POLICY STATEMENT Organizational Principles to Guide and Define the Child Health Care System and/or Improve the Health of all Children



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Literacy Promotion: An Essential Component of Primary Care Pediatric Practice: Policy Statement

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Reading together often with infants and young children strengthens their relationships with parents and caregivers at a critical time in child development, stimulating brain circuitry and early attachment. A positive parenting practice, shared reading helps build the foundation for healthy social-emotional, cognitive, language, and literacy development, setting the stage for school readiness and providing enduring benefits across the life course.

Pediatric physicians and advanced care providers have a unique opportunity to encourage parents and caregivers to establish routines and enjoy conversations around books and stories with their children beginning in infancy. Research has demonstrated that parents read and children learn when pediatricians offer literacy promotion as a practical and evidence-based primary prevention strategy in primary care practice to support early brain and child development. This supports families with a strengths-based approach, shaping a child's life trajectory and helping mitigate stress and adverse experiences.

The American Academy of Pediatrics (AAP) recommends that pediatricians encourage shared reading, beginning at birth and continuing at least through kindergarten, as a strategy for supporting parents and caregivers, enhancing foundational relationships, promoting positive language-rich interactions, and helping families create nurturing and stimulating home environments. The integration of literacy promotion into pediatric resident education is crucial to achieve that goal and thus is also essential. The AAP supports advocacy toward establishing public and private funding for diverse high-quality, developmentally appropriate children's books in the languages preferred by the family to be provided at pediatric health supervision visits to all children but especially to children living in underresourced

abstract

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STATEMENT OF NEED

Reading aloud with young children, starting at birth, offers parents and caregivers strength-based strategies that promote positive, intimate, and language-rich interactions. The foundational relationships with parents and caregivers formed in infancy and early childhood, early relational health, are crucial in shaping children's trajectories, including their cognitive, language, and social-emotional development. Early experiences, exposures, and above all, activities that foster early relationships affect a young child's capacities for sustained attention, executive function, self-esteem, and social behavior, which profoundly shape school readiness and success. Shared reading is a positive parenting practice, which exposes young children to enriched language and encourages specific early literacy skills and social-emotional strengths during a period when neuroplasticity is high. Positive childhood experiences (PCEs) buffer the impact of adverse childhood experiences on children in stressful circumstances, promote children flourishing, and support lasting family resiliency.¹⁻³ Indeed, early regular parentchild reading may be an epigenetic factor associated with later reading success.4,5

There is growing understanding of how PCEs and family support can enhance early trajectories of children's development^{1,3} and the consequent importance of supporting foundational relationships in medical homes, as recommended in the revised American Academy of Pediatrics (AAP) policy statement "Preventing Childhood Toxic Stress: Partnering With Families and Communities to Promote Relational Health (AAP relational health policy)."⁶ Literacy promotion in pediatric primary care offers a practical primary prevention strategy for strengthening safe, stable, nurturing relationships that can be applied universally and reinforced at every visit to the medical home and with community partners.

Reading proficiency by third grade is a significant predictor of high school graduation and career success, but even before the coronavirus disease 2019 pandemic, approximately two-thirds of children in the United States and 80% of those living below the poverty threshold failed to develop reading proficiency by the end of third grade.⁷ There is increased concern that the pandemic resulted in learning loss and reading delays while exacerbating disparities.^{8,9} Children from underresourced families have fewer literacy resources within the home, are less likely to be read to regularly, and more likely to experience childhood adversity and toxic stress even before they have access to preschool interventions.^{6,10-12} These inequities do not reflect individual parental preferences but rather systemic and structural barriers, including racism, the lack of family time when economic pressures force parents to work long hours and multiple jobs, which creates a kind of "time poverty," as well as inequities in access to health, education, housing, and other resources, which create significant constraints for families.^{13,14} Socioeconomic disadvantage is associated with reduced vocabulary and word processing skills from a very early age, generating disparities that increase toward school age and contribute to cycles of marginalization and economic disadvantage.¹⁵⁻¹⁷ Reading difficulties and related struggles in school negatively affect children's sense of self-worth and educational trajectories, with particular risk to children from communities facing economic adversity and systemic racism.^{18,19} Literacy is a social driver of health, with lifelong effects on health, educational opportunity, and socioeconomic status.

The 2020–2021 National Survey of Children's Health found that 54% of American children birth to 5 years of age with family incomes 400% of the federal poverty threshold or greater were read to daily, compared with only 24% of children in families living below the poverty threshold.²⁰ Thus, across socioeconomic groups, many children miss the enhanced engagement, enriched language exposure, and joyful adult-child interactions of 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, especially electronic media.²¹ Touchscreens and other electronic devices are passive or solitary experiences for children, whereas reading with children is interactive, tactile, language-rich, and nurturing.²² Shared reading promotes adult-child conversations and joyful interaction, social-emotional development, and language and literacy skills during this critical period of early brain and child development.

