



# Barriers to Adoption of Oral Preventive Procedures by NC Medical Providers

---

Kelly C. Haupt, RDH, MHA

R. Gary Rozier, DDS, MPH

Leslie P. Zeldin, MPH, MSUP

National Oral Health Conference

May 4, 2005



# Background

---

- In a national survey of pediatricians, over 90% reported having an important role in identifying oral problems and counseling families on prevention.
- One half of these pediatricians reported no previous oral health training.
- Overall knowledge was low, particularly for recent advances.



# Background

## North Carolina Initiative

---

- Training of medical primary care clinicians
- Medicaid reimburses medical providers providing services for up to 6 visits for each child before the 3<sup>rd</sup> birthday
- Required services
  - Screening & risk assessment
  - Referral for dental care
  - Caregiver counseling
  - Fluoride varnish



# Background

## Randomized Controlled Trial

---

- Prospective, randomized controlled trial
- 118 medical practices that treat Medicaid children 0-2 years of age assigned to one of 3 CME interventions
  - CME
  - CME + learning collaborative (monthly calls)
  - CME + learning collaborative + in-office “hands-on” demonstration and technical support



# Purpose

---

Describe barriers to providing preventive dental services in medical practices and their relationship to adoption



# Methods

---

- Study design
  - Follow-up survey of primary care providers in CME trial 12 months after training
- Study Population
  - 118 practices
  - 69 pediatric; 49 family medicine



# Methods:

## Data Collection

---

- Self-administered questionnaire completed by mail in 2001 and 2002 after CME training
- 229 questionnaires

# Methods:

## Study Variables--Adoption

	Adopter	Partial Adopter	Non- Adopter
During the last 12 months, have you ever provided services to patients < 3 yrs of age?	Yes	Yes	No
Provided services routinely?	Yes	No	--
Still providing services?	Yes	Yes	--





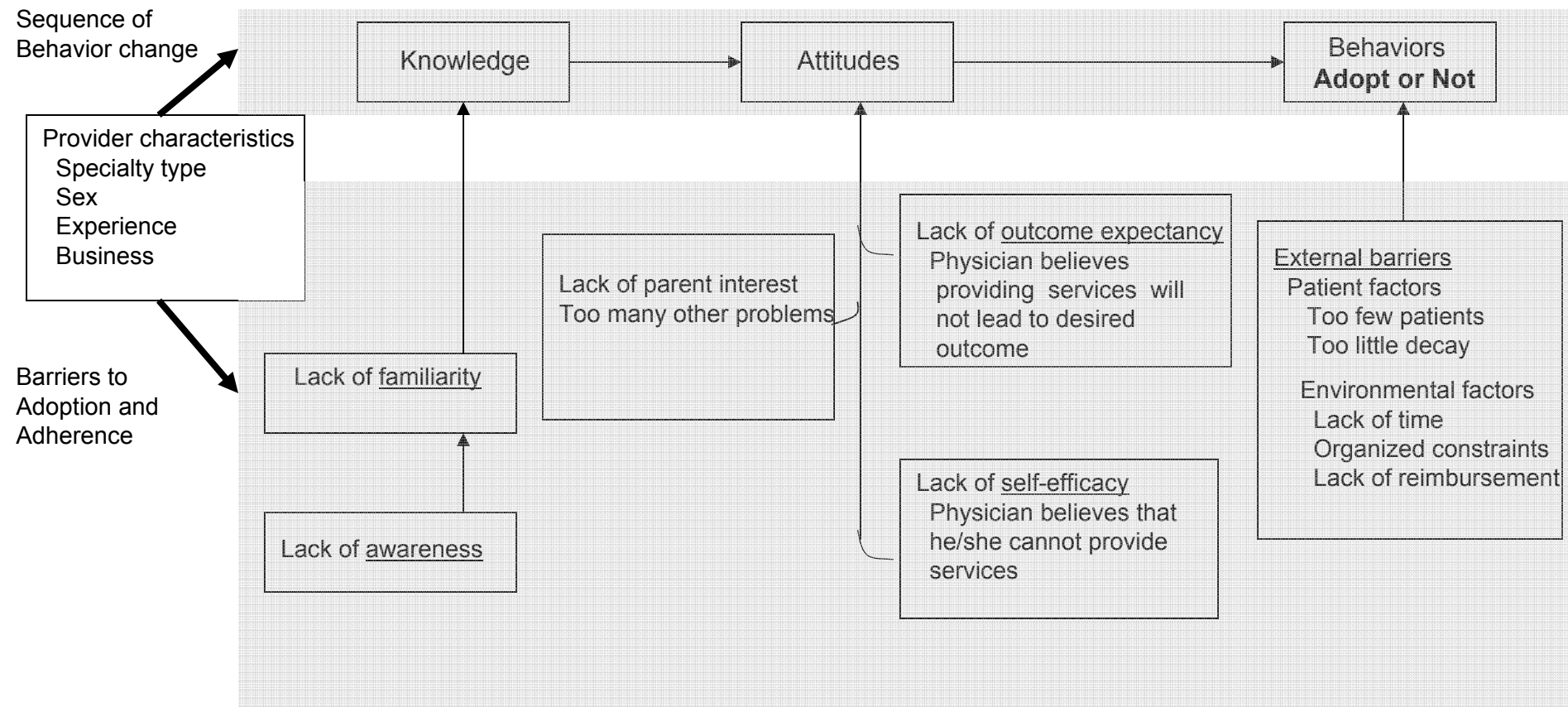
# Methods:

