

**Books Beginning at Birth:
Why Starting ROR Early Matters, and How
to Incorporate Literacy in the Earliest
Pediatric Visits**

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PEDIATRICS GRAND ROUNDS

Conflict of Interest Disclosures for
Mariana Glusman, MD

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I Love You Like Sunshine

How everyday play and bedtime stories
grow love, connections,
and brainpower

A book for babies and parents

Mariana Glusman, MD, and Marta Killner, MD



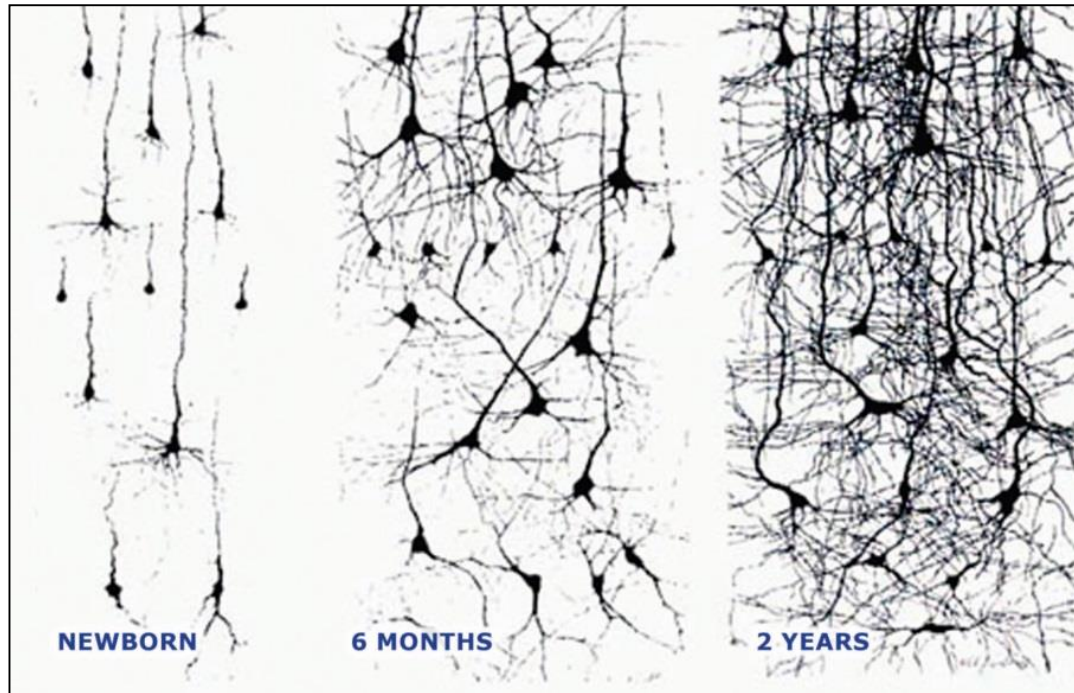
where great stories begin™



Talk Content

- 1) Early Brain, Language and Literacy Development
- 2) Reach Out and Read
- 3) Specific ROR Visit
Recommendations Starting at Birth

700 New Neural Connections per Second



Source: Huttenlocher, University of Chicago, 1979

Use it or Lose it!

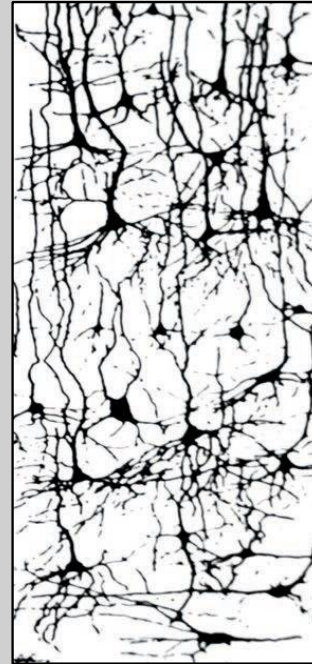
BIRTH



6 YEARS



14 YEARS



You can see the exuberant growth of synapses followed by selective pruning in this illustration by neurologist Harry Chugani, MD.

Used with permission from
Dr. Harry Chugani, Nemours DuPont
Hospital for Children, Department
of Neurology, Wilmington, Delaware

Interactions Stimulate and Sustain Synapses

- Experience forms the basis for brain development
- Babies are not sponges absorbing from the environment.
- They are active participants in their own learning. They actively elicit their attention and interaction with caregivers.
- **Serve and return pattern.**



Epigenetics and Toxic Stress

- Toxic stress develops when children are exposed to adverse childhood events, without the protection of reassuring, supportive relationships
- A potential mechanism that stressful events change brain architecture is by increasing cortisol levels.
- Supportive interactions diminish the negative effects of poverty and stress on children's brains.



Early Language Development

Social process

- Depends on exposure
- Amount, quality
- Which language/s
- Age of exposure
- Baby-talk

Founded on **serve and return** interactions.

Media exposure not as effective.

Child-directed language leads to improved vocabulary and faster language processing speed



Child Directed Language

- **Richness of verbal input** – labeling objects and actions (Weizman, 2001)
- **Verbal scaffolding** – structuring language interaction to meet child's needs; providing child with language that they need (Vygotsky, 1978; Snow, 1977)
- **Verbal responsivity** – responding to vocalizations with imitations or expansions, engaging in back-and-forth

Phonetic Differentiation

- 600 consonants and 200 vowels all languages
- Each language about 40 phonemes
- At 6 months babies can differentiate all phonemes
- By 10 months babies discriminate between the sounds heard in the language they are exposed to, but not in other languages. E.g. “r” and “l” for Japanese speakers.
- Ability at 6 months predicts language and pre-reading skills at 5 years. (Cardillo 2010)

Magnetoencephalograph (MEG)



MEG

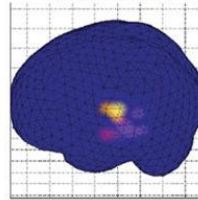
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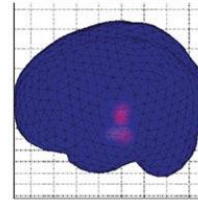
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AUDITORY (Superior Temporal) WERNICKE'S AREA

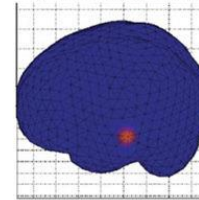
Newborns



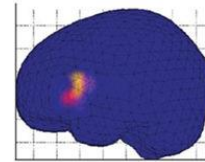
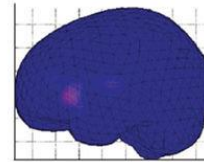
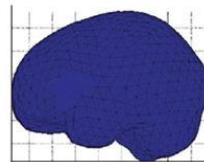
6-month-olds



