

Health Policy Perspectives–Role of Occupational Therapy in Pediatric Primary Care: Promoting Childhood Development

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Occupational therapy practitioners have the opportunity to promote development for all children as new service delivery models are established for pediatric primary care. Three action steps are identified: (1) advocacy for legislation that requires developmental screenings and surveillance, (2) support of culturally responsive developmental monitoring, and (3) building evidence for occupational therapy in primary care settings. This article describes the role of occupational therapy practitioners on pediatric interprofessional teams in encouraging family capacity within the scope of health promotion and universal developmental monitoring.

Children's ability to thrive during early childhood (EC) development depends on their relationships and is influenced by health care and educational opportunities. Healthy People 2030 (U.S. Department of Health and Human Services [HHS], 2021b) includes priorities focused on access to quality developmental screening and interventions for children. The first set of recommendations to support EC development during well-child services was published in 1967 (Kilgore, 2017), and there continues to be a need to assess how to support healthy childhood development. What constitutes a high-quality pediatric primary care (PC) team is being redefined to ensure accessible and equitable health services through Healthy People 2030 initiatives in natural childhood contexts, which are well established as critical in the promotion of childhood development (National Academies of Sciences, Engineering, and Medicine, 2021). Occupational therapy practitioners can be efficacious in using their knowledge and skills to identify and support development in natural childhood environments.

Monitoring Development

Action step: Advocate for legislation under the Every Student Succeeds Act, 2015 (2015; ESSA; Pub. L. 114-95) that requires developmental screenings and surveillance in all U.S. states and the District of Columbia.

Developmental monitoring and surveillance is an important function of PC teams. Well-child visits have traditionally been the framework for assessing and supporting children's developmental progress; recommended timelines have been established by the American Academy of Pediatrics (AAP; 2021) and the Centers for Disease Control and Prevention (2020). These guidelines also apply to the Early and Periodic Screening, Diagnostic, and Treatment benefit available through Medicaid (Centers for Medicare & Medicaid Services [CMS], n.d.-a.). In PC settings, developmental monitoring during well-child services often involves completing developmental checklists and caregiver questionnaires or conducting developmental observation activities alongside routine medical screening activities by a PC provider (e.g., physician, physician assistant, nurse practitioner). Changes in the U.S. health care system, including the enactment of the Patient Protection and Affordable Care Act (2010; ACA; Pub L. 111-148) and the goals described in Healthy People 2030, have made well-child visits and developmental monitoring more accessible through provisions

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for public and private insurance coverage of well-child visits while emphasizing prevention in PC care services (CMS, n.d.-b.; HHS, 2021b; Shafer et al., 2021).

Although 87% to 88% of children have a source for ongoing medical care, the 2018–2019 National Survey of Children’s Health found that only 36.4% of the sample of children ages 9 mo to 35 mo had a completed developmental screening associated with their PC services (Data Resource Center for Child & Adolescent Health, n.d.; Healthy People 2020, 2020). Insufficient time, insufficient provider training in developmental screening, family mistrust, transportation challenges, and social stressors all affect the utilization of high-quality developmental screening in traditional PC (Hammig & Jozkowski, 2015; Morelli et al., 2014; Wolf et al., 2020). Occupational therapy practitioners can use their competence in developmental screening and assessment, caregiver education on developmental milestones, and contextual assessments to address the social determinants of health that affect access and utilization patterns. Practitioners have the ability to assess community systems to identify what is needed to support access to developmental monitoring and to offer initiatives beyond the traditional medical model across childhood settings.

Developmental monitoring is also important to support a child’s readiness for school activities (Martínez-Nadal et al., 2021; McIntyre et al., 2017). Personal factors such as food security; shared child–parent reading time; and parental health, education, and health literacy in the EC years have been found to be associated with long-term school performance (Nelson et al., 2016). When developmental monitoring is absent as a result of personal factors, the risk of ongoing developmental needs increases (Barger et al., 2021; Sheldrick et al., 2020; Wallis et al., 2021). These issues are not often addressed through traditional well-child services but align with the occupational therapy context domain. Only 32 states and the District of Columbia require any type of screening before or within the first 30 to 60 days of kindergarten, and most of these screening efforts are focused on assessing literacy and math skills; only a small percentage include elements beyond educational standards (Education Commission of the States, 2018). Currently, no states mandate screening of all seven Health Barriers to Learning (i.e., asthma, vision, hearing, dental, hunger, mental health, behavioral health, lead exposure), identified by the nonprofit organization Children’s Health Fund (Gracy et al., 2017) and supported by the AAP, and fewer than half of the states require any of these screenings before children start kindergarten (Gracy et al., 2018). There is a clear need to provide accessible developmental monitoring in contexts that support the family in recognizing health barriers.