## Study Variables--Barriers

---

- 11 barriers based on focus groups
- Response items
  - Has never been an obstacle
  - Was an obstacle, but was overcome
  - Was and still is an obstacle

# Barriers to Adoption of Preventive Services





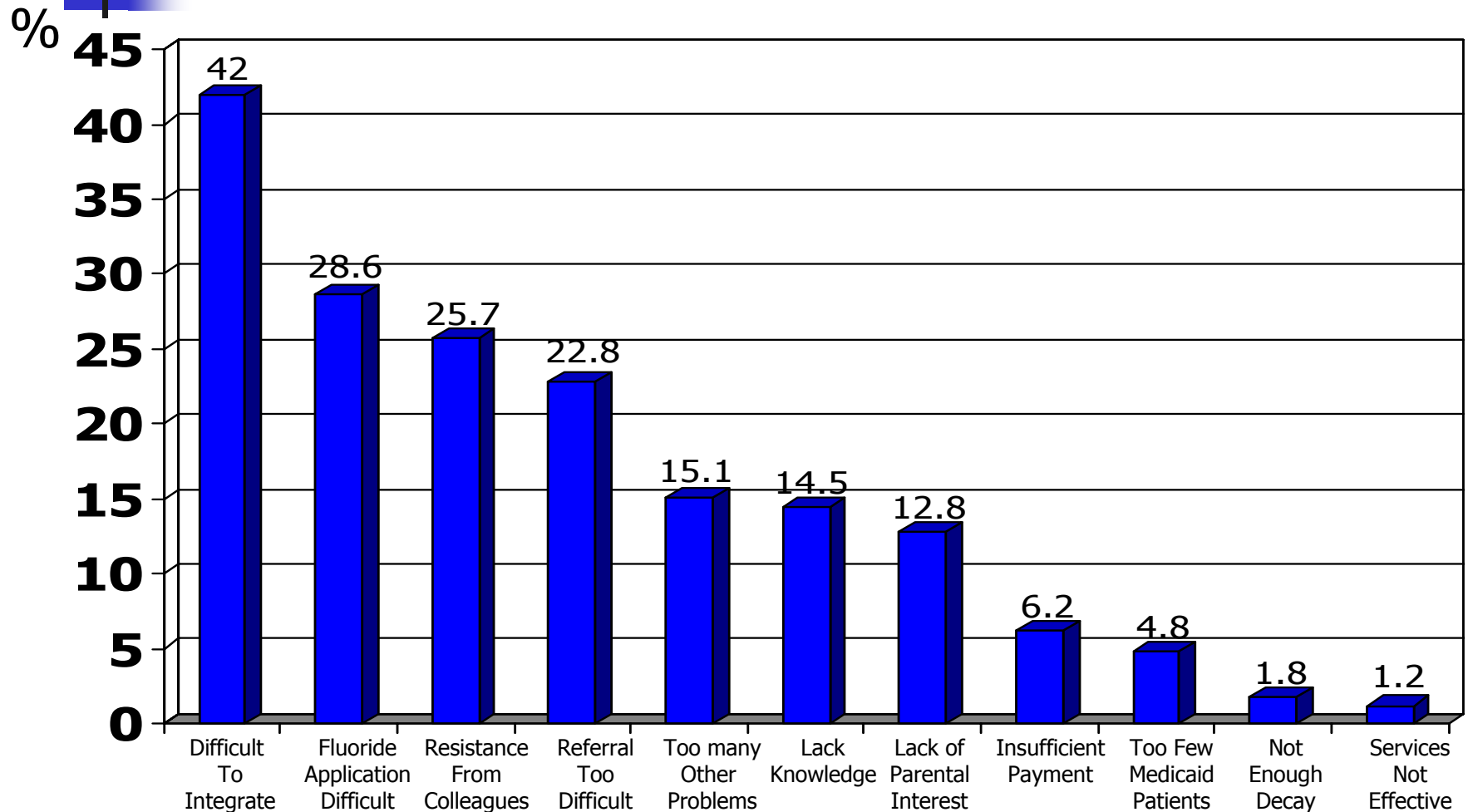
# Methods: Analysis

---