12-month-olds



MOTOR (Inferior Frontal) BROCA'S AREA



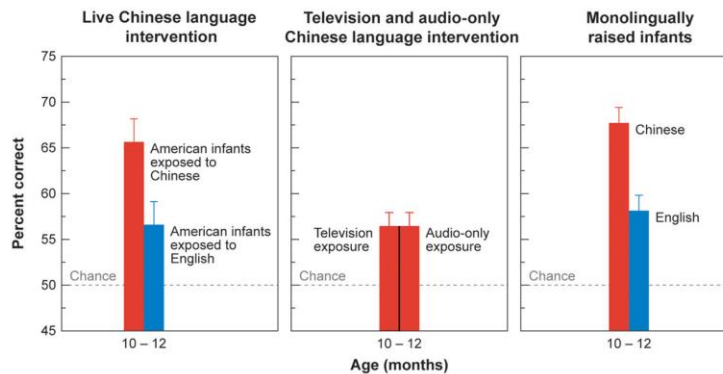
1 2 3 4 5 6 (Z score relative to 100 to 0 ms baseline)

Language Learning is Social

A Foreign-language exposure

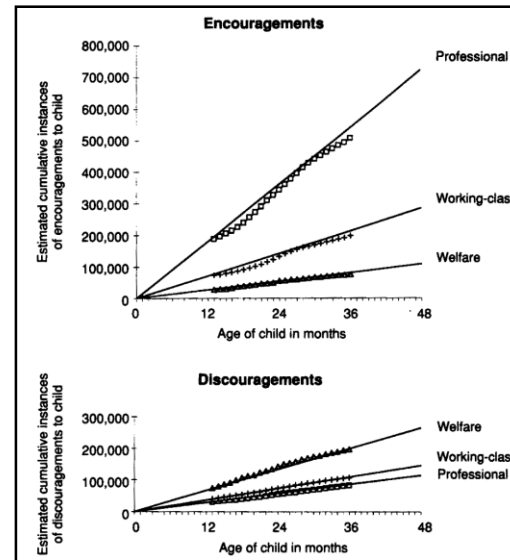
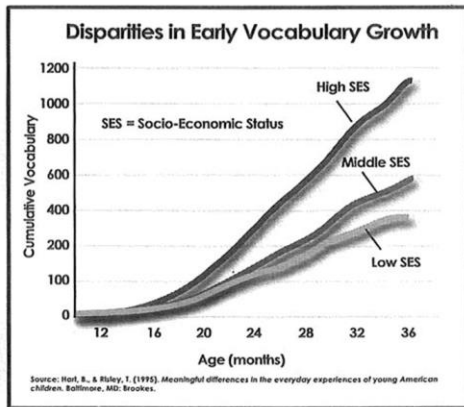
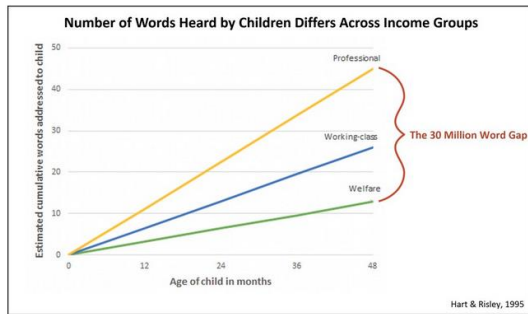


B Mandarin Chinese phonetic discrimination



Meaningful Differences in the Everyday Experience of Young Children

Hart and Risley (1995)



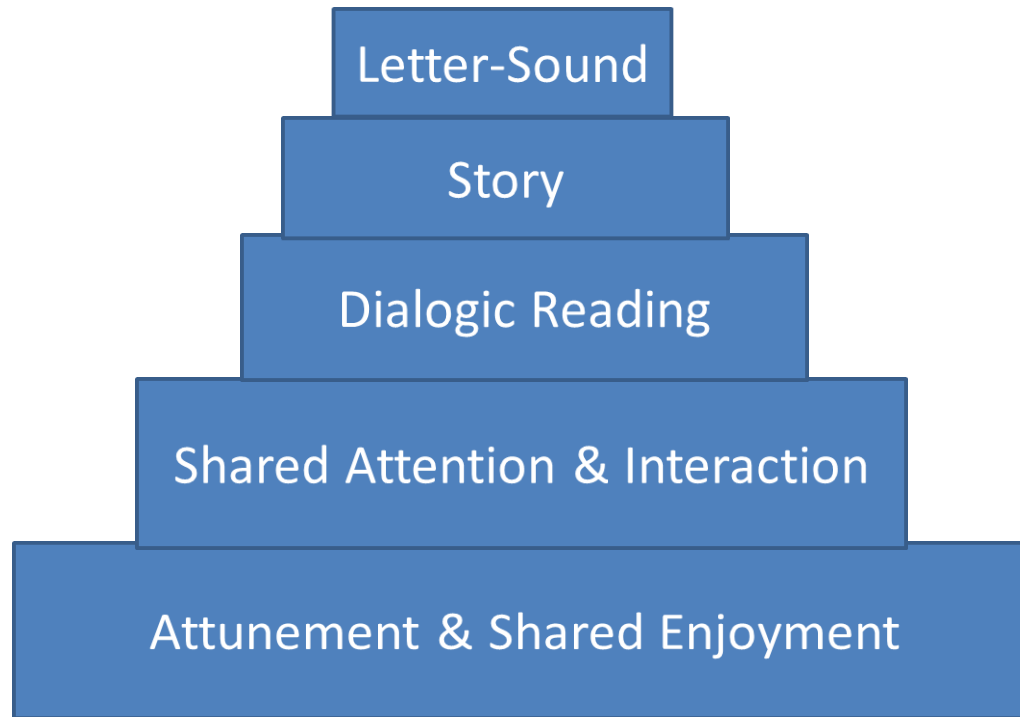
Why is that important?