DEVELOPMENTAL DISPARITIES, READING ALOUD, AND RESILIENCE

By reading regularly with young children, parents and caregivers support multiple developmental domains. Specific literacy skills, evident years before children learn to decode print, are affected by genetic, medical, and environmental factors; the eco-bio-developmental model of emergent literacy emphasizes the importance of the home literacy environment,²³ manifested in the presence of children's books in the home, the frequency and quality of reading with children, and family attitudes. Pediatric primary care providers can guide parents in reading aloud starting soon after birth,

provide high-quality books, model interactive dialogic reading, and emphasize book-related rather than screen-based entertainment with young children, in accordance with AAP guidance.²⁴ Early literacy promotion in the medical home supports and promotes the 5 R's of early education reading, rhyming, routines, rewards, and relationships (Box)—described in the AAP school readiness policy.²⁵

The AAP relational health policy statement emphasizes PCEs, including building nurturing relationships, that mitigate children's stress responses and support resiliency.⁶ Shared reading and a literacy-rich home environment foster secure early relationships and are associated with less harsh parenting and with greater parental empathy.^{26–28} Shared reading and play are linked to reduced problem behaviors, such as hyperactivity, mediated by reduced parenting stress and improved parent coping.²⁹

Shared reading offers comforting routines, calming strategies, and a sense of security to children and parents, which can enhance adults' sense of self-efficacy and competence.^{30,31} MRI studies show significant, positive associations between home reading and measures of brain structure and function in preschool-age children.^{32–35} More advanced language skills, both receptive and expressive, help children express their emotional needs and understand the emotional meaning of family moments. Thus, cognitive development, language development, and social-emotional development can benefit from shared reading—and support each other.^{26,36,37}

Reading with children from infancy and through the preschool years is associated with higher language skills at school entry and improved childhood literacy^{36,38}; earlier age of initiation of reading aloud is associated with better preschool language skills and increased interest in reading.^{39,40} In a sentinel study, 60% of the variance in children's vocabulary by third grade was explained by home language environment before preschool.¹⁰ Reading aloud with young children increases the richness of the vocabulary to which they are exposed as well as the complexity of syntax.⁴¹ Books and shared reading stimulate increased interactions, which build nurturing relationships, enhancing the early relational health critical for the child's cognitive, language, and social-emotional development.^{42,43}

LITERACY AS A SOCIAL DRIVER OF HEALTH

Children's literacy skills at school entry and in kindergarten and first grade often predict their later reading success.^{40,44,45} Children living in poverty are significantly more likely to have reading problems, to repeat a grade, and to have learning disabilities diagnosed.^{46,47} Children from underresourced communities, including underresourced schools, and children from non-English-speaking families may also be at higher risk for experiencing reading difficulty.³⁹ Poor reading skills in adults are associated with poor economic

Personal health literacy is "the degree to which individuals have the ability to find, understand, and use information and services to inform health-related decisions and actions for themselves and others."⁴⁹ Low literacy skills leading to low health literacy in parents and caregivers of young children pose 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 adherence with medical regimens.^{50–54}

LITERACY PROMOTION IN THE MEDICAL HOME: EVIDENCE FOR EFFECTIVE PRIMARY PREVENTION

Reach Out and Read (ROR) is the most widely studied and disseminated model of literacy promotion in the child's medical home. Studies in high-risk populations demonstrate the efficacy of the ROR model. ROR emphasizes early relationships by encouraging parents of infants, toddlers, and preschool-aged children to build positive routines around books and shared reading, discussing developmentally appropriate interactive dialogic reading strategies, modeling in the examination room, including using the book as a developmental surveillance tool, and providing diverse and culturally and developmentally appropriate books in the languages preferred by the family to children at health supervision visits, addressing the individual child's developmental trajectory. Bilingual books may be particularly welcome when older siblings or adults in the home are learning English.

Literacy promotion following this model results in parents being more likely to read with their children regularly.^{55–61} Children show significant improvements in inexpressive and receptive language,^{59,62} compared with peers who did not participate.^{4,5} One study found a 6-month developmental increase in receptive language skills of preschool children participating in ROR, and children with more contacts with ROR had larger increases in their language skills.⁵ In another study, intervention children had larger expressive and receptive vocabularies by 18 to 25 months of age.⁴ Recent systematic reviews find pediatric literacy promotion among very few interventions delivered in primary care in the first 3 years of life, with strong evidence of positive effect on developmental outcomes.^{63,64}

ROR contributes positively to a child's home literacy environment,^{57,65} with parents reporting more positive attitudes toward books and reading in both English- and Spanishspeaking families, including recent immigrant populations, with parents encouraged to read and tell stories in the language most comfortable for them.^{56,59,61,66} Parents and caregivers who received ROR in primary care were more likely to report using interactive reading styles with their children, practices that build family relationships, early learning, and early relational health. $^{\rm 58}$