- Descriptive analysis of frequency of barriers
- Relationship of barriers to adoption
  - Mean number of barriers by barrier status
  - 1 or more barriers in knowledge, attitudes or external barrier categories

# Results:

## % Reporting Each Item as Barrier



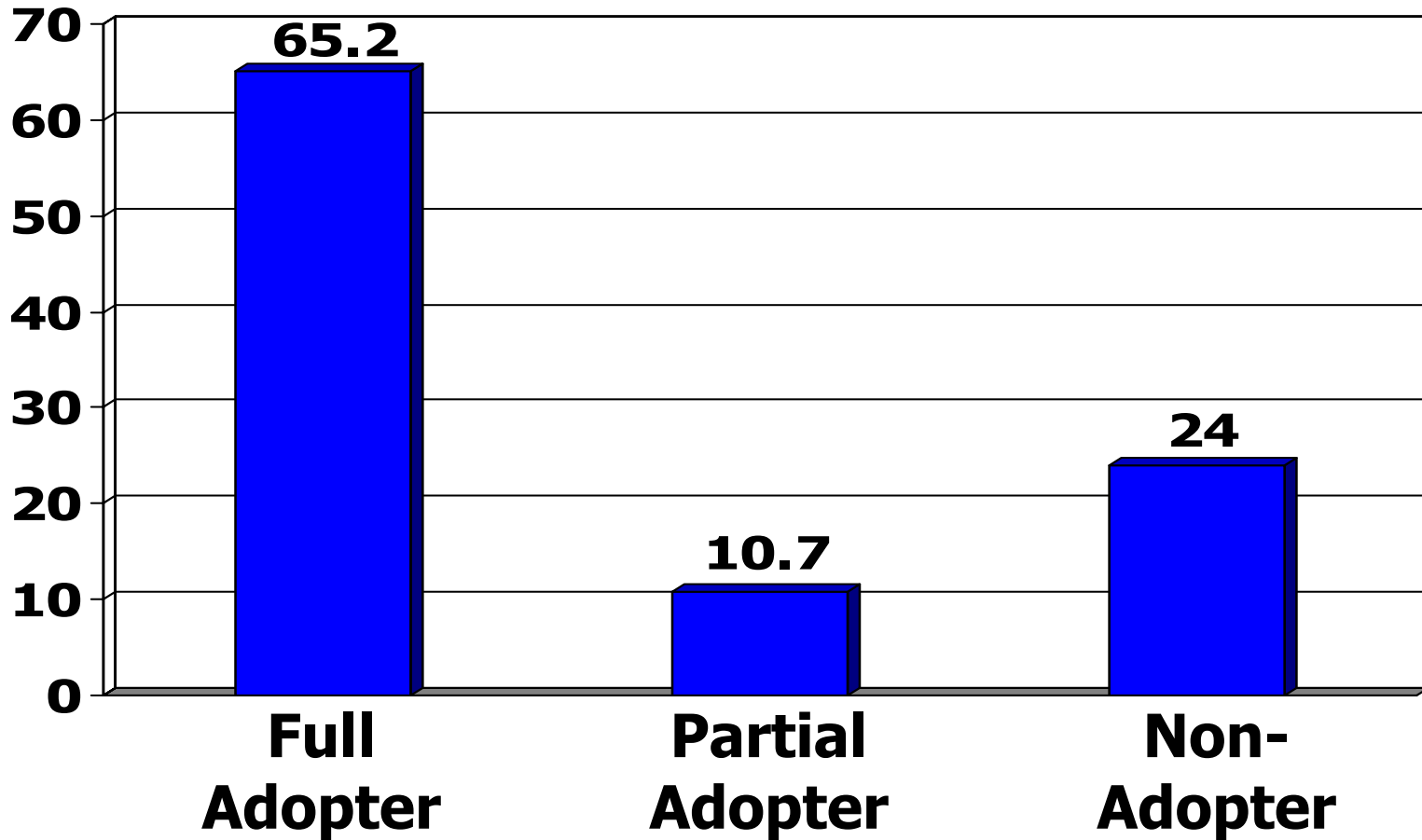
# Results:

