



## Reach Out and Read

### **Pediatrics by the Book: Reach Out and Read's American Indian/Alaskan Native Initiative**

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35 % OF AMERICAN CHILDREN ENTER KINDERGARTEN UNPREPARED TO LEARN, MOST LACKING THE LANGUAGE SKILLS THAT ARE THE PREREQUISITES OF LITERACY ACQUISITION

NATIONAL ACADEMY OF EDUCATION, 1985

## National Assessment of Educational Progress (2000)

- **37% of 4th graders perform below basic reading levels on national standardized tests for reading**

## CHILDHOOD ROOTS OF ILLITERACY

- ONE THIRD OF FIRST GRADERS PLACED IN REMEDIAL READING PROGRAMS
- MOST ARE NOT DYSLEXIC
- MANY WILL REMAIN IN "SLOW" READING GROUPS THROUGHOUT SCHOOL
- AFTER 4<sup>TH</sup> GRADE, ALL SCHOOL SUCCESS CONTINGENT ON READING SUCCESS

## CONSEQUENCES OF SCHOOL FAILURE

- Poor self-esteem, boredom, frustration
- Increased risk of absenteeism, school avoidance, truancy, dropping out
- Increased risk of :
  - early pregnancy
  - substance abuse
  - legal trouble

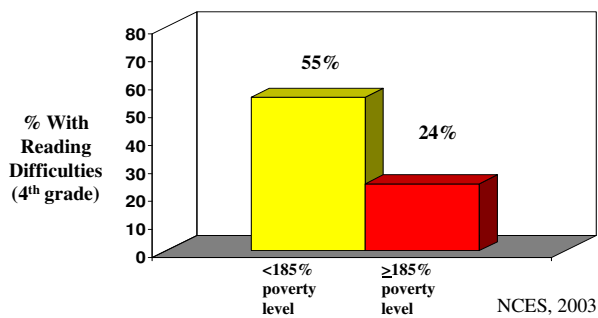
## Poor Literacy Skills in Adults

- Up to 25% of adults in US functionally illiterate
- Functional illiteracy refers to the ability to use language in everyday life (at or below 5<sup>th</sup> grade)
- Another 25% are marginal (8<sup>th</sup> grade or below)
- These adults at risk for:
  - Poor economic potential
  - Poor health literacy and problems accessing care
  - Poor ability to help children advance in school

## Children growing up without books and reading

- Many children are not being read to regularly
- Children growing up in poverty are less likely to be read to
- Minority children and children in non-English-speaking households are less likely to be read to
- Starting school without early literacy skills puts children at risk for school failure

## Reading Difficulties in Low SES Children



## Parental Language and Children's Language

- Children's language evolves primarily through parent-child interactions
- Repeated interactions stimulate early brain development and growth
- By two years of age, children's language correlates with later cognitive performance

## Reading and Children's Brain Development

- The architecture of the brain is shaped by early experiences
- Underused nerve connections are "pruned"
- Repetitive use of cognitive skills associated with reading aloud—language, memory, comprehension—ensure that associated brain connections persist

## Benefits of Reading Aloud

- Reading aloud to children:
  - Stimulates imagination
  - Fosters language development
  - Promotes reading skills
  - Prepares children for school success
  - Encourages decontextualized language
  - Motivates children to love books

## The Importance of Emerging Literacy

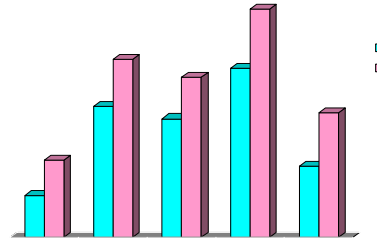
(National Research Center, 1999)



- Children at risk for reading difficulties are those who start school with:
  - lower verbal skills
  - less phonological awareness
  - less letter knowledge
  - less familiarity with the processes of reading

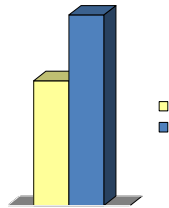
## Reading Aloud and School Readiness

(National Center for Educational Statistics, 1999)



## Children from Low-Income Families

- Low-income status significantly predicts children's exposure to language (Bloom, 1998)
- Children from low-income families are far less likely to be read to on a daily basis (National Research Council, 1999)



## The Importance of a Clinic-Based Intervention

Medical Providers:

- Reach most parents and children
- Have repeated one-on-one contact with families
- Provide trusted guidance about children's development
- May serve as the only source of formalized support for poor families

## Update—Reach Out and Read

- Reach Out and Read started in 1989, as a single program at Boston City Hospital
- Collaboration between pediatricians and early educators
- National Center—501(c)3 status
- Federal funding (Department of Education) 10 years ago