PlayReadVIP (formerly VIP), which integrates real-time video-feedback of reading and play during health care visits with ROR, has documented increased reading aloud, improved early relational health, and enhanced development across language, literacy, and social-emotional development.^{63,64,67-71} ROR may be associated with increased adherence to the Bright Futures well-child visit schedule,⁷² and with improved clinic morale and clinician satisfaction.^{73,74} A 2020 study comparing 3 "book giveaway" programs concluded that the book giveaway alone was not enough. A 2-generation approach including counseling parents, as practiced in the ROR model, is needed to benefit the home environment and the literacy-related behaviors and skills of children,⁷⁵ with modeling by ROR pediatric clinicians in the examination room particularly associated with improvements in the home literacy environment.⁷⁶

INTEGRATING LITERACY PROMOTION INTO PRIMARY CARE: SCALE, SUSTAINABILITY, AND ADVOCACY

The ROR model has been adopted by 6450 pediatric primary care sites serving 4.6 million children each year. The model, including robust, accessible, engaging, and evidence-based training in the techniques for using books to enrich and expedite primary care visits, has been incorporated into the great majority of pediatric residency programs, reflecting the evidence base supporting the efficacy of the intervention and previous AAP recommendations. Special initiatives, many in partnership with the AAP, have expanded the program in specific geographic locations, and adapted it to serve distinct populations emphasizing those at increased risk (Table 1).

State funding for primary care literacy promotion programs provides paradigms for program sustainability. In Oklahoma, federal Health Services Initiative funding for ROR expansion was associated with a significant increase in developmental screening at well-child visits.⁷⁹ North Carolina followed by expanding ROR using Health Services Initiative funding.⁸⁰ State-level advocacy by AAP chapters, with central support from the AAP, can develop this financial support to sustain literacy promotion in the medical home.

Many pediatricians believe their patients could benefit from this intervention but maintaining a supply of books is often a barrier. The time pressures crowding the primary care visit are also barriers, but incorporating books can help meet *Bright Futures* priorities through direct observation of developmental skills, including emergent language and parent-child interactions around shared reading, and stimulating supportive discussions with parents and caregivers around language, development, and daily routines, including bedtime routines. In addition, the books and guidance improve families' perception that the care and advice they receive are helpful and may strengthen their bond with their pediatrician and medical home. $^{\rm 81}$

Literacy promotion in pediatric primary care is evidencebased, cost-efficient, and scalable. It provides parents and caregivers tools to enhance nurturing relationships with young children, promotes early learning and school readiness, offers pediatric physicians and advanced care providers an enjoyable way to screen for developmental progress and differences while modeling enriching interactions around books, and enhances families' satisfaction with the care they receive.

Thus, the AAP has recommended literacy promotion as an essential component of pediatric primary care since 2014. Increased evidence supports the benefits of the model for caregivers as well as children and for reinforcing relationships between primary care clinicians and families. This intervention aligns with high-level goals for pediatric primary care, including toxic stress prevention and promotion of early relational health, and with health equity goals. However, although this is scalable, practical, and takes advantage of special relationships and opportunities in primary care, funding remains a barrier for many practices. Advocacy is essential to obtain the financial support necessary for program sustainability so that children receive the intervention consistently and with fidelity to the model across primary care visits in their early years of life.

SUMMARY AND RECOMMENDATIONS

Summary

Providing all families with young children with developmentally appropriate guidance encouraging reading together as a joyful component of their everyday routines and offering high-quality, developmentally and linguistically appropriate, and culturally diverse books at health supervision visits (with the highest priority on providing books for children from underresourced families), is an effective evidence-based primary prevention strategy that promotes early relational health and improves the home environment of children starting at birth. Pediatric physicians and advanced care providers can support PCEs, which can positively shape the life course trajectories of children and help support family resiliency. Shared reading benefits language development and the love of books and reading, major factors in school readiness, during the critical period of early brain development, and fosters healthy social-emotional development, helping children thrive in school and in life.

All families need to hear the important message that reading aloud to their children is crucial, starting at birth, especially in an era in which competing entertainment imperatives, such as screen time, may limit family interactions and everyday conversations for even very young children.^{82–86} This guidance supports the recommendations