Promoting Development Through Cultural Responsiveness and Family Collaboration

Action step: Be responsive to cultural influences and build family capacity with universal developmental monitoring efforts to promote positive outcomes for reimbursement.

Culturally sensitive developmental surveillance and health promotion is an important part of PC services and may be a barrier for families in completing developmental screens (Gellasch, 2016; Knuti Rodrigues et al., 2016; Zuckerman et al., 2021). The Occupational Profile (American Occupational Therapy Association [AOTA], 2021) is a professional tool that can be used during developmental monitoring to establish cultural and contextual factors and their influence on performance patterns. To overcome inequities in access to developmental health services and ensure justice in their availability to the broader population, cultural considerations must be made. Increases in PC community-based practice present opportunities for developmental surveillance to occur within a family’s cultural context to support health promotion and activity participation.

Family-centered communication and collaboration strategies have increasingly been integrated into health care models and community initiatives. The interprofessional Division for Early Childhood (2014) of the Council for Exceptional Children has identified three recommended family engagement practices for all practitioners working with young children at risk for developmental delays. However, only 17 states have regulations or statutes that require providers to engage caregivers in understanding the outcomes of kindergarten readiness

developmental screenings ([Education Commission of the States, 2020](#)). Advocacy for ESSA mandates to include families in the developmental screening process would further address this gap.

Awareness and readiness to incorporate caregiver preferences is important for effective collaboration to promote activity participation and meet child health outcomes. Through a survey conducted at the Minnesota State Fair ($N = 159$), we found that caregivers indicate a range of individual preferences for education, including access to online resources (30.6%), verbal or oral education (23.6%), and education by their PC provider (24.2%). In addition, we identified variability in their preferences for how they would like to communicate with providers, noting preferences for communication through office visits (25.3%), electronic health records (20.7%), email (20.2%), and phone calls (19.6%). Previous literature has found that a combination of observation, discussion, written material, and hands-on practice is most effective when communicating with families ([McMahon, 2013](#)). Practitioners must anticipate that each family and child–caregiver dyad will have unique communication and learning needs to consider when promoting EC development. Providing culturally responsive services in natural contexts builds family capacity to support child development and health outcomes. This model of health promotion aligns with changes in reimbursement focused on health outcomes and provides an opportunity for occupational therapy practitioners to join the pediatric PC team.

Building Evidence for Integrating Occupational Therapy in Pediatric PC Settings

Action step: Demonstrate occupational therapy's capacity for health promotion with all children and families as practitioners on interprofessional pediatric PC teams.

Child development occurs within the routines and contexts of the child and family. Occupational therapy practitioners examine the impact of contexts on children's activity participation and development via performance patterns ([AOTA, 2020](#)). Although pediatric PC teams seek to support health promotion and participation in daily activities through well-child visits in clinical practice settings, these teams are rarely integrated with allied health care disciplines, which makes it challenging to effectively address diverse developmental influences.

Occupational therapy practitioners regularly provide services in community, school, and medical settings and are well prepared to participate in developmental screening and monitoring, including supporting existing methods and new initiatives. Early Head Start–Child Care Partnerships (EHS–CCPs) and Patient-Centered Medical Homes (PCMHs) are two initiatives shaping EC services, and they have potential to increase access to developmental monitoring and supports. EHS–CCPs emphasize EC health and family well-being through continuous services promoting learning and development ([HHS, 2021a](#)). PCMHs provide ongoing comprehensive, coordinated interprofessional developmental care in a medical setting throughout childhood. The growth of School-Based Health Centers (SBHCs), which provide care to children in their school setting to minimize health inequities and improve educational and health outcomes, allows developmental support to extend beyond the EC period ([Community Guide, 2018](#)). Occupational therapy practitioners would be an asset to EHS–CCP, PCMH, and SBHC teams in coordinated service approaches to address developmental concerns and contextual barriers to participation while providing trauma-informed care and mental and behavioral health services. Practitioners can be involved in mitigating access and availability barriers by providing interprofessional team member coaching and developing systems of specialty short-term supports for families to support healthy routines.