## % Reporting a Barrier & Overcome

<b>Barrier</b>	<b>% Barrier</b>	<b>% Overcome</b>
<b>Knowledge</b>		
→ Lack knowledge about services	14.5	84.2
<b>Attitudes</b>		
→ Applying fluoride difficult	28.6	61.5
Too many other problems	15.1	38.4
Lack of parental interest	12.8	34.3
Not effective	1.2	33.3
<b>External</b>		
Difficult to integrate into practice	42.0	46.9
Referral too difficult	22.8	40.7
→ Resistance among colleagues/staff	25.7	51.7
→ Insufficient reimbursement fee	6.2	50.0
Too few Medicaid patients	4.8	2.0
Not enough decay in practice	1.8	5.5

# Results: Adoption

Percent





# Results:

## Mean Number of Barriers

---

	Full Adopter	Partial Adopter	Non- Adopter
Never	9.6	8.4	8.4
Overcome	0.9	1.0	0.7
Still	0.4	1.5	1.8



# Results

---

Variable (vs. Never)	Odds Ratio	(95% CI)	P-Value
Knowledge			
Overcome	0.64	(.225, 1.824)	0.405
Attitudes			
Overcome	0.88	(.420, 1.861)	0.747
Still	0.25	(.120, .519)	<0.001
External			
Overcome	1.19	(.574, 2.474)	0.636
Still	0.12	(.064, .250)	<0.001





# Conclusions

---

- Adoption rates are high (65-75%)
- $\frac{3}{4}$  or more of barriers were 'never' considered an obstacle to adoption
- Most common barriers
  - Difficulty integrating into practice
  - Difficulty in applying fluoride varnish
  - Resistance from co-workers
  - Referral difficulty



# Conclusions

---

- Non-adopters had a greater number of obstacles than adopters and were less likely to be able to overcome them
  - Attitudes
    - Patients have too many other problems
    - Lack of parent interest
  - External barriers
    - Difficult to integrate into practice
    - Referral too difficult
    - Too few Medicaid patients
    - Not enough decay in practice



# Conclusions

---

- Integration into practice
  - Conduct CME at the site (office, health dept, residency program)
  - Require all staff to attend training session
  - Recommend all staff participate in implementation
  - Determine when the procedure will be offered
    - Well-child visits
    - Other medical visits
    - Separate procedure
  - Provide 'starter kit' of supplies
  - Encourage flexibility!



# Conclusions

---

- Difficulty applying varnish
  - Demonstrate procedure on a child
  - Demonstrate on a dentoform
  - Recommend finger splint under glove for protection and easing apprehension
  - Emphasize importance of positioning and parent restraint
  - Remind providers that they already deal with children's behavior!



# Conclusions

---

- Resistance of staff and colleagues
  - Recruit an oral health 'champion'
  - Offer an incentive system
  - Dispel myths of time required for procedure



# Conclusions

---

- Referral difficulties
  - Provide written guidelines
  - Encourage providers to make personal contact with potential referral sources
  - Suggest forming a community coalition with other professionals to promote the health and well-being of children



# Conclusions

---

- CME may need to be tailored to address the different barriers encountered in:
  - Pediatric practices
  - Family medicine practices
  - Health departments
  - Federally funded primary care clinics
  - Residency programs

# Questions?

- “Dental varnish has become an integral part of our preventive care.”

