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REACH OUT AND READ CONNECTICUT

January 27, 2015

Good afternoon, Senator Bartolomeo, Representative Urban, and members of the Committee on Children,

I am Christine Garber and I am the Connecticut Executive Director for Reach Out and Read. Thank you very much for bringing forth Senate Bill 209, An Act Concerning Funding for the Reach Out and Read Program and for this opportunity to testify in favor of the bill today.

A pediatrician like Connecticut Children's Medical Center's Dr. Catherine Wiley sees about 110 low-income children weekly for routine well-child exams. In addition to having their physical development evaluated, these children also walk away with a prescription designed to boost their brain development and prepare them for school. That "prescription" is a book.

Dr. Wiley is one of 300 medical providers across Connecticut who are "prescribing reading" as part of their partnership with Reach Out and Read. Designed to develop critical early literacy skills and a love of reading, Reach Out and Read reaches nearly 40,000 children and their families in Connecticut through 71 clinical locations. We give out well over 60,000 new books each year.

The concept is incredibly simple. Take a child from a low-income family where books can be rare and parents often too stressed or lacking the knowledge to spend time on reading. When the pediatrician sees that child, she "prescribes" an appropriate book and guides the parents on reading with the child daily. The results are amazing.

Because the book has been prescribed almost as if it were a medication, parents are far more likely to make reading aloud a part of their daily routine. As a result, young children in at-risk homes can build their literacy and oral language skills and become better prepared for school – as they learn the joy of reading.

In one of our 15 research studies published in the *Journal of Community Medicine and Health Education* in 2012, researchers examined the home literacy environments, teacher evaluations, and reading readiness of low-income Latino kindergarteners (ages 4-6 years) who had participated in Reach Out and Read from age 6 months. By the end of kindergarten, 77% of these children had average, above average, or far above average literacy skills when compared to all students in the same grade. Results such as these can be even more profound in a state like Connecticut, where the achievement gap is among the highest in the nation.

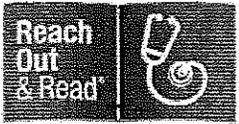
Reach Out and Read was founded in 1989 by a group of doctors and educators who were concerned about the deficiency in pre-literacy skills in their low-income patients. Given that 90 percent of brain development occurs before age 5, they established a program to encourage shared reading by giving parents the tools they need to help develop their children's early literacy skills. Specifically, they developed this three-part model which medical professionals incorporate into regular pediatric checkups:

- In exam rooms, medical providers trained in early literacy development speak with parents about the importance of reading aloud daily with their young children.

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- At each regular checkup from 6 months through 5 years of age, the child receives a brand-new, developmentally- and culturally-appropriate book to keep.
- Armed with this guidance from the provider, parents make reading aloud a part of their daily routines.

Today, some 20,000 medical providers across the country volunteer their time to deliver the program through 5,000 clinical locations in all 50 states. Four million children are served by Reach Out and Read nationally, including nearly 40,000 in Connecticut.

In addition to the pre-literacy skills and language development Reach Out and Read promotes, it also serves as an effective way to increase family engagement and foster healthy early brain development. During the reach Out and Read intervention, medical providers are not simply handing out books. They are working to change parental behavior and increase parental involvement in their children's lives – a critical lever linked to the cognitive, emotional, physical and social health of children. In order for the brain to develop normally, children need a strong relationship with a parent or primary caregiver. The one-on-one time spent on a parent's lap reading together fosters this bonding experience. It also provides a buffering effect for toxic stress. We know that children growing up in low-income households are exposed to more toxic-stress than their more affluent peers. Prolonged exposure to multiple toxic stress indicators can cause life long, negative effects on a child's brain and emotional development. Reach Out and Read helps to create a buffer so that the toxic stress is mitigated in these children's lives.

Clearly Reach Out and Read is far more than a book give-away program. It is a national leader in school readiness and unique among all other early literacy interventions.

- By making literacy promotion a standard part of pediatric care, we have near-universal access to all children, even those not enrolled in a preschool program that desperately need our program.
- Reach Out and Read leverages two extraordinary forces to improve educational and social/emotional outcomes in children: The power of parents and in the influence of doctors. No other school readiness intervention uses medical providers in this way.
- Fifteen independent studies published in medical journals demonstrate the efficacy of the Reach Out and Read model. This body of scientific research proving our impact is larger than for any other psychosocial intervention in general pediatrics, again setting us apart from other interventions.
- By using the existing medical infrastructure, with doctors volunteering their time to deliver our program, Reach Out and Read is affordable, effective, and scalable.
- Reach Out and Read is the only program promoted by the American Academy of Pediatrics (AAP) as a model for literacy development and book distribution by medical providers in the exam room. This recommendation by the AAP was made in their 2014 policy statement; *Literacy Promotion: An essential Component of Primary Care Pediatrics*, which I have submitted with my testimony.
- Reach Out and Read is a public/private partnership where each public dollar is matched by private funding.