Vocabulary is a key indicator for school success as early as kindergarten

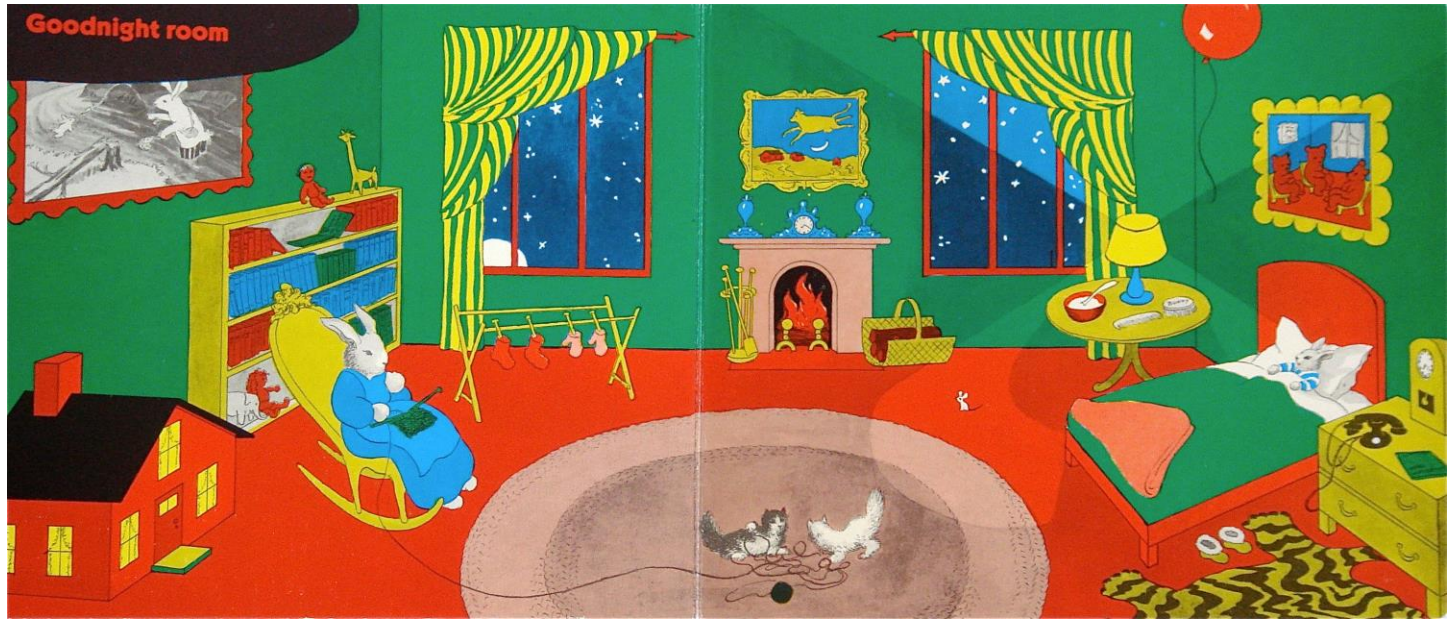
Language development sets the foundation for literacy development.

(Anderson & Freebody, 1981)