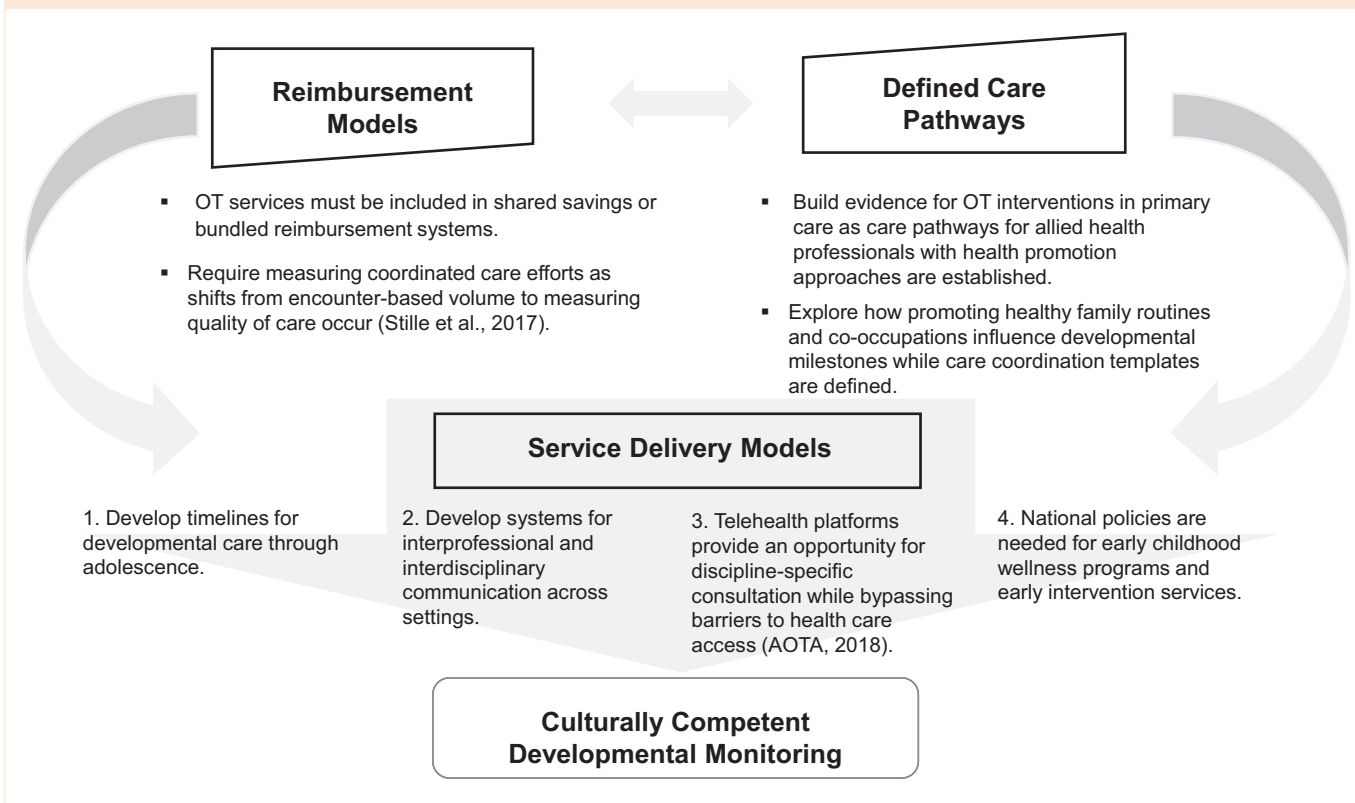
Caregivers desire the support of occupational therapy practitioners, as evidenced by the outcomes of a social media snowball survey we administered to parents ($N = 139$). The survey revealed that practitioners were listed as the fourth most-desired medical team members after other PC providers. Legislation is moving toward increasing support for the occupational therapy practitioner role in developmental monitoring, but advocacy is needed. The [Mental Health Professionals Workforce Shortage Loan Repayment Act of 2021](#) (H.R. 3150/S. 1578) would increase opportunities for occupational therapy practitioners on developmental teams, especially in the assessment and promotion of childhood mental health. The [American Rescue Plan Act of 2021](#) (Pub. L. 117-2) expanded well-established [Individuals With](#)

Disabilities Education Act of 1990 (Pub. L. 101-476) funding that enabled occupational therapy practitioners to support development for children with an identified delay or disability in diverse natural contexts after the coronavirus disease 2019 public health emergency (Saffer, 2021).