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The passage of this bill will allow us to both sustain our 71 established Reach Out and Read programs in the state and expand our program to reach more children who desperately need our services. Based on the Annie E. Casey's KIDS COUNT DATA,

- 81% of our Connecticut 4th graders who were eligible for free and reduced lunch scored below proficient in reading on their 2013 Connecticut Mastery Tests. That means less than 20% of these children are proficient readers.
- 121,000 children in Connecticut ages 0-8 live below 200% of the Federal Poverty Limit. Reach Out and Read only reaches 40,000 children today.
- 46% of Connecticut 3 and 4 year olds who live at or below the Federal Poverty Limit do not attend preschool. Reach Out and Read has the ability to reach these children so that they don't continue to fall through the cracks.

Reach Out and Read is not the end all/be all to erasing the achievement gap in our state, but it is a very important part of the solution. The data is clear that we need more supports for our children and families starting before preschool. Reach Out and Read is an affordable and effective vehicle for that support. With a 26 year track record and 15 published research studies, we know our program works. The passage of this bill will directly help low-income children develop their essential early literacy skills, helping to position them to read and succeed alongside their more affluent counterparts – thus starting to close the large achievement gap we face in Connecticut.

Thank you very much for your time and consideration.

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Literacy Promotion: An Essential Component of Primary Care Pediatric Practice

COUNCIL ON EARLY CHILDHOOD

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American Academy of Pediatrics

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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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abstract



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 promotion by pediatricians, which provides a practical and evidence-based opportunity to support early brain development in primary care practice. The American Academy of Pediatrics (AAP) recommends that pediatric providers promote early literacy development for children beginning in infancy and continuing at least until the age of kindergarten entry by (1) advising all parents that reading aloud with young children can enhance parent-child relationships and prepare young minds to learn language and early literacy skills; (2) counseling all parents about developmentally appropriate shared-reading activities that are enjoyable for children and their parents and offer language-rich exposure to books, pictures, and the written word; (3) providing developmentally appropriate books given at health supervision visits for all high-risk, low-income young children; (4) using a robust spectrum of options to support and promote these efforts; and (5) partnering with other child advocates to influence national messaging and policies that support and promote these key early shared-reading experiences. The AAP supports federal and state funding for children's books to be provided at pediatric health supervision visits to children at high risk living at or near the poverty threshold and the integration of literacy promotion, an essential component of pediatric primary care, into pediatric resident education. This policy statement is supported by the AAP technical report "School Readiness" and supports the AAP policy statement "Early Childhood Adversity, Toxic Stress, and the Role of the Pediatrician: Translating Developmental Science Into Lifelong Health." *Pediatrics* 2014;134:1–6

STATEMENT OF NEED

Reading aloud with young children is one of the most effective ways to expose them to enriched language and to encourage specific early literacy skills needed to promote school readiness. Indeed, early, regular parent-child reading may be an epigenetic factor associated with later reading success.^{1,2} Yet, every year, more than 1 in 3 American children

start kindergarten without the language skills they need to learn to read. Reading proficiency by the third grade is the most important predictor of high school graduation and career success. Approximately two-thirds of children each year in the United States and 80% of those living below the poverty threshold fail to develop reading proficiency by the end of the third grade. Children from low-income families hear fewer words in early childhood and know fewer words by 3 years of age than do children from more advantaged families. Children from low-income families have fewer literacy resources within the home, are less likely to be read to regularly, and are more likely to experience early childhood adversity and toxic stress at an early age, all resulting in a significant learning disadvantage, even before they have access to early preschool interventions.³⁻⁶

The 2011–2012 National Survey of Children's Health found that 60% of American children from birth to 5 years of age from families whose incomes were 400% of the federal poverty threshold or greater were read to daily, and only 34% of children from families whose incomes were below 100% of the poverty threshold were read to daily.⁷ These numbers indicate that, even in higher-income families, many children do not experience the enhanced engagement and language-rich parent-child interactions, including book handling, print exposure, and other early literacy experiences, afforded by daily shared reading. All families face issues of limited time, limited parental understanding of the key role of reading aloud, and competition for the child's interest and attention from other sources of entertainment, such as electronic media.⁸ In contrast to often either passive or solitary electronic media exposure, parents reading with young children is a very personal and nurturing experience that promotes parent-child interaction,

social-emotional development, and language and literacy skills during this critical period of early brain and child development.