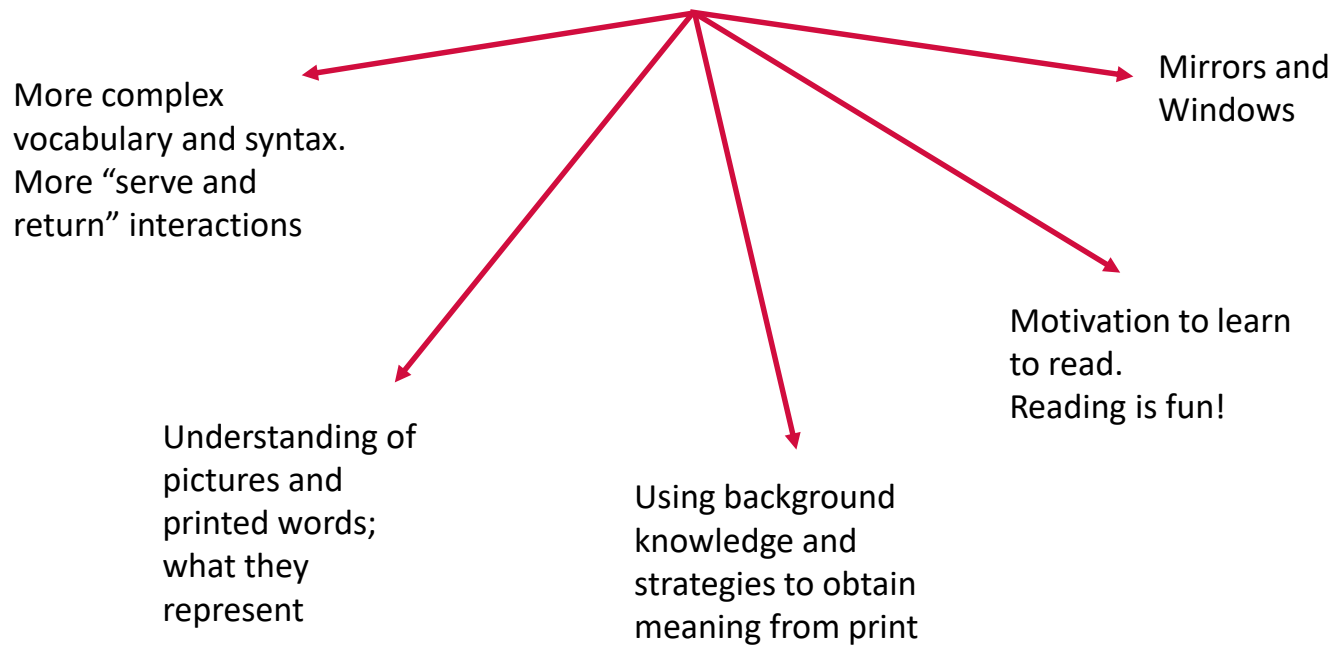
Early Literacy Development



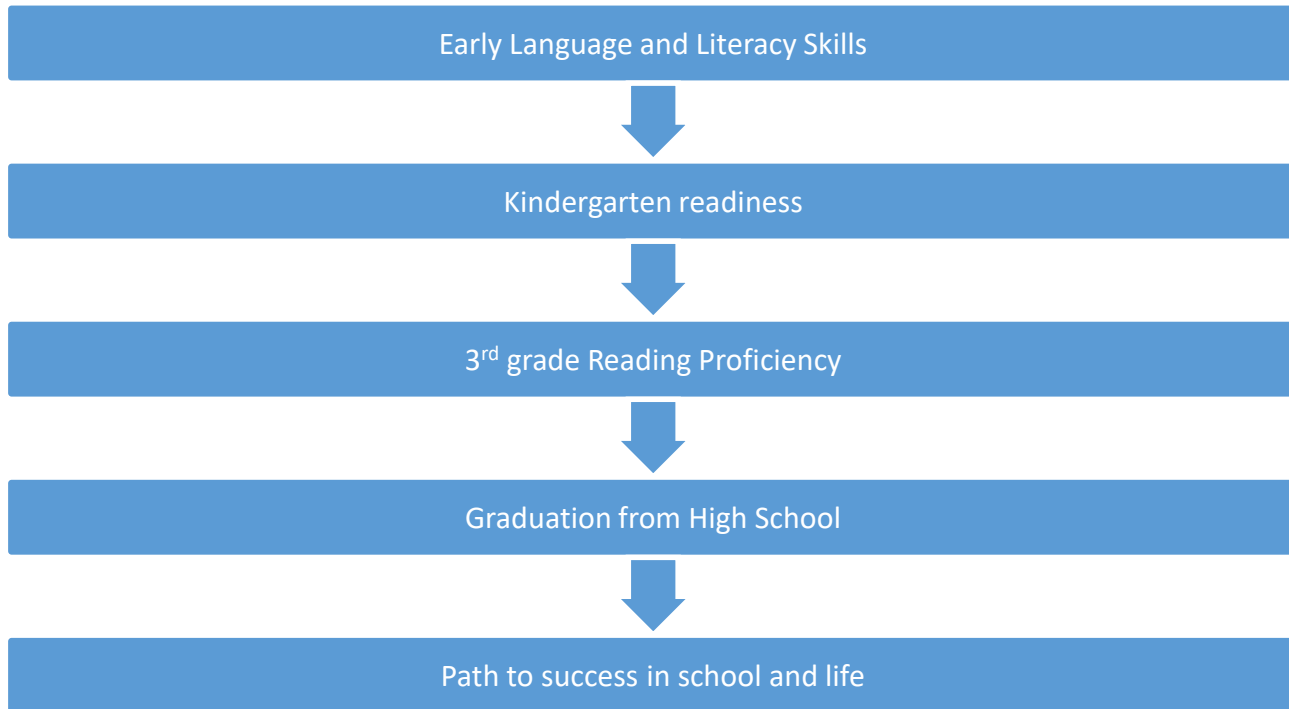
Dialogic Reading



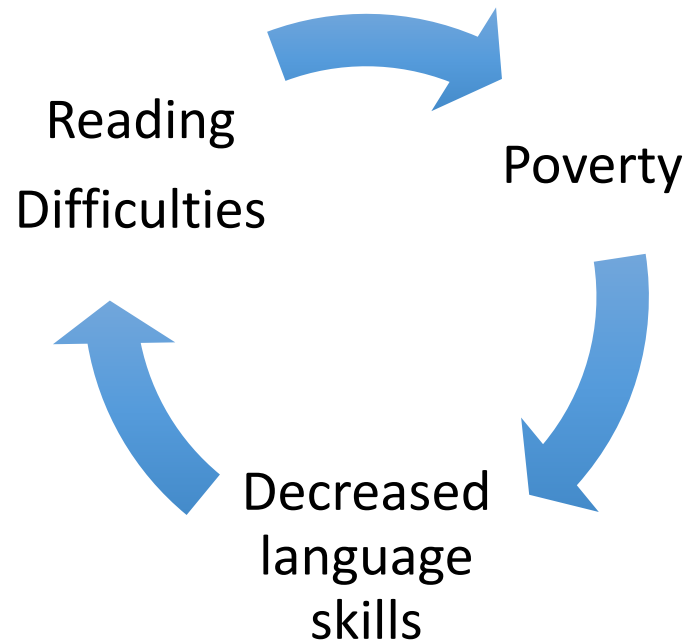
Dialogic Reading → Awareness of Books



Why Early Literacy Matters



Generational Cycle



Talk Content

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- 3) Specific ROR Visit
Recommendations Starting at Birth

The Reach Out and Read Model

Advise: Encourage parents to read aloud daily and offer age-appropriate advice

Books: From birth-5 years, clinicians give children a brand new, developmentally appropriate book at well child visits

Environment: The practice is made into a **literacy-rich** environment with posters, gently used books, library information and volunteer readers where feasible

ROR Anticipatory Guidance

Teaching HOW to enhance linguistic environment

How to make joint reading be

- A time to learn words and concepts
- A time to make connections between books and the world
- A time to have a conversation
- A time to link reading, learning, and enjoyment

Literacy Rich Environment



Why Doctors?

- Repeated and consistent contact with families
- Trusted by parents
- May be only source of expert information
- Families living in poverty may lack access to formalized forms of support

Four-week Old Taji







REACH OUT AND READ: THE EVIDENCE

where great stories begin!

Research shows that when pediatricians promote literacy readiness according to the Reach Out and Read model, there is a significant effect on parental behavior and attitudes toward reading aloud, as well as improvements in the language scores of young children who participate. These effects have been found in ethnically and economically diverse families nationwide.

The body of published research supporting the efficacy of the Reach Out and Read model is more extensive than for any other psychosocial intervention in general pediatrics. Additional studies about Reach Out and Read that address language outcomes in children are in progress. To read the complete articles, visit reachoutandread.org/why-we-work/research-findings/.

The following studies by independent academic researchers have been published in peer-reviewed medical journals

REACH OUT AND READ: CHANGING CHILD OUTCOMES

Mendelsohn et al., *Pediatrics* High-risk urban families participating in Reach Out and Read read more frequently to their children. Children exposed to Reach Out and Read had higher receptive language scores (words the child understands) and expressive language scores (words the child says). Increased exposure to Reach Out and Read led to larger increases in both receptive and expressive language scores.

Mendelsohn A, Magill L N, Dwyer E F, Ferraro J A, Weinstein S C, Brodick M, Cheng K J, Maguire T, Moss T, Nappi C. "The impact of a clinic-based literacy intervention on language development in inner-city preschool children." *Pediatrics* 2002; 109(7), p. 120-124.

High et al., *Pediatrics* Families participating in the Reach Out and Read model read to their children more often (4.3 vs. 3.8 days/week), and their toddlers' receptive and expressive vocabulary scores were higher. This effect held in parents of different levels of education and English proficiency.

High PC, LaGara L, Becker S, Bligden T, Gardner A. "Literacy promotion in primary care pediatrics: can we make a difference?" *Pediatrics* 2000; 106(5): 937-939.

Theriot et al., *Clinical Pediatrics* Among children ages 33 months to 39 months attending a well-child clinic in Louisville, KY, expressive and receptive language scores were significantly and positively associated with both the number of Reach Out and Read-enhanced well-child visits they had attended, and with the number of books purchased for them by their parents. This finding supports a "dose effect" for the Reach Out and Read intervention: the more visits, the higher the score.