TABLE 1 Reach Out and Read Expansion Initiatives; Emphasizing Equity, Justice, Diversity, Inclusion, and Belonging in Early Literacy Promotion
Expansion Initiatives
1. Leyendo Juntos!—created materials for clinicians serving Spanish-speaking families by working directly with parents to explore the messages they find most effective.
2. Book diversity initiatives, in partnership with the AAP Council on Early Childhood, promote diversity of book selection for all children as "mirrors and windows" ⁷⁷ to ensure that books depicting diversity of race, ethnicity, language, and developmental differences are affordable and easily available for clinics to order through ROR partner publisher catalogs and support clinicians using books in conversations about cultural pride, race, ethnicity, identity, and belonging.
3. Partnership with AAP Section on Uniformed Services, developed strategies to foster literacy promotion for military families.
 Developmentally focused initiative created protocols, training materials, and parent information materials for literacy promotion for children with developmental differences.
5. Partnership with the Institute for Museum and Library Services developed materials to help link families with community resources, including those to improve adult literacy skills.
6. Beginning at Birth initiative emphasizes the importance of literacy promotion, emotional connection, and early relational health in the first 6 months of life. Neonatologists have found strategies for bringing literacy promotion into the NICU with a goal of involving NICU parents in reading to their infants while they are hospitalized. ⁷⁸
This list focuses on initiatives which include creating local and national partnerships, which may include public libraries, adult and family literacy programs, child care clini- cians, schools, and other community partners to elevate communities.

of the AAP around electronic media⁸⁷ by offering parents a positive alternative for entertaining young children, for nurturing early relationships, and for developing healthy bedtime routines.

ROR is the only program cited as a universal primary preventive strategy in the revised AAP statement on promoting relational health,⁶ indicating it can help children flourish across multiple developmental domains. Participation in ROR 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, including greater use of the library and community resources, and significant increases in expressive and receptive language in early childhood.⁸⁸ Implementation in clinics is associated with improved compliance with well-child visits, improved relationships between families and clinicians, and improved satisfaction for both.

Literacy promotion reminds parents again and again of the importance of their "face time," "lap time," responsive and reciprocal conversations, and their own evolving and essential relationships with their children. Both parents and clinicians report finding joy in these interactions with families in the examination room, with infants in the NICU, and with children at home—and the program remains a strengths-based expression of faith in the power of the bonds that families build. As an early bookmark given out with a baby board book said, "Your baby will love books because your baby loves you!"

Recommendations for Pediatricians

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The AAP recommends that pediatric physicians and advanced care providers promote literacy development as an important evidence-based intervention, with anticipatory guidance at health supervision visits for children beginning in the newborn period and continuing at least through kindergarten by:

- 1. Encouraging all parents and caregivers to read aloud with their young children with engaging and interactive styles that enrich early relationships, enhancing social-emotional development and supporting resiliency and building the brain circuits children use to learn language and early literacy skills.
- 2. Supporting parents to initiate reading together, starting in the newborn period, including, when possible, in the NICU.
- 3. Developing skills to discuss with all parents and caregivers strategies for mutually joyful and developmentally appropriate reading activities that offer meaningful, language-rich engagement with books, pictures, and the written word, and modeling techniques, such as dialogic reading that use books to prompt reciprocal, responsive, positive experiences.
- 4. Providing high-quality, developmentally and linguistically appropriate, and culturally diverse books at health supervision visits for all young children; placing the highest priority on provision of books for children from underresourced families who may lack access to them.
- 5. Supporting the AAP recommendation of limited screen use in early childhood, with an emphasis on print books for young children because digital books do not foster equivalent parent-child interactions. If screen-based reading or audiobooks are used, recommending parents include reciprocal interactions with their children around these digital activities to promote relational connection and enhance child learning.
- 6. Identifying parents and caregivers with low literacy skills and tailoring book guidance to emphasize

language-rich interactive activities that do not require reading print but may include conversations about colors, numbers, shapes, characters, or actions depicted. Supporting parents who want to improve their own literacy skills and referring to communitybased programs.

- 7. Reinforcing these messages with posters and parent information materials about interactive reading, public libraries, and book distribution programs. All materials should be diverse, culturally responsive, inclusive, and accessible to those with limited literacy skills.
- 8. Emphasizing the value of books representing diverse cultures, characters, and themes for all children and supporting the use of these books to generate conversations about cultural pride, inclusion, belonging, and equity.
- 9. Incorporating guidance and encouragement about reading aloud even in visits when books may not be readily available, including when primary care is provided virtually.
- 10. Partnering with other child advocates to influence national messaging and policies that support promoting reading aloud starting in infancy as an important component of positive parenting; emphasizing that shared reading benefits school readiness and cognitive, brain, and social-emotional development as it enriches children's language world, enhances the home literacy environment, and strengthens early nurturing and foundational relationships.

Recommendations for Policy Makers

The AAP recommends that policy makers at the federal, state, local, and institutional or corporate levels support early literacy promotion as an essential component of pediatric primary care by:

- 1. Funding children's books, pediatrician time, and program support to allow for the provision of this intervention for all pediatric health supervision visits, beginning at birth through at least kindergarten entry for all children by public and commercial insurance programs and hospital systems as an evidence-based and "value-added service."
- 2. Investing federal and state funding for technical assistance supporting program fidelity to the available evidence base to allow for provision of this intervention at pediatric health supervision visits for all children birth through at least kindergarten entry.
- 3. Developing methods to track and provide payment for all early literacy promotion components during pediatric health supervision visits as essential elements

of primary care services at no cost to the patient. Payment to the pediatric physician or advanced care provider should not be in a bundled payment with the well visit as there is a significant practice expense associated with it.