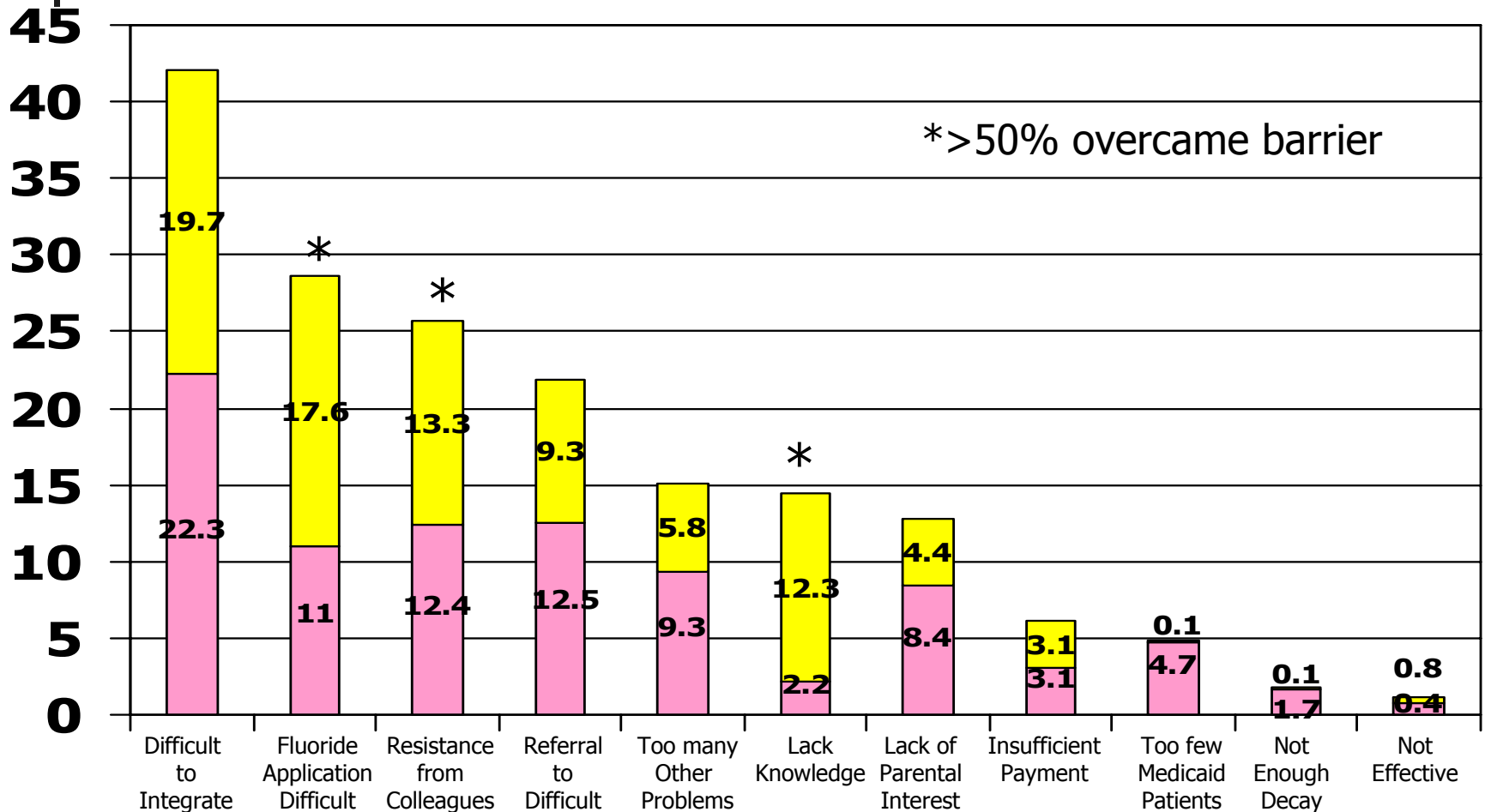
...NC Pediatrician





# Results:

## % Reporting a Barrier





# Methods:

## Study Variables--Independent

---

- Practice characteristics
  - Business
- Provider characteristics
  - Type, sex, years in practice
- CME group assignment

# Results:

## % Reporting a Barrier

<b>Barrier</b>	<b>Overcome</b>	<b>Still</b>
<b>Knowledge</b>		
→ Lack knowledge about services	12.3	2.2
<b>Attitudes</b>		
→ Applying fluoride difficult	17.6	11.0
Too many other problems	5.8	9.3
Lack of parental interest	4.4	8.4
Not effective	.4	0.8
<b>External</b>		
Difficult to integrate into practice	19.7	22.3
Referral too difficult	9.3	12.5
→ Resistance among colleagues/staff	13.3	12.4
Too few Medicaid patients	.1	4.7
Insufficient reimbursement fee	3.1	3.1
Not enough decay in practice	.1	1.7