Theriot J A, Franco SM, Sisson EA, Metcalfe S C, Greene M A, Bada H S. "The impact of early literacy guidance on language skills of 3-year-olds." *Clinical Pediatrics* 2003; 42, p. 165-172.

Sharif et al., *Journal of the National Medical Association* Children participating in Reach Out and Read had higher receptive vocabulary scores. They also had higher scores on the Home Literacy Orientation (measured by how much the child was read to and how many books were in the home) than children not participating in Reach Out and Read.

Sharif I, Eber S, Ozah PO. "Exposure to Reach Out and Read and vocabulary outcomes in inner city preschoolers." *Journal of the National Medical Association* 2002; 94, p. 171-177.

Diener et al., *Journal of Community Medicine and Health Education* This study showed that a small sample of Latino children who participated in Reach Out and Read from six months of age had average or above average literacy skills by the end of kindergarten, as well as high-quality home literacy environments with frequent book sharing and high book ownership.

Diener M L, Hobson-Rohrer W, Byington CL. " kindergarten readiness and performance of Latino children participating in Reach Out and Read." *Journal of Community Medicine and Health Education* 2002; 21(3).

REACH OUT AND READ: CHANGING PARENTAL ATTITUDES AND PRACTICES

High et al., *Archives of Pediatrics and Adolescent Medicine* Parents whose children (c 3 years) had received books and educational materials during well-child visits were more likely than parents in a control group to report that they shared books with their children, and to cite sharing books as a favorite activity or a child's favorite activity.

High P, Haganam M, LaGara L, Urr H. "Evaluation of a clinic-based program to promote book sharing and bedtime routines among low-income urban families with young children." *Archives of Pediatrics and Adolescent Medicine* 1998; 15, p. 419-425.

BOOKS BUILD
BETTER BRAINS

WHEN
PEDIATRICIANS
PROMOTE
READING
READINESS,
LANGUAGE
SCORES
IMPROVE.

Needman et al., *American Journal of Diseases of Children* Parents who had received a book as part of Reach Out and Read were more likely to report reading books with their children, or to say that reading was a favorite activity. The benefits of Reach Out and Read were larger for families receiving Aid to Families with Dependent Children.

Needman R, Fried L, Morley GS, Taylor S, Zuckerman B. "Clinic-based interventions promote literacy: A pilot study." *American Journal of Diseases of Children* 1990; 145, p. 881-884.

Weitzman et al., *Pediatrics* In a study using direct observation of children's homes, parents were more likely to read aloud to their children and enjoy reading together when their families had more encounters with the Reach Out and Read program.

Weitzman CC, Roy L, Wala T, Tootin E. "More evidence for Reach Out and Read: A home-based study." *Pediatrics* 2004; 113, p. 1248-1253.

Needman et al., *Ambulatory Pediatrics* In a multicenter study, families exposed to Reach Out and Read were more likely to report reading aloud at bedtime, read aloud 3 or more days per week, mention reading aloud as a favorite activity, and own 10 or more children's books.

Needman R, Taler K H, Dwyer E F, Klasi P, Mendelsohn A L. "Effectiveness of a primary care intervention to support reading aloud: a multicenter evaluation." *Ambulatory Pediatrics* 2000; 5, p. 209-215.

Silverstein et al., *Pediatrics* English and non-English speaking families who participated in the Reach Out and Read model increased their weekly bedtime reading, and more parents reported reading as their own or their child's favorite activity. For non-English speaking families the number of children's books in the home also increased as a result of the Reach Out and Read model.

Silverstein M, Hanson L, Lizano P. "An English-language clinic-based literacy program is effective for a multilingual population." *Pediatrics* 2002; 109, p. 476.

Sanders et al., *Archives of Pediatrics and Adolescent Medicine* Hispanic parents participating in Reach Out and Read were more likely to report reading to their children compared to Hispanic parents not participating in Reach Out and Read. When parents read more frequently to their children, they were also more likely to read frequently themselves.

Sanders L, Genthon TD, Hoffman L C, Mendez FS. "Prescribing books for immigrant children." *Archives of Pediatrics and Adolescent Medicine* 2000; 154, p. 771-777.

Golova et al., *Pediatrics* Hispanic parents whose children had received bilingual books, educational materials, and anticipatory guidance about literacy were more likely to report reading books with their child at least 3 days/week (66% vs. 24%) and report that reading books was one of their three favorite things to do with their child (43% vs. 13%) than parents in a control group. Parents participating in the Reach Out and Read intervention also tended to have more books in the home (for children and adult).

Golova N, Alaric AJ, Velez FM, Rodriguez M, High PC. "Literacy promotion for Hispanic families in a primary care setting: A randomized controlled trial." *Pediatrics* 1998; 101, p. 993-997.

REACH OUT AND READ: TOWARD BETTER PRIMARY CARE

Jones et al., *Clinical Pediatrics* Parents participating in Reach Out and Read were more likely to rate their child's pediatrician as helpful than those not participating. Pediatricians in the Reach Out and Read group were more likely to rate parents as receptive than those in the non-Reach Out and Read group. Mothers in the Reach Out and Read group were two times more likely to report enjoyment in reading together with their child than those in the non-Reach Out and Read group.

Jones YF, Franco SM, Marcell SC, Pico R, Skapp S, Thomas A S. "The value of book distribution in a clinic-based literacy intervention program." *Clinical Pediatrics* 2000; 39, p. 535-541.

King et al., *Academic Pediatrics* Successful implementation of the Reach Out and Read program was related to the culture of the clinic. Staff at clinics that struggled to implement Reach Out and Read found their jobs burdensome and reported lacks in communication. Staff at successful Reach Out and Read program sites worked as a team and expressed strong commitments to their communities.

King TM, Wuzoffe S, George M. "The role of clinic culture in implementation of primary care interventions: The case of Reach Out and Read." *Academic Pediatrics* 2009; 9, (2), p. 40-46.

Byington et al., *Journal of Health Care for the Poor and Underserved* This qualitative study examined the thank-you notes sent to staff at a Reach Out and Read clinic by Hispanic families. Families expressed thanks for the books received, as well as the literacy advice given by doctors and nurses. Many families believed that the books and advice promoted the habit of reading and demonstrated respect the staff felt for the families and their children.

Ortiz K A, Buchi K E. "The good habit of reading (el buen habito de la lectura): Parental reactions to an enhanced Reach Out and Read program in a clinic for the underserved." *Journal of Health Care for the Poor and Underserved* 2008; 19, p. 363-368.