- 4. Advocating for the integration of early literacy promotion as an essential component of primary care so that it is taught in residency training and evaluated as an element of competency-based pediatric medical education.
- 5. Funding research on the effects of pediatric early literacy promotion on child health and education outcomes, including early relational health, school readiness, social-emotional, cognitive, and language development.
- 6. Supporting research to inform the design and implementation of best practices for early literacy promotion in the context of both pediatric practice and residency education.
- 7. Championing innovative partnerships that incorporate early literacy promotion beginning at birth and extending at least through kindergarten entry through cross-sector investments among the pediatric medical home, early intervention, child care, Head Start, libraries, home visiting agencies, community-based organizations, schools, and others to improve kindergarten readiness.

Box: The 5 R'S 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 like 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 healthy early brain and child development.

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ABBREVIATIONS

AAP: American Academy of Pediatrics PCE: positive childhood experience ROR: Reach Out and Read

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REFERENCES

- 1. Yamaoka Y, Bard DE. Positive parenting matters in the face of early adversity. *Am J Prev Med.* 2019;56(4):530–539
- Bethell C, Jones J, Gombojav N, Linkenbach J, Sege R. Positive childhood experiences and adult mental and relational health in a statewide sample: associations across adverse childhood experiences levels. *JAMA Pediatr.* 2019;173(11):e193007
- Bethell CD, Gombojav N, Whitaker RC. Family resilience and connection promote flourishing among US children, even amid adversity. *Health Aff (Millwood)*. 2019;38(5):729–737
- High PC, LaGasse L, Becker S, Ahlgren I, Gardner A. Literacy promotion in primary care pediatrics: can we make a difference? *Pediatrics*. 2000;105(Suppl 3):927–934
- Mendelsohn AL, Mogilner LN, Dreyer BP, et al. The impact of a clinic-based literacy intervention on language development in inner-city preschool children. *Pediatrics*. 2001;107(1):130–134

- 6. Garner A, Yogman M; Committee on Psychosocial Aspects of Child and Family Health, Section on Developmental and Behavioral Pediatrics, Council on Early Childhood. Preventing childhood toxic stress: partnering with families and communities to promote relational health. *Pediatrics.* 2021;148(2):e2021052582
- Fiester L; Annie E. Casey Foundation. Early warning special report executive summary. Available at: https://assets.aecf.org/m/ resourcedoc/AECF-Early_Warning_Full_Report-2010.pdf. Accessed August 8, 2024
- 8. The Nation's Report Card. NAEP report card: reading. Available at: https://www.nationsreportcard.gov/reading/?grade=4. Accessed August 8, 2024
- Colvin MK, Reesman J, Glen T. The impact of COVID-19 related educational disruption on children and adolescents: an interim data summary and commentary on ten considerations for neuropsychological practice. *Clin Neuropsychol.* 2022;36(1):45–71

- Hart B, Risley TR. Meaningful Differences in the Everyday Experience of Young American Children. Paul Brookes Publishing Company; 1995
- 11. High PC; American Academy of Pediatrics Committee on Early Childhood, Adoption, and Dependent Care; Council on School Health. School readiness. *Pediatrics*. 2008;121(4):e1008–e1015
- Williams PG, Lerner MA, Sells J, et al; Council on Early Childhood; Council on School Health. School readiness. *Pediatrics*. 2019;144(2): e20191766
- 13. Isaacs JB. The social genome project. Starting school at a disadvantage: the school readiness of poor children. Available at: https://www.brookings.edu/wp-content/uploads/2016/06/0319_ school_disadvantage_isaacs.pdf. Accessed August 8, 2024
- Zauche LH, Thul TA, Mahoney AE, Stapel-Wax JL. Influence of language nutrition on children's language and cognitive development: an integrated review. *Early Childhood Research Quarterly*. 2016;36:318–333
- 15. Hoff E. Interpreting the early language trajectories of children from low-SES and language minority homes: implications for closing achievement gaps. *Dev Psychol.* 2013;49(1):4–14
- Fernald A, Marchman VA, Weisleder A. SES differences in language processing skill and vocabulary are evident at 18 months. *Dev Sci.* 2013;16(2):234–248
- Pace A, Luo R, Hirsh-Pasek K, Golinkoff RM. Identifying pathways between socioeconomic status and language development. *Annu Rev Linguist.* 2017;3:285–308
- Morgan PL, Farkas G, Hillemeier MM, Hammer CS, Maczuga S. 24-month-old children with larger oral vocabularies display greater academic and behavioral functioning at kindergarten entry. *Child Dev.* 2015;86(5):1351–1370
- Hirsh-Pasek K, Adamson LB, Bakeman R, et al. The contribution of early communication quality to low-income children's language success. *Psychol Sci.* 2015;26(7):1071–1083
- 20. Data Research Center for Child and Adolescent Health. 2020/21 National Survey of Children's Health. Available at: https://www. childhealthdata.org/browse/survey/results?q=10675&r=1&g= 1122. Accessed August 8, 2024
- Brown A; Council on Communications and Media. Media use by children younger than 2 years. *Pediatrics*. 2011;128(5): 1040–1045
- Munzer TG, Miller AL, Weeks HM, Kaciroti N, Radesky J. Differences in parent-toddler interactions with electronic versus print books. *Pediatrics*. 2019;143(4):e20182012
- Hutton JS, DeWitt T, Hoffman L, Horowitz-Kraus T, Klass P. Development of an eco-biodevelopmental model of emergent literacy before kindergarten: a review. JAMA Pediatr. 2021;175(7): 730–741
- 24. American Academy of Child and Adolescent Psychiatry. Screen time and children. Available at: https://www.aacap.org/AACAP/ Families_and_Youth/Facts_for_Families/FFF-Guide/Children-And-Watching-TV-054.aspx#:~:text=Between%2018%20and%2024% 20months,limit%20activities%20that%20include%20screens. Accessed August 8, 2024