## Where we are now: 20 years old, 20 million books

- More than 4100 sites in all 50 states
- 34 city, state, and regional coalitions
  - New initiative—American Indian/Alaskan Native coalition
- Over 50,000 doctors and nurses trained
- 3.5 million children from low-income families reached annually
  - 80% below 2x poverty level
- 5.7 million books distributed in FY08
- Endorsed by: American Academy of Pediatrics (AAP)  
American Academy of Family Physicians (AAFP)  
National Association of Pediatric Nurse Practitioners

## **The Mission of Reach Out and Read**

**To make literacy promotion a standard part of pediatric primary care, so that children grow up with books and a love of reading.**

## **Why ROR for AI/AN?**

- 80% of AI/AN children on reservations live in families with income below 200% of the federal poverty level
- Compared to other minority groups, AI/AN children have:
  - poor test scores
  - low HS graduation rates
  - lack of persistence in college
- IHS and tribal clinics serve 75% of AI/AN children

## **Reach Out and Read American Indian/Alaska Native**

- Currently 70 IHS and tribal clinic sites participating in ROR
- Approximately 40,000 children served annually
- Approximately 53,000 books distributed annually
- Partnership with American Academy of Pediatrics

## **What does ROR AI/AN do?**

- **Expansion of ROR to additional sites to serve more AI/AN children**
- **Medical provider training, technical assistance and quality improvement**
- **Advocacy and fundraising, especially for book money**
- **Increase the availability of books with Native American themes / languages**

## **Making ROR Work for AI/AN Population: cultural issues**

- Diversity of languages within the AI/AN population
- Tradition of oral storytelling vs. the written word
- Limited AI/AN themed books

## **Strategies for working with AI/AN parents:**

- Provide books with images that resonate with daily lives and cultural traditions
- Encourage telling stories and asking questions using the pictures in the book
- Recognize the importance of extended family members as readers and story-tellers
- Emphasize the connection between the sound of a parent's voice and the book

## AI/AN Current Sites by State

AK, 3	MA, 1	OR, 2
AL, 2	MN, 2	SD, 5
AZ, 11	MT, 1	TX, 1
CA, 5	NC, 1	UT, 4
CO, 1	NM, 5	WA, 2
FL, 1	NV, 2	WY, 1
KS, 1	OK, 19	

## Three Components of Reach Out and Read

- Literacy-rich waiting rooms, volunteers to read to children waiting for appointments
- Medical providers **encourage parents** to read aloud and offer anticipatory guidance
- At every health supervision visit, a child aged 6 mos.- 5 years receives a new **developmentally-appropriate book**

## The ROR Model

### 1. Literacy-Rich Waiting Room:

- Volunteer readers demonstrate reading aloud techniques
- Displays about books, libraries, family literacy opportunities
- Gently used books



## The ROR Model

### 2) Anticipatory Guidance

- Underscore idea that reading aloud is important even before a child can talk
- Stress that reading aloud promotes the child's love of books by linking books with the parent's voice and attention
- Encourage parent and child to read together for pleasure



## Anticipatory Guidance

- Encourage parent to read aloud and talk about the book:
  - Ask questions (“Where is the baby?” “What does a dog say?”)
  - Point and name or describe objects
  - Relate the book to child's experiences (“He has a sister, just like you.”)

## More Anticipatory Guidance

- Articulate age-appropriate expectations:
  - 6-month-old babies put books in their mouths
  - 12-month-olds can point with one finger
  - 18-month-olds can turn board book pages
  - 2-year-olds may not sit still to listen to a book
  - 3-year-olds can retell familiar stories

## The ROR Model



### 3) Books Given in Exam Room

- At each health supervision visit, a child age 6 mos. - 5 years receives a new developmentally-appropriate book
- Before kindergarten, a child receives 10 books
- Books are introduced early in the visit and integrated into the examination within the context of other anticipatory guidance

## Introduce the Book Early in the Exam

### ■ What to say:

- **(Child's name) is chewing on the book. Young kids like to do that.**
- **Even babies really like to look at pictures.**
- **Would you (the child) like to look at this book with me?**

## The Book as Assessment Tool

### ■ Using the book to assess child development:

- **Fine motor development (maturity of grasp, hand skills)**
- **Social/emotional interaction with others (shared attention, affect)**
- **Cognitive skills (attention, memory)**
- **Expressive and receptive language (vocabulary, comprehension of words)**
- **Vehicle to offer parents concrete advice about child development**

## Book-Handling Skills

Schickedanz

- Helps turn pages (7-8m)
- Turns pages well (11-15m)
- Hands book to adult (11-15m)
- Book right-side up (11-15m)
- Understands upside down picture (24m)