LANGUAGE AND LITERACY DISPARITIES

Reading with children in their infancy and preschool years is associated with higher language skills at school entry and with childhood literacy acquisition.⁹⁻¹¹ After controlling for family education and socioeconomic status, the literacy-related qualities of a child's home are associated with language skill development.^{12,13} Earlier age of initiation of reading aloud with a child has been shown to be associated with better preschool language skills and increased interest in reading.¹⁴ Reading aloud with young children has been found to increase the richness of the vocabulary to which they are exposed as well as the complexity of syntax.¹⁵ In addition, books and early conversations and play around books and reading stimulate increased interaction between the adult and child.¹⁶ These interactions build nurturing relationships that are critical for the child's cognitive, language, and social-emotional development.¹⁷

Hart and Risley⁵ identified dramatic differences in early language exposure of 1- and 2-year-olds in low-income families compared with children in higher-income families. Cognitive and linguistic differences in children from talkative versus taciturn families were impressive by 3 years of age and persisted into school age. Indeed, 60% of the variance in vocabulary in these children at 8 and 9 years of age could be explained by their exposure to language at home, before they were 3 years old. Book sharing has been shown to promote social interaction between caregiver and child and to encourage literacy development.^{16,17} Children's literacy skills at school entry and in kindergarten and first grade often predict their later reading success.¹⁸⁻²⁰

Children from low socioeconomic backgrounds are significantly more likely to have reading problems, to repeat a grade, and to have learning disabilities diagnosed.^{21,22} Poor reading skills in adults are associated with poor economic potential and with the perpetuation of cycles of poverty, poor health, and dependency across the life course.²³

DATA LINKING HEALTH TO LITERACY

Health literacy is "the degree to which individuals can obtain, process, and understand basic health information and services needed to make appropriate health decisions."²⁴ The 2003 National Adult Assessment of Literacy estimated that 14% of US adults had below basic literacy and 22% more had only basic literacy, which results in more than 90 million adults in the United States who may lack the literacy needed to effectively negotiate the health care system.²⁵ Research has revealed compelling associations of diminished disease knowledge, decreased utilization of preventive services, increased hospitalization, poorer overall health status, poorer control of chronic illness, and higher mortality in adults with limited health literacy.²⁶⁻³⁰ This interplay of health and development means that low literacy and related low health literacy in parents of young children pose a range of additional risks, with studies showing increased developmental risk for children associated with reduced reading aloud and increased health risk related to medication dosing errors and lower rates of adherence to medical regimens.^{31,32}

DATA SUPPORTING OFFICE-BASED PRACTICE OF LITERACY PROMOTION AS AN EFFECTIVE INTERVENTION

There are many literacy programs that promote reading to children. Reach Out and Read (ROR) is the most widely studied and disseminated model of

literacy promotion in the child's medical home. Multiple studies in high-risk populations show that the ROR model, which includes advising parents of infants, toddlers, and preschool-aged children about the importance of reading aloud, counseling parents about specific book-related strategies, modeling, and providing developmentally appropriate books to children at health supervision visits, results in parents being more likely to read with their children regularly.^{1,33-35} In addition, these children are more likely to have significantly improved language development by the age of 24 months compared with their peers who did not participate in these programs.¹ Parents participating in ROR reported a more positive attitude toward books and reading. For example, when asked to name favorite activities with their child or their child's favorite activities, parents were significantly more likely to mention looking at books and reading aloud than were parents in control groups who had not received the ROR intervention. This significant increase in parents viewing reading with young children as a favorite activity has been found in English- and Spanish-speaking parents, including recent immigrant populations.^{1,35,36} One study evaluated families who spoke languages in which no books were available. These families were given English books and still showed increased positive attitudes and practices.³⁷