- Council on Early Childhood, Council on School Health. The pediatrician's role in optimizing school readiness. *Pediatrics*. 2016;138(3): e20162293
- 26. Bus AG, Van Ijzendoorn MH. Patterns of attachment in frequently and infrequently reading mother-child dyads. *J Gen Psychol.* 1992;153(4):395–403
- Canfield CF, Miller EB, Shaw DS, Morris P, Alonso A, Mendelsohn AL. Beyond language: impacts of shared reading on parenting stress and early parent-child relational health. *Dev Psychol.* 2020;56(7):1305–1315
- Jimenez ME, Mendelsohn AL, Lin Y, Shelton P, Reichman N. Early shared reading is associated with less harsh parenting. *J Dev Behav Pediatr*. 2019;40(7):530–537
- 29. Weisleder A, Cates CB, Harding JF, et al. Links between shared reading and play, parent psychosocial functioning, and child behavior: evidence from a randomized controlled trial. *J Pediatr*: 2019;213:187–195.e1
- 30. Byington CL, Hobson WL, Olson L, et al. 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. J Health Care Poor Underserved. 2008;19(2):363–368
- Jimenez ME, Hudson SV, Lima D, Mendelsohn AL, Pellerano M, Crabtree BF. Perspectives on shared reading among a sample of Latino parents. *Child Care Health Dev.* 2019;45(2):292–299
- Hutton JS, Dudley J, Horowitz-Kraus T, DeWitt T, Holland SK. Associations between home literacy environment, brain white matter integrity and cognitive abilities in preschool-age children. *Acta Paediatr*. 2020;109(7):1376–1386
- Hutton J, Horowitz-Kraus T, Mendelsohn A, DeWitt T, Holland S; C-MIND Authorship Consortium. Home reading environment and brain activation in preschool children listening to stories. *Pediatrics*. 2015;136(3):466–478
- 34. Hutton JS, Phelan K, Horowitz-Kraus T, et al. Shared reading quality and brain activation during story listening in preschool-age children. *J Pediatr.* 2017;191:204–211.e1
- 35. Hutton JS, Phelan K, Horowitz-Kraus T, et al. Story time turbocharger? Child engagement during shared reading and cerebellar activation and connectivity in preschool-age children listening to stories. *PLoS One.* 2017;12(5):e0177398
- Duursma E, Augustyn M, Zuckerman B. Reading aloud to children: the evidence. Arch Dis Child. 2008;93(7):554–557
- Fabes RA, Eisenberg N, Hanish LD, Spinrad TL. Preschoolers' spontaneous emotion vocabulary: relations to likability. *Early Education and Development*. 2001;12(1):11–27
- National Institute of Literacy. Developing early literacy: report of the National Early Literacy Panel. Available at: https://www.nichd. nih.gov/publications/product/346. Accessed July 31, 2024
- 39. Payne AC, Whitehurst GJ, Angell AL. The role of literacy environment in the language development of children from low-income families. *Early Child Res Q.* 1994;9(3-4):427–440
- 40. Cunningham AE, Stanovich KE. Early reading acquisition and its relation to reading experience and ability 10 years later. *Dev Psychol.* 1997;33(6):934–945