## Picture Reading Skills

- Points to pictures (8-12m)
- Points when asked "Where?" (8-12m)
- Names objects (10-14m)
- Points and asks "What's that?" (13-20m)

## Story Reading Skills

- Book babble—sounds like reading (13-14m)
- Fills in word in text (15-28m)
- "Reads" to dolls or stuffed animals (17-25m)
- Protests when adult gets word wrong (25-27m)
- Reads familiar books to self (30-36m)

## 6-12 Months

### ■ Child

- Reaches for book
- Puts book in mouth
- Turns pages w/ help



### ■ Parent

- Lets child explore book

- Sits in lap



- Holds child in lap

- Communicates through gestures and early utterances



- Responds and interprets child's initiations

- Begins to understand a few words



- Labels
- Uses gestures
- Talks during routines

## 12-18 Months

### ■ Child

- Holds book
- Turns board pages
- Turns book right side up



### ■ Parent

- Lets child control book

- Has short attention span



- Follows child's interest

- Points when asked "where is--?"



- Asks "where is--?"

- Points and responds to pictures



- Responds to child's initiations
- Labels/describes
- Sings songs/rhymes
- Reads as part of routine

- Imitates parent's vocals

## 18- 24 Months

### ■ Child

- Turns pages
- Carries book around



### ■ Parent

- Lets child control book

- Fills in words of stories
- Recites parts of stories
- Reads to dolls and others



- Repeats same stories
- Engages in verbal turn-taking

- Begins vocabulary spurt



- Labels /describes
- Repeats and expands child's utterances
- Points and asks "What's that?"

- Begins to combine words "telegraphic" speech

- Relates books to child's own experiences

## 24-36 Months

### ■ Child

- Turns paper pages



### ■ Parent

- Lets child control book

- Protests when pages are skipped or story is wrong



- Points out letters and reads as part of routine (e.g., street signs)

- Coordinates text and pictures



- Reads to assist with daily routines

- Recites familiar parts of stories



- Labels/describes

- Begins to use "No"



- Asks child to name objects

- May know around 320 words

- Requests same book repeatedly

- Relates books to child's own experiences

## 3 Years and Older

### ■ Child

- Has longer attention span
- Understands more complex stories



### ■ Parent

- Asks "What happened?"
- Lets child tell story

- Anticipates outcomes



- Encourages writing
- Points out letters and sounds

- Attempts writing
- Begins recognizing letters

- Writes, displays and points out child's name

- Asks questions about text ("why" questions)



- Responds/expands on child's questions/stories

- Attempts to use sentences and grammar

## Research Questions for ROR

### ■ Current Questions

- Does ROR influence parental behavior?
- Does ROR influence parents' attitudes?
- Does ROR influence the home environment of children?
- Does ROR influence children's language development?

### ■ Future Directions

- Does ROR influence children's school readiness?
- Does ROR influence medical providers' attitudes?
- Does ROR influence medical providers' behavior?

## Clinic-based Intervention to Promote Literacy (Needlman et. al., 1991)

- A pilot study designed to determine if exposure to a clinic-based literacy intervention promotes parents' reading aloud to children
- Conducted waiting room interviews with 79 parents regarding children's literacy orientation
- Results indicated that parents who received a book through ROR were 4 times more likely to report reading to children

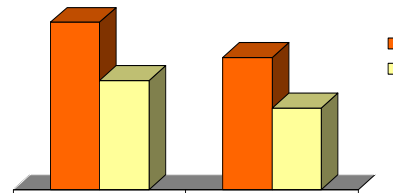
## Literacy Promotion in Primary Care Pediatrics: Can We Make a Difference? (High, 2000)

- Evaluated the impact of a clinic-based literacy program, based on the ROR model, on parent-child book sharing
- Measured "Child-Centered Literacy Orientation"
  - reading aloud as child's or parent's favorite activity, or usually read at bedtime
- Prospective study: 205 low-income families
  - 106 Intervention
  - 99 Control

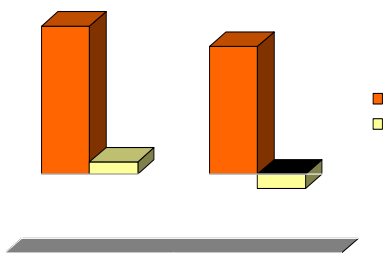
## High et al, 2000—Results:

- 40% increase in CCLO among ROR-model intervention families compared with 16% among control families
- Receptive and expressive vocabulary scores higher in older intervention toddlers
- No significant differences among younger toddlers 13-17 months
- Significant improvement in vocabulary scores for words in books and for words not in books