For more information, visit www.reachoutandread.org

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POLICY STATEMENT

Literacy Promotion: An Essential Component of Primary Care Pediatric Practice

COUNCIL ON EARLY CHILDHOOD

KEY WORDS

literacy promotion, reading aloud, early brain development,
language development, child development, school readiness

ABBREVIATIONS

AAP—American Academy of Pediatrics
ROR—Reach Out and Read

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have filed conflict of interest statements with the American
Academy of Pediatrics. Any conflicts have been resolved through

abstract

FREE

Reading regularly with young children stimulates optimal patterns of brain development and strengthens parent-child relationships at a critical time in child development, which, in turn, builds language, literacy, and social-emotional skills that last a lifetime. Pediatric providers have a unique opportunity to encourage parents to engage in this important and enjoyable activity with their children beginning in infancy. Research has revealed that parents listen and children learn as a result of literacy

Talk Content

- 1) Early Brain, Language and Literacy Development
- 2) Reach Out and Read
- 3) Specific ROR Visit
Recommendations Starting at Birth

General Message to Convey to Parents

“Right from birth babies are listening, looking and learning. So find, and enjoy, these everyday moments when you can talk, read, sing, and play together with your baby.”

Other Messages You Can Give

- “Talk, sing, read and play with your baby as much as you can, many times, every day.”
- “The more you talk with your baby the more she will learn!”
- “Here is a book that you can share with your baby! Looking at books together will give you lots of great ideas of things to talk about!”
- “Reading is a way to expose your baby to more/different words.”

Using Teachable Moments

- Starting 6 months the time to give the ROR book is at the **beginning of the visit.**
- Starting at 6 months (sooner with some babies) you can **model** how to read with young kids and **use the book as a tool** to evaluate development.
- Before that, it is best to **use the exam as a teachable moment**, modeling child directed speech.
- In both cases, **explicitly stating why** you are doing what you are doing (why talking and reading are important) while modeling how to do it makes the message more powerful and actionable.

Newborns

Parents:

- Excited and scared, Worried about I/Os and weight
- Overwhelmed with information and sleep deprived

Infant:

- Periods of wakefulness, responsive to parental touch and voice, able to be calmed when picked up, looks at parents when awake, moves in response to visual or auditory stimuli

Pertinent Bright Future Guidelines:

- Learn baby's temperament
- Create nurturing routines



Newborn Nursery/Newborn Visit

This is a very busy visit and you likely won't have time to discuss everything.

- Briefly talk about ROR, how literacy will be a part of every visit, and focus on its importance in development and parental bonding.
- Reinforce general concepts, including singing/talking while doing everyday activities.
- Something to do with older sibling while holding NB (sib can help read, or hold book)
- **Model talking/interacting**

Newborn Visit: ROR Anticipatory Guidance

- Acknowledge that sharing language/reading with a newborn is not easy and can be awkward.
- Babies will not focus on a story the way older children will.
- Emphasize that the book is used to help foster that sharing of language, interaction, and closeness.
- Reading positions (holding infant on lap, lying on lap, lying down, baby in bouncy chair with caregiver facing the baby). The baby will enjoy the closeness, looking at your face, and sound of your voice.

Sharing Language and Books with Very Young Infants



© Anna Miller Fitzwater

One-Month Olds



Parents:

- Still worried, less overwhelmed, less sleep deprived
- Becoming more attuned to their infant, interpreting behaviors and anticipating infant response to caregiver behaviors

Infant:

- Responsive to calming actions when upset, able to follow parents with eyes, recognizes parents' voices, has started to smile, is able to lift head when on tummy

Pertinent Bright Future Guidelines:

- Develop consistent sleep/feeding routines
- Hold, cuddle, talk to baby often; calm baby by talking, patting, stroking, rocking; never shake baby
- Start “tummy time” when awake

One-Month Visit

You (generally) have more time to discuss literacy promotion and reading than in the newborn visit

- Recap general concepts and newborn tips
- Re-encourage parents to:
 - Read and sing as a sleep routine
 - Maintain eye contact with their infants
 - Have "conversations" with their baby, reacting to their sounds and interactions with them
 - **Model this for them and point out when they are doing it and how great it is!**
- Use of singing to calm colic

Two-Month Olds

Parents:

- More settled, more rested and less frazzled but still sleep deprived, communicating regularly with their infants, worried about vaccines.

Infant:

- Attempts to look at parent, smiles, begins differentiated types of crying, indicates boredom, able to hold head up and begins to push up in prone, consistent head control in supported sitting position

Pertinent Bright Future Guidelines:

- Learn baby's responses, temperament, likes/dislikes
- Develop strategies for fussy times
- Discuss that infant may roll over before next visit



Two-Month Visit

This is a very busy visit so you may have less time to cover everything

- Reinforce general concepts (**Model!**)
- Point out signs that baby is listening AND responding
 - Cooing, smiling, tracking, following, calming down with talking, loves to hear parents' voice
- Point out what a great job parents are doing and encourage them that they are their child's first teacher!
 - Including that talking and interacting with their infant is providing a foundation for future school success!

ROR Two-Month Video

<https://www.youtube.com/watch?v=LXcpUj6nFRw>

Four-Month Olds

Parents:

- As the infant becomes more interactive, including laughing, this encourages parents to interact with the infant. Tend to be more confident in their abilities.

Infant:

- Smiles spontaneously, elicits social interaction, babbles, responds to affection and indicates pleasure/displeasure, has good head control, begins to roll to reach for objects. Colic decreased, more predictable cues.

Pertinent Bright Future Guidelines:

- Use quiet (reading, singing) and active (tummy time) playtime
- Continue calming strategies when fussy



Four-Month Visit

There may be more time at this visit (assuming the vaccines went well at the last visit). Messages can include:

- Singing, silly games/faces/noises
 - Smiles/laughter/name body parts and talk during diaper/clothes changes
- Have more “conversations” with infant
 - Imitate babbling (there is no "incorrect way" to talk to a baby, nonsense sounds are important also)
 - Reinforce the idea that babies need interaction and that they can't get this from a TV screen
- The baby has better body support at this age and is beginning to interact more purposefully with the book, so reading may feel less awkward to the parent.
 - **Model interacting with the book.** Point out how the baby looks at the pictures!

Reach Out and Read Four-Month Video

<https://www.youtube.com/watch?v=IrUbYHJf1Eo>

Overarching Messages

- Infants are learning from their environment from birth.
- Infants learn optimally through a **serve and return** pattern of interaction.
- Therefore emphasize **positive INTERACTION** between the parents and their infants **from BIRTH**
 - A book is merely a way to provide a foundation for novel ways of interaction and exposure to more diverse language.