- Hoff-Ginsberg E. Mother-child conversation in different social classes and communicative settings. *Child Dev.* 1991;62(4): 782-796
- 42. Neuman SB. Guiding young children's participation in early literacy development: a family literacy program for adolescent mothers. *Early Child Dev Care*. 1997;127(1):119–129
- Tomopoulos S, Dreyer BP, Tamis-LeMonda C, et al. Books, toys, parent-child interaction, and development in young Latino children. *Ambul Pediatr*. 2006;6(2):72–78
- Weitzman M, Siegel DM. What we have not learned from what we know about excessive school absence and school dropout. *J Dev Behav Pediatr*. 1992;13(1):55–58
- 45. Juel C. Learning to read and write: a longitudinal study of 54 children from first through fourth grades. *J Educ Psychol.* 1988;80(4):437–447
- Byrd RS, Weitzman ML. Predictors of early grade retention among children in the United States. *Pediatrics*. 1994;93(3):481–487
- White KR. The relation between socioeconomic status and academic achievement. *Psychol Bull.* 1982;91(3):461–481
- National Center for Education Statistics. A First Look at the Literacy of America's Adults in the 21st Century. National Center for Education Statistics; 2005
- 49. US Department of Health and Human Services. Health literacy in Healthy People 2030. Available at: https://health.gov/our-work/ healthy-people/healthy-people-2030/health-literacy-healthy-people-2030. Accessed August 8, 2024
- DeWalt DA, Hink A. Health literacy and child health outcomes: a systematic review of the literature. *Pediatrics*. 2009;124(Suppl 3): S265–S274
- 51. Lee HY, Zhou AQ, Lee RM, Dillon AL. Parents' functional health literacy is associated with children's health outcomes: implications for health practice, policy, and research. *Child Youth Serv Rev.* 2020;110:104801
- 52. Lawrence PR, Feinberg I, Spratling R. The relationship of parental health literacy to health outcomes of children with medical complexity. *J Pediatr Nurs.* 2021;60:65–70
- Green CM, Berkule SB, Dreyer BP, et al. Maternal literacy and associations between education and the cognitive home environment in low-income families. *Arch Pediatr Adolesc Med.* 2009;163(9): 832–837
- Yin HS, Mendelsohn AL, Wolf MS, et al. Parents' medication administration errors: role of dosing instruments and health literacy. Arch Pediatr Adolesc Med. 2010;164(2):181–186
- Needlman R, Fried LE, Morley DS, Taylor S, Zuckerman B. Clinicbased intervention to promote literacy: a pilot study. *Am J Dis Child.* 1991;145(8):881–884
- 56. High P, Hopmann M, LaGasse L, Linn H. Evaluation of a clinicbased program to promote book sharing and bedtime routines among low-income urban families with young children. Arch Pediatr Adolesc Med. 1998;152(5):459–465
- Rikin S, Glatt K, Simpson P, Cao Y, Anene-Maidoh O, Willis E. Factors associated with increased reading frequency in children exposed to reach out and read. *Acad Pediatr*. 2015;15(6):651–657

- Garbe MC, Bond SL, Boulware C, et al. The effect of exposure to Reach Out and Read on shared reading behaviors. *Acad Pediatr.* 2023;23(8):1598–1604
- Sanders LM, Gershon TD, Huffman LC, Mendoza FS. Prescribing books for immigrant children: a pilot study to promote emergent literacy among the children of Hispanic immigrants. *Arch Pediatr Adolesc Med.* 2000;154(8):771–777
- 60. Theriot JA, Franco SM, Sisson BA, Metcalf SC, Kennedy MA, Bada HS. The impact of early literacy guidance on language skills of 3-year-olds. *Clin Pediatr (Phila)*. 2003;42(2):165–172
- Golova N, Alario AJ, Vivier PM, Rodriguez M, High PC. Literacy promotion for Hispanic families in a primary care setting: a randomized, controlled trial. *Pediatrics*. 1999;103(5 Pt 1):993–997
- 62. Sharif I, Rieber S, Ozuah PO. Exposure to Reach Out and Read and vocabulary outcomes in inner city preschoolers. *J Natl Med Assoc.* 2002;94(3):171–177
- 63. Jeong J, Franchett EE, Ramos de Oliveira CV, Rehmani K, Yousafzai AK. Parenting interventions to promote early child development in the first three years of life: a global systematic review and meta-analysis. *PLoS Med.* 2021;18(5):e1003602
- 64. Peacock-Chambers E, Ivy K, Bair-Merritt M. Primary care interventions for early childhood development: a systematic review. *Pediatrics.* 2017;140(6):e20171661
- Weitzman CC, Roy L, Walls T, Tomlin R. More evidence for Reach Out and Read: a homebased study. *Pediatrics*. 2004;113(5):1248–1253
- Needlman R, Toker KH, Dreyer BP, Klass P, Mendelsohn AL. Effectiveness of a primary care intervention to support reading aloud: a multicenter evaluation. *Ambul Pediatr*: 2005;5(4):209–215
- Mendelsohn AL, Dreyer BP, Flynn V, et al. Use of videotaped interactions during pediatric well-child care to promote child development: an RCT. J Dev Behav Pediatr. 2005; 26(1):34–41
- 68. Mendelsohn AL, Huberman HS, Berkule SB, Brockmeyer CA, Morrow LM, Dreyer BP. Primary care strategies for promoting parent-child interactions and school readiness in at-risk families: early findings from the Bellevue Project for Early Language, Literacy and Education Success (BELLE). *Arch Pediatr Adolesc Med.* 2011;165(1):33–41
- 69. Mendelsohn AL, Dreyer BP, Brockmeyer CA, Berkule-Silberman SB, Huberman HS, Tomopoulos S. An RCT of primary care pediatric parenting programs: impacts on reduced media exposure in infants, mediated through enhanced parent-child interaction. *Arch Pediatr Adolesc Med.* 2011;165(1):42–48
- 70. Berkule SB, Cates CB, Dreyer BP, et al. Reducing maternal depressive symptoms through promotion of parenting in pediatric primary care. *Clin Pediatr (Phila)*. 2014;53(5):460–469
- Canfield C, Weisleder A, Cates CB, et al. Primary care parenting intervention effects on use of corporal punishment among low-income parents of toddlers: VIP 0-3 impacts on reduced physical punishment. *J Dev Behav Pediatr.* 2015;36(8): 586–593
- 72. Needlman RD, Dreyer BP, Klass P, Mendelsohn AL. Attendance at well-child visits after reach out and read [published online