Well-designed studies using appropriately matched comparison families or randomized controlled trials of ROR have revealed differences in children's expressive and receptive language.^{1,2,36,38} In one study, there was a 6-month developmental increase in receptive language skills of children (average age, 4 years) whose families were participating in ROR, and children with more contacts with ROR had larger increases in their language skills.² In another

study, larger vocabulary size was evident in intervention children by the time they were 18 to 25 months old.¹ ROR has also been found to contribute positively to a child's home literacy environment.³⁹ A multicenter study of 19 primary care sites in 10 states before and after introducing ROR showed increased parental support for reading aloud after the program was implemented.⁴⁰ In addition, a program modeled after ROR for implementation in collaboration with the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) was shown to be associated with improved school readiness.⁴¹ A recent randomized controlled trial of enhanced intervention building on ROR showed that additional intervention during the first 6 months of life leads to increased reading activities in infancy, reduced infant electronic media exposure, and increased parent-child interactions in children from low-income, immigrant, inner-city families. This reduced media exposure was a direct result of the increase in reading activities.^{42,43}

Research, in summary, shows that in populations at risk, participation in the ROR intervention is associated with markedly more positive attitudes toward reading aloud, more frequent reading aloud by parents, improved parent-child interactions, improvements in the home literacy environment, and significant increases in expressive and receptive language in early childhood.⁴⁴

PROGRESS INTEGRATING LITERACY PROMOTION INTO PRIMARY CARE AND THE NEED FOR ADVOCACY

The ROR model has been voluntarily adopted by more than 5000 pediatric primary care sites serving children at risk and has thus been field tested widely and found to integrate effectively into primary care in a variety of settings. The model includes training in the techniques for using books to enrich

and expedite primary care visits. This training is already incorporated into the majority of pediatric residency programs, so newly trained pediatricians are likely to have learned pediatric literacy promotion as part of how to deliver quality primary care, again reflecting the evidence base supporting the efficacy of the intervention. Initiatives partnering with the AAP are currently underway to increase literacy promotion and the adoption of the ROR model to serve several important groups, including American Indian, Native Hawaiian, and Alaska Native populations.⁴⁵ Another initiative, partnering with the AAP Section on Uniformed Services, is developing ways to foster literacy promotion in medical facilities serving military families. Local and national partnerships with public libraries, adult and family literacy programs, child care providers, schools, and businesses can help pediatricians connect families to more books, more skills, and more opportunities to facilitate the safe, stable, and nurturing relationships associated with long-term academic success and health.

Support and advocacy from the AAP will make it more likely that financial support can be found for pediatricians who want to follow this model. Many pediatricians believe that their patients could benefit from this intervention, but ongoing book supply is often a barrier, as are the time pressures already crowding the primary care visit. Costs in both books and time can be offset in great measure by the many ways that a book can enrich the interactions among children, parents, and pediatric providers at visits. The simple practice of incorporating a book into the health supervision visit allows for direct observation of emergent language and literacy skills and parent-child interactions around shared reading, as well as an opportunity to provide concrete guidance around language, development, and daily routines. In addition, books and

the guidance that accompanies them improve families' satisfaction with the care and advice they receive and strengthen their bond with their primary care provider and medical home.⁴⁶

RECOMMENDATIONS FOR PEDIATRICIANS

The AAP recommends that pediatric providers promote early literacy development as an important evidence-based intervention at health supervision visits for children beginning in infancy and continuing at least until the age of school entry by engaging in the following:

1. Advising all parents that reading aloud with their young children can enrich parent-child interactions and relationships, which enhances their children's social-emotional development while building brain circuits to prepare children to learn language and early literacy skills.
2. Counseling all parents about developmentally appropriate reading activities that are enjoyable for the child and the parents and offer language-rich exposure to books and pictures and the written word.
3. Providing developmentally, culturally, and linguistically appropriate books at health supervision visits for all high-risk, low-income children and identifying mechanisms to obtain these books so that this does not become a financial burden for pediatric practices.
4. Using a robust spectrum of options to support and promote these efforts, including wall posters and parent information materials that are culturally competent and accessible to those with limited literacy skills themselves, as well as information about the locations of and services offered by their local public libraries and mechanisms for accessing books for distribution. The AAP provides a literacy toolkit

(available at www2.aap.org/literacy/index.cfm) for pediatric and educational professionals and for parents to support this work.

5. Partnering with other child advocates to influence national messaging and policies that support and promote these key early shared-reading experiences.