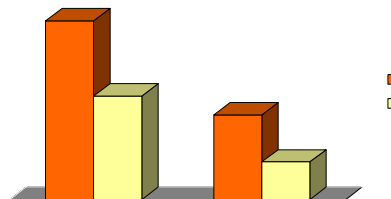
## Frequency of Reading Aloud (High et. al., 2000)



## Change in Parent-Child Book Sharing (High et. al., 2000)



## Attitudes Toward Reading (High et. al., 2000)

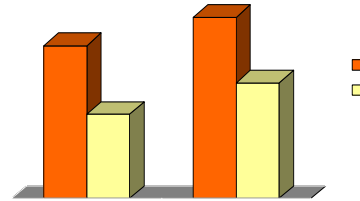


## Prescribing Books for Immigrant Children (Sanders et. al., 2000)

- Assessed associations between parents' frequent book sharing and participation in a clinic-based literacy program, based on ROR model
- A convenience sample of 122 predominantly Hispanic immigrant families
- Results indicated that parents who received at least 1 book through the literacy program were more likely to engage in frequent book sharing with their children

## Percent of Parents Engaging in Frequent Book Sharing (Sanders et. al., 2000)

(Sanders et. al., 2000)



## The Impact of a Clinic-Based Literacy Intervention on Language Development in Inner-City Preschool Children (Mendelsohn et. al., 2001)

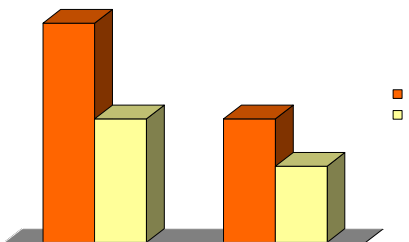
- Examined the impact of an ROR program on children's language development
- Prospective controlled study: 122 participants
  - 49 Intervention
  - 73 Comparison
- READ subscale on StimQ to measure parent-child activities
- Child language development tested directly with One-Word Expressive and Receptive Picture Vocabulary Tests

## Mendelsohn et. al., 2001—Results:

Intervention group families:

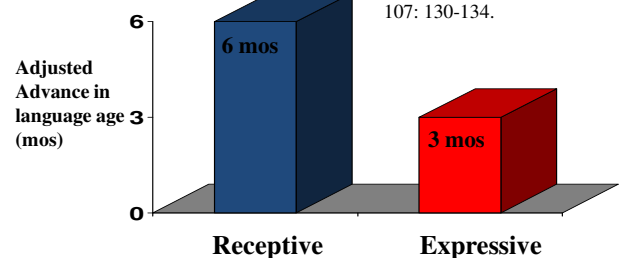
- Frequency of reading to children was higher
- More children's books in home
- Increased number of contacts with ROR program associated with increased reading activities on StimQ
- 8.6 point increase in Receptive Vocab scores
- 4.3 point increase in Expressive Vocab scores
- Each contact with ROR associated with score increase

## Children's Expressive and Receptive Language Competencies (Mendelsohn et. al., 2001)



## Effect of ROR on Language Age

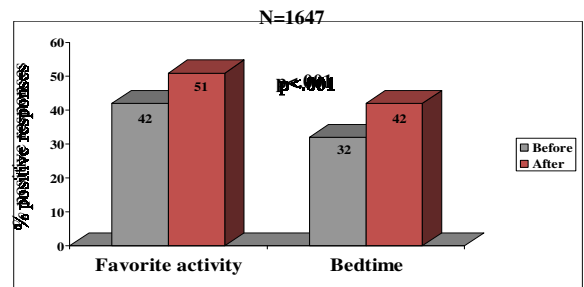
Mendelsohn, Mogilner, Dreyer. *Pediatrics*, 2001; 107: 130-134.



### Effectiveness of a primary care intervention to support reading aloud: a multicenter evaluation (Needlman et al, 2005)

- National sample, 19 clinical sites in 10 states
- 1647 children age 6-72 months
- Implementation of Reach Out and Read was associated with:
  - Increase in reading aloud as a favorite parental activity
  - Reading aloud at bedtime
  - Reading aloud 3 or more days a week
  - Ownership of 10 or more picture books

### Effects in a Multicenter Nationwide Sample



### Summary of Research

- ROR significantly and positively influences the literacy environment of children
  - Parents read more to their children
  - Parents and children have more positive attitudes toward reading aloud
- Children participating in ROR tend to have increased language development in comparison to non-participating children

### Who Benefits from ROR

- **Medical providers** use books as valuable assessment tools and build bonds with families
- **Parents** are given essential information about reading aloud and suggestions for parent-child interactions
- **Children** get all the early literacy benefits of reading aloud and have 10 books of their own by age 5