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ahead of print Jan 7, 2019]. Clin Pediatr (Phila). doi: 10.11777/ 0009922818822975

- Burton H, Navsaria D. Evaluating the effect of reach out and read on clinic values, attitudes, and knowledge. WMJ. 2019;118(4):177–181
- 74. Erickson E, Caldwell A, Shearman N, et al. Clinician experiences with Reach Out and Read: an exploratory qualitative analysis. *Acad Pediatr*: 2021;21(6):961–967
- 75. De Bondt M, Willenberg IA, Bus AG. Do book giveaway programs promote the home literacy environment and children's literacy-related behavior and skills? *Rev Educ Res.* 2020;90(3): 349–375
- Jimenez ME, Uthirasamy N, Hemler JR, et al. Maximizing the impact of reach out and read literacy promotion: anticipatory guidance and modeling. *Pediatr Res.* 2024;95(6):1644–1648
- Bishop RS. Mirrors, windows, and sliding glass doors. Perspectives: Choosing and Using Books for the Classroom Summer. 1990;6(3):ix–xi
- Rubinos LH, Brown M, Bahrami L, Christ L, Hurt H. The story behind NICU reading programs. J Perinatol. 2016;36(11):930–931
- Dunlap M, Lake L, Patterson S, Perdue B, Caldwell A. Reach Out and Read and developmental screening: using federal dollars through a health services initiative. *J Invest Med.* 2021;69(4):897–900
- Klass P, Mendelsohn AL, Hutton JS, et al; American Academy of Pediatrics Council on Early Childhood. Literacy promotion: an essential component of primary care pediatric practice: technical report. *Pediatrics*. 2024;154(6):e2024069091

- Jones VF, Franco SM, Metcalf SC, Popp R, Staggs S, Thomas AE. The value of book distribution in a clinic-based literacy intervention program. *Clin Pediatr (Phila)*. 2000;39(9):535–541
- Christakis DA, Gilkerson J, Richards JA, et al. Audible television and decreased adult words, infant vocalizations, and conversational turns: a population-based study. *Arch Pediatr Adolesc Med.* 2009;163(6):554–558
- Mendelsohn AL, Berkule SB, Tomopoulos S, et al. Infant television and video exposure associated with limited parent-child verbal interactions in low socioeconomic status households. *Arch Pediatr Adolesc Med.* 2008;162(5):411–417
- Radesky JS, Christakis DA. Increased screen time: implications for early childhood development and behavior. *Pediatr Clin North Am.* 2016;63(5):827–839
- 85. van den Heuvel M, Ma J, Borkhoff CM, et al; TARGet Kids! Collaboration. Mobile media device use is associated with expressive language delay in 18-month-old children. J Dev Behav Pediatr: 2019;40(2):99–104
- Madigan S, McArthur BA, Anhorn C, Eirich R, Christakis DA. Associations between screen use and child language skills: a systematic review and meta-analysis. *JAMA Pediatr*. 2020;174(7):665–675
- Hill D, Ameenuddin N, Reid Chassiakos YL, et al; Council on Communications and Media. Media and young minds. *Pediatrics*. 2016;138(5):e20162591
- Needlman R, Silverstein M. Pediatric interventions to support reading aloud: how good is the evidence? J Dev Behav Pediatr. 2004;25(5):352–363