In addition, as described in the AAP technical report "School Readiness," pediatric providers can also promote the "5 Rs" of early education:

1. Reading together as a daily fun family activity;
2. Rhyming, playing, talking, singing, and cuddling together throughout the day;
3. Routines and regular times for meals, play, and sleeping, which help children know what they can expect and what is expected from them;
4. Rewards for everyday successes, particularly for effort toward worthwhile goals such as helping, realizing that praise from those closest to a child is a very potent reward; and
5. Relationships that are reciprocal, nurturing, purposeful, and enduring, which are the foundation of a healthy early brain and child development.³

RECOMMENDATIONS FOR POLICY MAKERS

1. The AAP supports incorporation of literacy promotion and training related to language and literacy development into pediatric resident education. The integration of literacy promotion as a key component of primary care should be taught in resident continuity experiences and evaluated as an element of competency-based pediatric medical education.
2. The AAP supports federal and state funding for children's books to be provided at pediatric health supervision visits for children at high risk as

well as the incorporation of funding for children's books in managed care and government insurance programs for children at high risk.

3. The AAP supports research on the effects of pediatric early literacy promotion on child health and educational outcomes and research on best practices for literacy promotion in the context of both pediatric practice and of residency education.

SUMMARY

Providing books at pediatric primary care visits to families at economic and social risk, together with developmentally appropriate anticipatory guidance encouraging parents to read aloud with their children, has a powerful effect on the home environment of young children. It directly affects language development, a major factor in school readiness, during the critical period of early brain development. The costs of these books, of training primary care providers, and of incorporating these strategies into the primary care visit constitute an investment in infants, toddlers, and preschool children directed at their language, literacy, social-emotional, and life course development. As Professor James Heckman argued in his keynote address at the 2007 AAP National Conference and Exhibition, programs that invest in children at the earliest ages have the highest rates of return. By initiating early support for reading aloud, modifying the home environment to be richer in print, and advising parents about enjoyable and playful book-related strategies that will increase their children's language and early literacy skills within the context of their critically important nurturing relationships with their parents and caregivers, pediatric providers can leverage their unique opportunity to influence children in the very early years of life and to create important long-term relationships with families.

All families need to hear the important message that reading aloud to their children is crucial, especially in an era in which competing entertainment imperatives, such as screen time (television, cinema, video games, and computers), may limit family interactions and live language exposures of even very young children.^{47,48} Although most research has focused on literacy promotion for families of lower socioeconomic status, pediatricians should remember to educate all families about the importance of reading aloud to young children because even in affluent and educated families with plenty of books at home, many parents do not read with their children on a daily basis. Promoting literacy with parents of children beginning in infancy supports the recommendations of the AAP that children younger than 2 years not view electronic media and that older children and youth have no more than 2

hours daily of media exposure by offering parents a positive alternative for entertaining young children, for nurturing early relationships, and for developing healthy bedtime routines. The positive reinforcement of repeated developmentally appropriate encouragement in the context of the primary care visit reminds parents again and again of the importance of their "face time," interactive conversations, and their own evolving and essential relationship with their children, which is critical to setting a young child's developmental trajectory and life course.

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Literacy Promotion: An Essential Component of Primary Care Pediatric Practice

COUNCIL ON EARLY CHILDHOOD

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REACH OUT AND READ CONNECTICUT

Connecticut Profile

Reach Out and Read prepares America's youngest children to succeed in school by partnering with doctors to prescribe books and encourage families to read together.

Doctors, nurse practitioners, and other medical professionals incorporate Reach Out and Read's evidence-based model into regular pediatric checkups, by advising parents about the importance of reading aloud and giving developmentally-appropriate books to children. The program begins at the 6-month checkup and continues through age 5, with a special emphasis on children growing up in low-income communities. Families served by Reach Out and Read read together more often, and their children enter kindergarten with larger vocabularies and stronger language skills, better prepared to achieve their potential.

Reach Out and Read's National Impact

- Reach Out and Read Programs are located in nearly 5,000 hospitals, health centers, and pediatric clinics in all 50 states, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands;
- Reach Out and Read serves 4 million children and families annually;
- More than 6.5 million new, developmentally-appropriate books are given to children annually;
- More than 20,000 doctors and nurses currently participate in Reach Out and Read;
- Community volunteers dedicate more than 350,000 hours of service to Reach Out and Read annually.