As new pediatric PC models emerge for providing universal, short-term, and comprehensive services (Zero to Three, 2020), occupational therapy practitioners have the opportunity to support developmental monitoring and screening for activity participation before a referral to comprehensive services is made. Practitioners have the skill set to promote development and childhood health within families' daily routines and contexts and to offer helpful guidance to encourage healthy development patterns for all children in a manner that is responsive to caregiver preferences. Figure 1 illustrates areas for advocacy as the inclusion of allied health professionals in new reimbursement systems is considered and as defined care coordination pathways are established.

Pediatric occupational therapy practitioners are positioned to engage families and enhance EC development and occupational participation while adapting to the demands of unique contexts. Practitioners will need to be competent in the use of different delivery models to establish occupational therapy's distinct value in developmental monitoring in PC settings and the ability to readily switch therapeutic-use-of-self modes to collaborate with families and on interprofessional teams. Caregivers engaging in developmental monitoring activities may need to negotiate their expectations and needs during this collaborative process, and occupational therapy practitioners will need to be prepared to adapt and accommodate the unique perspectives of each family and pediatric PC team.

Figure 1. Summary of initiatives for integrating occupational therapy practitioners into pediatric primary care team models for culturally responsive developmental monitoring.



Note. AOTA = American Occupational Therapy Association; OT = occupational therapy.

Summary

With shifting trends apparent in pediatric PC teams and service delivery models, occupational therapy practitioners have unique contributions to make in promoting developmental health and invaluable skills in assessing contexts, including ecological and cultural influences, during childhood development and activity participation. A tiered intervention model for PC developmental services includes universal services, short-term supports, and comprehensive supports (Zero to Three, 2020). Federally Qualified Health Center and preschool program grants may be expanded and integrated with ESSA to support funding for child development and health promotion through the school years on the basis of local community needs. Meanwhile, opportunities exist to provide PC services in natural contexts to support child development and address health inequities. Pediatric PC “innovations are needed to reduce disparities and promote family health” (Howard et al., 2020, para. 1). The ACA made well-child visits accessible because preventive health care is free to clients; however, the majority of children in the United States do not receive developmental monitoring (Hirai et al., 2018; Shafer et al., 2021). Coordinated interprofessional health care services motivated by caregiver and community needs provide an innovative opportunity to decrease the impact of social determinants of health.

Service delivery models must involve interprofessional care and ensure coordination between professionals and families while sharing knowledge between disciplines. Integrated PC teams present a significant opportunity for improved universal developmental care that addresses diverse child and family needs while promoting childhood activity participation, and a need exists to integrate pediatric occupational therapy services into PC settings. Occupational therapy practitioners offer a depth of expertise in activity analysis and an understanding of its ecological and contextual implications, which supports the need for their integration on pediatric PC teams. It is important that AOTA create a professional statement to further outline the distinct value of occupational therapy practitioners in integrated pediatric PC service models providing culturally sensitive developmental surveillance and health prevention.

In the shifting developmental services landscape, the profession of occupational therapy has an opportunity and a responsibility to meet needs and collaborate on integrated interprofessional teams. Occupational therapy practitioners need to understand how pediatric occupational therapy services can support child and family activity participation and evolve to meet changing developmental care service delivery models. Occupational therapy must be ready to implement services and collect data to demonstrate positive outcomes so that it is included in broad population-level health promotion models intended to improve childhood quality of life and activity participation. ■

References

- American Academy of Pediatrics. (2021). *Recommendations for preventive pediatric health care*. https://downloads.aap.org/AAP/PDF/periodicity_schedule.pdf
- American Occupational Therapy Association. (2018). Telehealth in occupational therapy. *American Journal of Occupational Therapy*, 72(Suppl. 2), 7212410059. <https://doi.org/10.5014/ajot.2018.72S219>
- American Occupational Therapy Association. (2020). Role of occupational therapy in primary care. *American Journal of Occupational Therapy*, 74(Suppl. 3), 7413410040. <https://doi.org/10.5014/ajot.2020.74S3001>
- American Occupational Therapy Association. (2021). Improve your documentation and quality of care with AOTA's updated Occupational Profile Template. *American Journal of Occupational Therapy*, 75, 7502420010. <https://doi.org/10.5014/ajot.2021.752001>
- American Rescue Plan Act of 2021, Pub. L. 117-2, 135 Stat. 4.
- Barger, B. D., Rice, C. E., & Roach, A. T. (2021). Developmental screening and monitoring are associated with increased preschool special education receipt. *Journal of Child and Family Studies*, 30, 1342–1352. <https://doi.org/10.1007/s10826-021-01940-4>
- Centers for Disease Control and Prevention. (2020). *Developmental surveillance resources for healthcare providers*. <https://www.cdc.gov/ncbddd/actearly/hcp.index/html>
- Centers for Medicare & Medicaid Services. (n.d.-a.). *Early and periodic screening, diagnostic, and treatment*. <https://www.medicare.gov/medicaid/benefits/early-and-periodic-screening-diagnostic-and-treatment/index.html>
- Centers for Medicare & Medicaid Services. (n.d.-b.). *Preventive care benefits for children*. <https://www.healthcare.gov/preventive-care-children/>
- Community Guide. (2018). *Task force recommends school-based health centers to promote health equity*. <https://www.thecommunityguide.org/content/task-force-recommends-school-based-health-centers-promote-health-equity>

