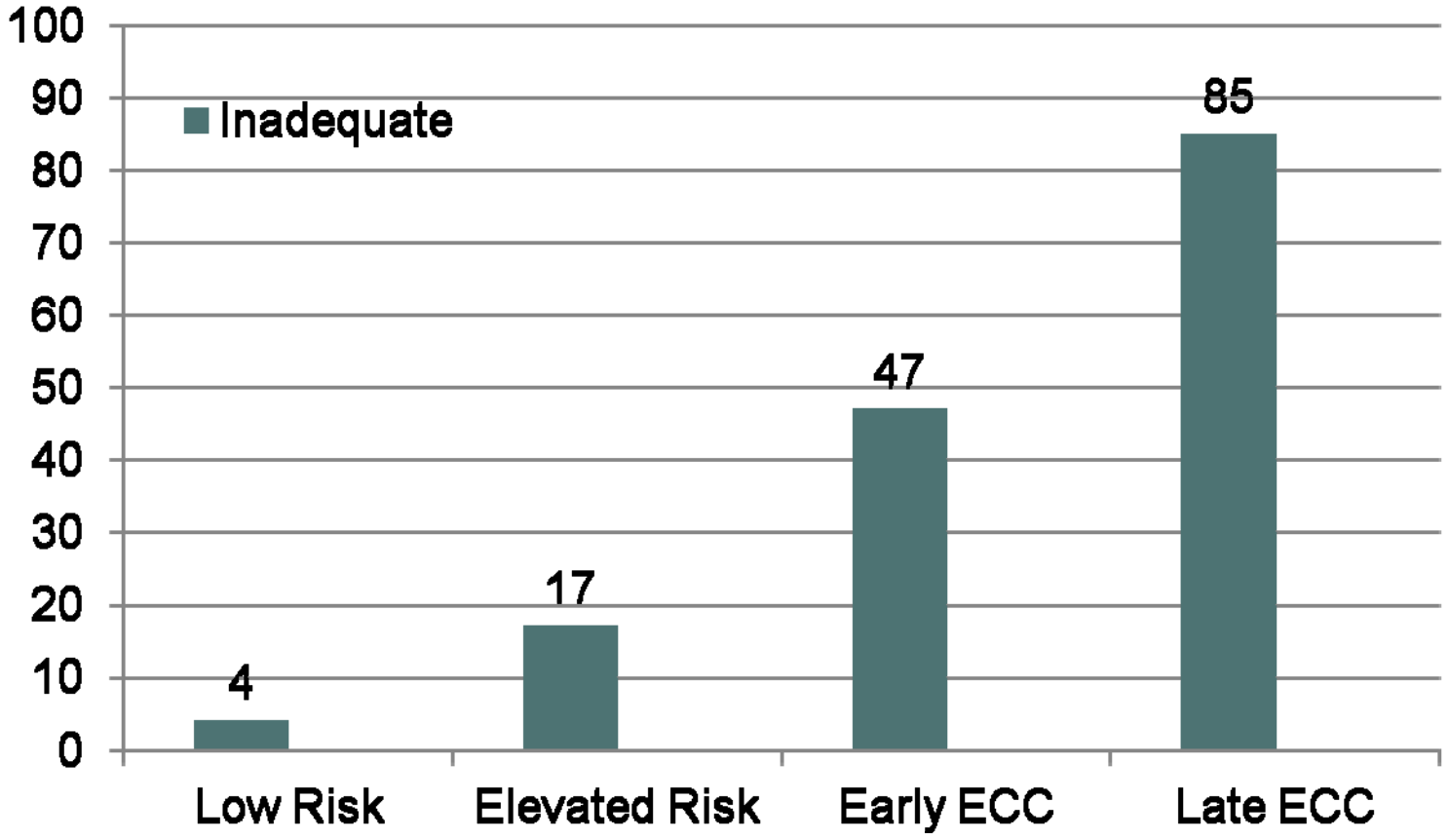
Percent "Refer Now" with Inadequate Dental Workforce, by Scenario



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