Reach Out and Read's State Impact

- 71 clinical locations
- 39,824 children participate annually
- 65,956 new books distributed annually

Programs in this State:

- Bridgeport Hospital / Primary Care Center Pediatric Clinic, Bridgeport
- Optimus Health Care - Hollow Site, Bridgeport
- Optimus Health Care, Bridgeport
- Optimus Health Care, Inc., Bridgeport
- Optimus Health Care / Main Street Pediatric, Bridgeport
- Southwest Community Health Center, Bridgeport
- Southwest Community Health Center, Pediatrics, Bridgeport
- CHC Inc. - Bristol, Bristol
- Pediatric Care Center, Bristol
- CHC Inc. - Clinton, Clinton
- Community Health Center of Danbury, Danbury
- Pediatric Health Center / Danbury Hospital, Danbury
- Samaritan Health Center, Danbury
- New Haven Pediatric & Adolescent Medicine, Derby
- East Hampton Family Medicine / Middlesex Hospital, East Hampton
- First Choice Health Center, East Hartford
- CHC Inc. - Enfield, Enfield
- Barbara Ziogas, MD, Farmington
- Pediatric Associates of Farmington, Farmington

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- Connecticut Children's Medical Center, Hartford
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- Homeless Shelters, Meriden
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- New Haven Pediatrics and Adolescent Medicine, LLC, New Haven
- Yale-New Haven Children's Hospital / Pediatric Primary Care, New Haven
- CHC Inc. - New London, New London
- L+M Medical Group / New London, New London
- L+M Medical Group, Niantic, Niantic
- CHC Inc. - Norwalk, Norwalk
- Norwalk Community Health Center, Norwalk
- Day Kimball Hospital, Plainfield Pediatric Center, Plainfield
- Middlesex Hospital Family Medicine / Portland Office, Portland
- Pond Place Pediatrics, Prospect
- Day Kimball Hospital / Pediatric Center, Putnam
- CHC Inc. - Stamford, Stamford
- Cornerstone Pediatrics / Dr. Stella Sabile, Stamford
- Rainbow Pediatrics, Stamford
- Stamford Community Health Center, Stamford
- Stamford Department of Health and Social Services, Stamford
- Summer Pediatrics, Stamford
- William Pitt Family Medicine Center, Stamford
- Stratford Community Health Center, Stratford
- Litchfield County Pediatrics, Torrington
- Vernon Pediatrics, Vernon
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REACH OUT AND READ: THE EVIDENCE

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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.L., Mogiler L.N., Dreyer B.P., Forman J.A., Weinstein S.C., Broderick M., Cheng K.J., Magloire T., Moore T., Napier C. "The impact of a clinic-based literacy intervention on language development in inner-city preschool children." *Pediatrics* 2001; 107(1), p. 130-134.

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 P.C., LaGasse L., Becker S., Ahlgren I., Gardner A. "Literacy promotion in primary care pediatrics: can we make a difference?" *Pediatrics* 2000; 104, p. 927-934.

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 S.M., Sisson B.A., Metcalf S.C., Kennedy 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., Rieber S., Ozuah R.O. "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, C.L. "Kindergarten readiness and performance of Latino children participating in Reach Out and Read." *Journal of Community Medicine and Health Education* 2012; 2:133.

**BOOKS BUILD
BETTER BRAINS**

**WHEN
PEDIATRICIANS
PROMOTE
READING
READINESS,
LANGUAGE
SCORES
IMPROVE.**

REACH OUT AND READ: CHANGING PARENTAL ATTITUDES AND PRACTICES

High et al., *Archives of Pediatrics and Adolescent Medicine* Parents whose children (< 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., Hopmann M., LaGasse L., Linn 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. 459-465.

continued on back

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.E., Morley D.S., Taylor S., Zuckerman B. "Clinic-based intervention to promote literacy. A pilot study." *American Journal of Diseases of Children* 1991; 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 C.C., Roy L., Walls T., Tomlin R. "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., Toker K.H., Dreyer B.P., Klass P., Mendelsohn A.L. "Effectiveness of a primary care intervention to support reading aloud: a multicenter evaluation." *Ambulatory Pediatrics* 2005; 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., Iverson L., Lozano P. "An English-language clinic-based literacy program is effective for a multilingual population." *Pediatrics* 2002; 109, p. e76.

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., Gershon T.D., Huffman L.C., Mendoza F.S. "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 adults).

Golova N., Alario A.J., Vivier P.M., Rodriguez M., High P.C. "Literacy promotion for Hispanic families in a primary care setting: A randomized controlled trial." *Pediatrics* 1998; 103, 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 V.F., Franco S.M., Metcalf S.C., Popp R., Staggs S., Thomas A.E. "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 T.M., Muzaffar 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 (1), 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.F. "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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