- Data Resource Center for Child & Adolescent Health. (n.d.). *Child and Adolescent Health Measurement Initiative: 2018–2019 National Survey of Children's Health (NSCH) data query*. <https://www.childhealthdata.org/>
- Division for Early Childhood. (2014). *DEC recommended practices*. <https://divisionearlychildhood.egnyte.com/dl/7urLPWCt5U/?>
- Education Commission of the States. (2018). *State kindergarten-through-third-grade policies: Are kindergarten entrance assessments required?* <https://ecs.secure.force.com/mbdata/MBQuest2RTanw?rep=KK3Q1811>
- Education Commission of the States. (2020). *State K–3 policies: For those states with pre-K to kindergarten transition guidance, how are families engaged?* <https://reports.ecs.org/comparisons/state-k-3-policies-04>
- Every Student Succeeds Act, Pub. L. 114-95, 129 Stat. 1802 (2015).
- Gellasch, P. (2016). Developmental screening in the primary care setting: A qualitative integrative review for nurses. *Journal of Pediatric Nursing*, 31, 159–171. <https://doi.org/10.1016/j.pedn.2015.10.001>
- Gracy, D., Fabian, A., Basch, C. H., Scigliano, M., MacLean, S. A., MacKenzie, R. K., & Redlener, I. E. (2018). Missed opportunities: Do states require screening of children for health conditions that interfere with learning? *PLoS One*, 13, e0190254. <https://doi.org/10.1371/journal.pone.0190254>
- Gracy, D., Fabian, A., Roncaglione, V., Savage, K., & Redlener, I. (2017). *Health barriers to learning: The prevalence and educational consequences in disadvantaged children*. Children's Health Fund. <https://www.childrenshealthfund.org/wp-content/uploads/2017/01/Health-Barriers-to-Learning.pdf>
- Hammig, B., & Jozkowski, K. (2015). Health education counseling during pediatric well-child visits in physicians' office settings. *Clinical Pediatrics*, 54, 752–758. <https://doi.org/10.1177/0009922815584943>
- Healthy People 2020. (2020). *Access to health services*. <https://www.healthypeople.gov/2020/data-search/Search-the-Data#topic-area=3495=>
- Hirai, A. H., Kogan, M. D., & Kandasamy, V. (2018). Prevalence and variation of developmental screening and surveillance in early childhood. *JAMA Pediatrics*, 172, 857–866. <https://doi.org/10.1001/jamapediatrics.2018.1524>
- Howard, C., Bair-Merritt, M., Gillooly, M., & Vinci, R. (2020). Building the pediatric practice of the future: Care innovation for families facing adversity [Meeting abstract]. *Pediatrics*, 146(1 Meeting Abstract), 43. https://doi.org/10.1542/peds.146.1_MeetingAbstract.43
- Individuals With Disabilities Education Act of 1990, Pub. L. 101-476, renamed the Individuals With Disabilities Education Improvement Act, codified at 20 U.S.C. §§ 1400–1482.
- Kilgore, C. (2017). Well-child care: Steady growth in breadth and content. *Pediatric News*. <https://www.mdedge.com/pediatrics/article/131966/practice-management/well-child-care-steady-growth-breadth-and-content>
- Knuti Rodrigues, K., Hambidge, S. J., Dickinson, M., Richardson, D. B., & Davidson, A. J. (2016). Developmental screening disparities for languages other than English and Spanish. *Academic Pediatrics*, 16, 653–659. <https://doi.org/10.1016/j.acap.2015.12.007>
- Martínez-Nadal, S., Schonhaut, L., Armijo, I., & Demestre, X. (2021). Predictive value of the Ages and Stages Questionnaire® for school performance and school intervention in late preterm- and term-born children. *Child: Care, Health and Development*, 47, 103–111. <https://doi.org/10.1111/cch.12814>
- McIntyre, L. L., Pelham, W. E., III, Kim, M. H., Dishion, T. J., Shaw, D. S., & Wilson, M. N. (2017). A brief measure of language skills at 3 years of age and special education use in middle childhood. *Journal of Pediatrics*, 181, 189–194. <https://doi.org/j.jpeds.2016.10.035>