Books!



I Love You Like Sunshine

How everyday play and bedtime stories grow love,
connections, and brainpower



Mariana Glusman, MD, and Marta Killner, MD

West Walker Publishing House, Chicago

DID YOU KNOW?

Babies love to look at baby faces, and they love to hear your voice.

THINGS TO TRY

You can point to the picture on the next page.

“Where are the baby’s hands? Here they are!

Where are your hands?

Lets count your fingers.

1, 2, 3 . . .” You can also

point out your baby’s body parts at other times, such as during feeding,

baths, and diaper changes.

Experiment with different ways to tell your baby

how much you love him.

“I love you like sunshine,”

“I love you like a big juicy

peach,” “I love you like

hot cocoa on a cold day,”

“I love you like . . .”

THINGS TO NOTICE

What’s the most amazing thing you notice when you look at your baby?





DID YOU KNOW?

Many people think newborn babies can't see. That's not true. They can see a lot, especially close up.

THINGS TO TRY

Read with your baby and tell her about the pictures in the books. What is interesting about them? Read the books you remember from when you were little. (Were they nursery rhymes? Fairy tales?). Read anything that interests you. Read what makes you happy!

THINGS TO NOTICE

How does your baby react when you read with her? Does she briefly look at the pictures? Does she look at you? Although she may not seem interested at first, the more you read with her the more she will respond.

DID YOU KNOW?

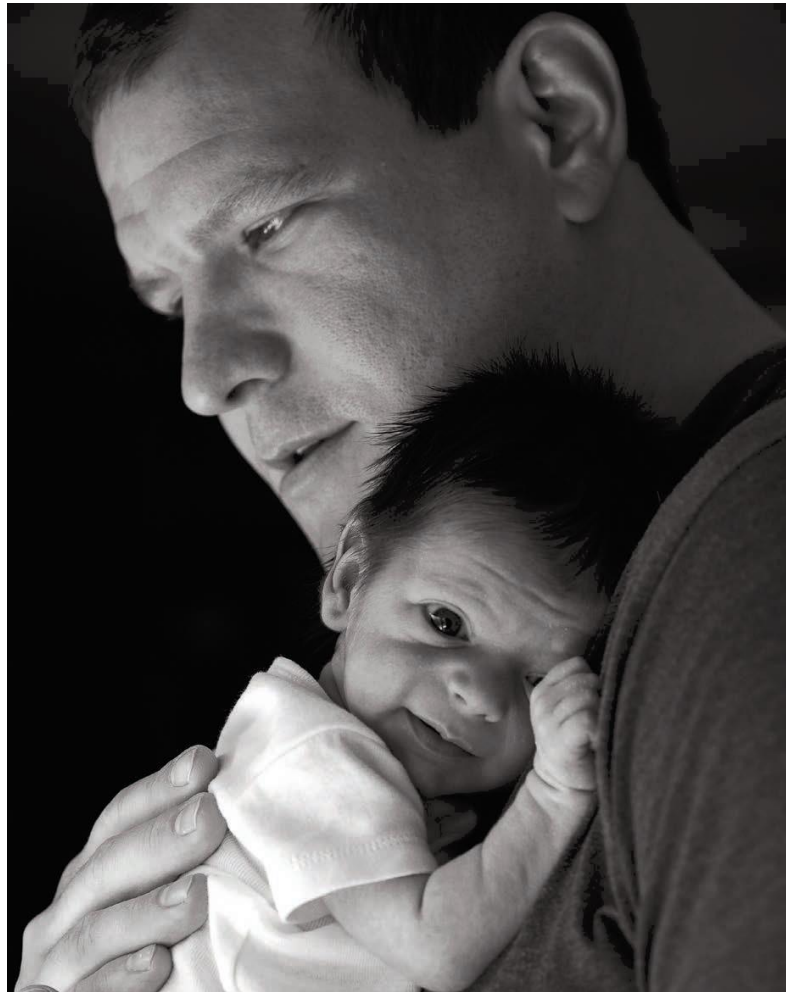
Babies love music. They can even recognize music that they heard in the womb. Listening to poems that rhyme helps babies learn the sounds that make up words, like c-a-t, and m-a-t. This is very important when they start learning to read.

THINGS TO TRY

Sing a lullaby. What songs do you remember from your childhood? The “Itsy Bitsy Spider”? The ABC song? “Row, Row, Row Your Boat”? What are your favorite songs now? Look for children’s poetry books and rhyming stories to share with your baby. Emphasize the rhymes as you read them aloud.

THINGS TO NOTICE

How does your baby react when you sing? Are there songs he seems to like better than others? What does he do when you play music? Does he move more? Does he make sounds?



DID YOU KNOW?

It's not always easy to talk with a newborn.

Sometimes you may feel like you are going a little crazy!

THINGS TO TRY

When your baby makes sounds, respond as if he told you something. Taking turns vocalizing back and forth is the way babies learn to talk.

Remember that babies learn by interacting with the people around them. TVs, tablets, and phones can distract kids but they can't respond to your baby's cues the way you do.

THINGS TO NOTICE

Does your baby listen when you talk and coo when you stop?

Does it begin to feel like you're having a conversation with him?





DID YOU KNOW?

At times, caring for a baby can make you feel sad or lonely. Having a newborn is exhausting and sometimes frustrating. It can also be a little scary. It's normal to worry.

THINGS TO TRY

If you can, take a little time for yourself, and rest when the baby sleeps. It's OK to ask for help. Although they may not show it, other parents feel the same way you do. Talk with your pediatrician or your OB if you feel overwhelmed or depressed.

THINGS TO NOTICE

How are you feeling?
Are you happy? Do you feel like crying? Both?
Who can help when you need a break?

DID YOU KNOW?

Repetition and routines are very important as babies learn to make sense of the world around them.

THINGS TO TRY

Make reading aloud with your baby a part of your routine during naptime, bedtime, or whatever time works for your family. Have fun, be silly, make jokes. Maybe you're the only one who thinks they're funny and that's OK! Dance around, sing your favorite songs, cuddle. It not only feels good, it's good for your baby.

THINGS TO NOTICE

How do you feel when you talk and sing and read and play with your baby? Are you becoming more confident as the days go by?

FINAL NOTE

I hope you and your baby enjoy this book and keep reading it, along with other baby books. Most of all, I wish you and your family millions of shared moments of joy, discovery, and love.





Take a deep breath ...

You are going to be a great parent!



Take Home Points

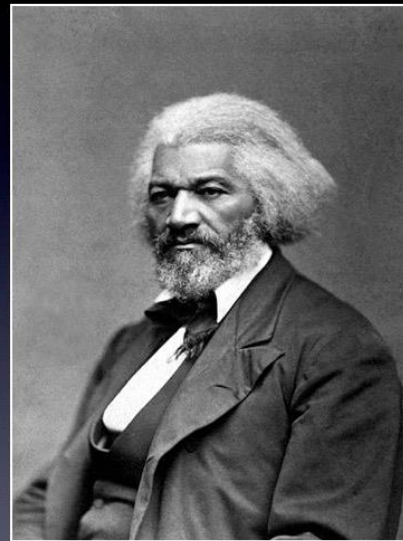
Encouraging reciprocal interactions with infants, babies and toddlers (TALKING, SINGING, READING, PLAYING)

- Increases language and language processing, vocabulary and school readiness
- Encourages warmth and strengthens relationships
- Helps mitigate the effects of adverse childhood events.

It is not just about building vocabularies, it's about building relationships and promoting resiliency in at risk children.

**“It is easier to build
strong children than to
repair broken men.”**

**— Frederick Douglass
(1817-1895)**



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Great ROR videos on YouTube

DID YOU KNOW?

You can't spoil a baby! Your baby needs to know that you will come when he needs you. The closer you listen the easier it is to tell his cries apart.

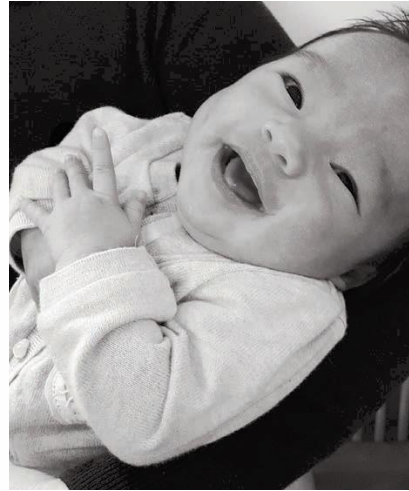
THINGS TO TRY

Every baby responds differently to different ways of being soothed. Many babies like to be swaddled and gently rocked. Ask your baby what's wrong and why he's crying. "Are you hungry? Are you tired?" Although he won't answer in words he will start to give you cues and your responses will show him that you are always there for him.

THINGS TO NOTICE

How does your baby like to be soothed?
How does he let you know what he needs?





DID YOU KNOW?

Babies usually begin smiling on purpose at around four weeks. But even before that your baby will flash you a smile here and there. There are few things more rewarding than seeing your baby smile.

THINGS TO TRY

Name the expressions you notice on her face. If she frowns, ask her if she's upset. If she happens to smile, you can mention how beautiful that smile is, or you can ask her what's so funny!

THINGS TO NOTICE

Do your baby's expressions change when you talk with her? How does she respond to other people?



DID YOU KNOW?

Babies learn to recognize familiar voices during the first few weeks of life. They may even know their mother's voice at birth.

THINGS TO TRY

Notice what seems interesting to your baby and talk about it. Is it the lights in the ceiling? His hands? A shadow on the wall? Name and describe the things you see. What color are they? Are they big or small? Are they soft or hard? Are they near or far? Tell your own stories. What were things like when you were little?

THINGS TO NOTICE

Does your baby seem to recognize your voice? What about those of other family members?

The 30 Million Word Program

Dana Suskind, MD



Video Interactive Project (VIP)

- The Video Interaction Project (VIP)
 - Evidence-based parenting program
 - Uses videotaping and developmentally-appropriate toys, books and resources to help parents utilize pretend play, shared reading, and daily routines as opportunities for strengthening early development and literacy in their children.
- Before or after the pediatric visit a child development specialist meets with family
 - Videotapes parent and child doing activities and then review the video.
 - Points out positive interactions and missed opportunities for interaction.
 - Provides information to parents about reading
- Fifteen 25-35 minute sessions from birth to 3 years.

VIP



Results of VIP

- Increased parent-child interactions through reading, teaching and play (Mendelsohn et al., 2005; Mendelsohn et al., 2007; Mendelsohn et al., 2011a)
- Reduced television exposure, in part resulting from enhanced interactions (Mendelsohn et al., 2011b)
- Reduced maternal depressive symptoms (Berkule, Huberman, Dreyer, Cates, Arevalo, Ledesma, Burtchen, & Mendelsohn, 2012; abstract accepted for presentation at the Pediatric Academic Societies 2012 meeting)
- Reduced parenting stress (Cates et. al., 2012; abstract accepted for presentation at the Pediatric Academic Societies 2012 meeting)
- Reduced need for Early Intervention (Mendelsohn et al., 2005)
- Enhanced cognition, language through age 3 years (Mendelsohn et al., 2005; Mendelsohn et al., 2007); IQ, reading at school entry (Mendelsohn et al., 2011c)

The Thirty Million Words Initiative

- Curriculum developed in iterative process
- Three T's—"Tune in, Talk More, Take Turns"
- Goal to
 - Increase knowledge of development
 - Promote belief that intelligence is malleable (can be influenced by parent talk)
 - "Children are not born smart they are made smart"
 - "Parent talk grows babies' brain"
- Objective frequent feedback (LENA)
- Video Modeling
- Goal setting



TMW



Randomized Control Trial

- 23 low SES mother-infant dyads randomly assigned to experimental (12) vs control condition (11) completed protocol- approx 6 months
- Experimental group received TMW intervention (Home visit, video, LENA) weekly x 8 weeks, children's book
- Control received weekly home visits discussing nutrition
- Measured in lab (knowledge about development—using validated questionnaire) and 3 30 min videos
- Measured at home 14 ten hour LENA recordings before during and after intervention

TMW Results

- Knowledge
 - Increase in parents' knowledge about language development and parent language input
- Attitudes
 - Improved expectations of reading with toddler
- Behaviors
 - Increased parental word count at home and in the laboratory
 - Increased diversity of word used
 - Increased turn taking
- Child outcomes
 - Increased child vocalizations and word types.
- Knowledge sustained over time (4 months) but behavior was not
- Working on longitudinal study

**THIRTY
MILLION
WORDS**

**BUILDING A
CHILD'S BRAIN**

**TUNE
IN**

**TALK
MORE**

**TAKE
TURNS**

DANA SUSKIND, MD

Collaboration with TMW

- Developing videos for parents while they wait to be seen TMW- well baby
- TMW's 3T's, "tune in, talk more, take turns," are a great way to succinctly convey the message to parents about increasing interactions.