- McMahon, S. E. (2013). Enhancing motor development in infants and toddlers: A multidisciplinary process for creating parent education materials. *Newborn and Infant Nursing Reviews*, 13, 35–41. <https://doi.org/10.1053/j.nainr.2012.12.001>
- Mental Health Professionals Workforce Shortage Loan Repayment Act of 2021, H.R. 3150/S. 1578, 117th Congress. (2021–2022).
- Morelli, D. L., Pati, S., Butler, A., Blum, N. J., Gerdes, M., Pinto-Martin, J., & Guevara, J. P. (2014). Challenges to implementation of developmental screening in urban primary care: A mixed methods study. *BMC Pediatrics*, 14, 16. <https://doi.org/10.1186/1471-2431-14-16>
- National Academies of Sciences, Engineering, and Medicine. (2021). *Implementing high-quality primary care: Rebuilding the foundation of health care*. National Academies Press. <https://doi.org/10.17226/25983>.
- Nelson, B. B., Dudovitz, R. N., Coker, T. R., Barnert, E. S., Biely, C., Li, N., . . . Chung, P. J. (2016). Predictors of poor school readiness in children without developmental delay at age 2. *Pediatrics*, 138, e20154477. <https://doi.org/10.1542/peds.2015-4477>
- Patient Protection and Affordable Care Act, Pub. L. 111-148, 42 U.S.C. §§ 18001–18121 (2010).
- Saffer, A. (2021). Fostering vital support for an early intervention win in the American Rescue Plan. *OT Practice*, 26(5), 8–9.
- Shafer, P. R., Hoagland, A., & Hsu, H. E. (2021). Trends in well-child visits with out-of-pocket costs in the US before and after the Affordable Care Act. *JAMA Network Open*, 4, e211248. <https://doi.org/10.1001/jamanetworkopen.2021.1248>
- Sheldrick, R. C., Marakovitz, S., Garfinkel, D., Carter, A. S., & Perrin, E. C. (2020). Comparative accuracy of developmental screening questionnaires. *JAMA Pediatrics*, 174, 366–374. <https://doi.org/10.1001/jamapediatrics.2019.6000>
- Stille, C. J., Honigfeld, L., Heitlinger, L. A., Kuo, D. Z., & Werner, E. J. (2017). The pediatric primary care–specialist interface: A call for action. *Journal of Pediatrics*, 187, 303–308. <https://doi.org/10.1016/j.jpeds.2017.04.054>
- U.S. Department of Health and Human Services, Administration for Children and Families. (2021a, February 10). *Early Head Start–child care partnership programs*. <https://eclkc.ohs.acf.hhs.gov/programs/article/early-head-start-child-care-partnerships-programs>
- U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion. (2021b). *Child and adolescent development*. <https://health.gov/healthypeople/objectives-and-data/browse-objectives/child-and-adolescent-development>
- Wallis, K. E., Davis Rivera, L. B., Guthrie, W., Bennett, A. E., Mandell, D. S., & Miller, J. S. (2021). Provider responses to positive developmental screening: Disparities in referral practices? *Journal of Developmental and Behavioral Pediatrics*, 42, 23–31. <https://doi.org/10.1097/DBP.0000000000000855>

Wolf, E. R., O'Neil, J., Pecsok, J., Etz, R. S., Opel, D. J., Wasserman, R., & Krist, A. H. (2020). Caregiver and clinician perspectives on missed well-child visits. *Annals of Family Medicine*, 18, 30–34. <https://doi.org/10.1370/afm.2466>

Zero to Three. (2020). *Tiers and core components*. <https://www.healthysteps.org/what-we-do/our-model/tiers-and-core-components/>

Zuckerman, K. E., Chavez, A. E., Wilson, L., Unger, K., Reuland, C., Ramsey, K., . . . Fombonne, E. (2021). Improving autism and developmental screening and referral in US primary care practices serving Latinos. *Autism: The International Journal of Research and Practice*, 25, 288–299. <https://doi.org.ezproxy.ithaca.edu/10.1177/1362361320957461>

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