

Role of Pediatricians, Pediatric Associations, and Academic Departments in Ensuring Optimal Early Childhood Development Globally: Position Paper of the International Pediatric Association

Julie Uchitel, BS,*† Errol Alden, MD, FAAP,‡ Zulfiqar A. Bhutta, PhD, MBBS, FRCPCH, FAAP,§|| Vanessa Cavallera, MD, MPH,¶ Jane Lucas, PhD,** Frank Oberklaid, AM, MD, FRACP,†† Janna Patterson, MD, MPH, FAAP,‡‡ Chemba Raghavan, PhD,§§ Linda Richter, PhD,||| Blaire Rikard, BS,¶¶ Robert Ross Russell, MA, MD, FRCPCH,*** Mohamad A. Mikati, MD†††

ABSTRACT: Early childhood (birth–8 years), particularly the first 3 years, is the most critical time in development because of the highly sensitive developing brain. Providing appropriate developmental care (i.e., nurturing care, as defined by the World Health Organization [WHO]) during early childhood is key to ensuring a child’s holistic development. Pediatricians are expected to play a critical role in supporting early childhood development (ECD) through providing developmental services such as developmental monitoring, anticipatory guidance, screening, and referral to medical and/or community-based services when delay is identified. Pediatricians are also expected to serve as advocates within their clinics and communities for improved delivery of ECD services, such as advocating for increasing funding for ECD initiatives, increasing insurance coverage of ECD services, and working to increase other pediatricians’ awareness of the principles of ECD and how to deliver developmental services. However, this does not always occur. Typically, pediatricians’ training and practice emphasizes treating disease rather than enhancing ECD. Pediatricians are further hindered by a lack of uniformity across nations in guidelines for developmental monitoring and screening. In this article, we present the vision of the International Pediatric Association (IPA) of the roles that pediatricians, academic departments, medical training programs, and pediatric associations should fulfill to help support ECD, including raising ECD to higher levels of priority in routine pediatric care. First, we present the challenges that face these goals in supporting ECD. We then propose, with supportive literature, strategies and resources to overcome these challenges in collaboration with local and international stakeholders, including the IPA, the WHO, UNICEF, and the World Bank.

(*J Dev Behav Pediatr* 00:1–13, 2022) **Index terms:** developmental interventions, advocacy, nurturing care, care for child development, social determinants of health.

INTRODUCTION

Early childhood development (ECD) refers to the cognitive, physical, language, motor, social, and emotional development that occurs between conception and

age 8 years, with the first 3 years being the most critical period for the child’s long-term development and for effectiveness of interventions.¹ The science behind ECD recognizes that the brain develops at a faster rate than at

From the *Department of Paediatrics, University of Cambridge, The Rosie Hospital, Cambridge University Hospitals NHS Foundation Trust, Cambridge, United Kingdom; †Division of Pediatric Neurology and Developmental Medicine, Duke University Health System, Durham, NC; ‡International Pediatric Association, Uniformed Services of Health Sciences, Bethesda, MD; §International Pediatric Association; Division of Women and Child Health, Aga Khan University, Karachi, Pakistan; ||Centre for Global Child Health, The Hospital for Sick Children, Toronto, Canada; ¶World Health Organization, Geneva, Switzerland; **Consultant in International Health and Child Development to UNICEF and the World Health Organization, New York, NY; ††Centre for Community Child Health, The Royal Children’s Hospital, Melbourne, Australia; ‡‡Global Child Health and Life Support, American Academy of Pediatrics, Chicago, IL; §§Early Childhood Development Specialist/Acting Chief, UNICEF, New York, NY; ||||DSI-NRF Centre of Excellence in Human Development, University of the Witwatersrand, Johannesburg, South Africa; ¶¶Division of Pediatric Neurology and Developmental Medicine, Duke University Health System, Durham, NC; ***European Board of Paediatrics, European Academy of Paediatrics; Paediatric Respiratory Paediatrics, Addenbrooke’s Hospital, Cambridge, United Kingdom; †††Early Childhood Development Standing Advisory Group, International Pediatrics Association; Department of Pediatrics, Division of Pediatric Neurology and Developmental Medicine Duke University Medical Center, Durham, NC.

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Address for reprints: Mohamad A. Mikati, MD, Division of Pediatric Neurology and Developmental Medicine, Duke University, Suite T0913J, Children Health Center, 2301 Erwin Rd, Durham, NC 27710; e-mail: mohamad.mikati@duke.edu.

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any other point in development and is especially susceptible to environmental influences.^{2,3} Therefore, early childhood offers a critical window of opportunity to positively shape a child's developmental trajectory. However, millions of children around the world are not achieving their developmental potential,⁴ and all levels of pediatrics can contribute more to supporting ECD than they are currently contributing.

In this position paper, the International Pediatric Association (IPA) defines the roles and responsibilities of **pediatricians**, **pediatric academic departments**, **medical training programs**, and **pediatric associations** as they relate to ECD and developmental services at the local, national, and global levels (definition of terms in Table 1). **Pediatricians** and other health care providers play a unique role in addressing ECD because of their nearly universal access to young children and because of their status as professionals with expertise in child development. However, despite their awareness of their ECD responsibilities and their awareness that many of the other services they provide (e.g., nutrition education, vaccination, and breastfeeding promotion) affect ECD, pediatricians often give limited attention to ECD as compared with other elements of health. Besides a lack of priority, systemic factors (e.g., time, prioritization of prevention at the expense of promotion, opportunity, and particularly reimbursement, training, and staffing) prevent pediatricians from fully addressing ECD in their practice. Some of these factors may be traced back to political and economic roots, such as covered benefits and payment models, while others derive from the training, policies, and practices of **medical training programs**, **pediatric academic departments**, and **pediatric associations**. Each of these groups significantly influences pediatricians' practice, yet each is missing opportunities to provide education, partnership, and clarity on the provision of ECD and developmental services.

This article is structured such that each of the aforementioned groups (bolded above) receives specific consideration, and then, at the end of this article, we present a unified set of recommendations that ties all levels together. Although this article focuses specifically on pediatrics because pediatric encounters are the universal point of access for children for health care, addressing ECD requires the contribution of several entities, including pediatric services, auxiliary developmental services, preschool programs, home visiting efforts, and community public health centers, among others. However, this focus does not imply reduced recognition of the critical roles that other professionals and programs play in providing services.

PEDIATRICIANS

Challenges to Supporting Early Childhood Development and Providing Developmental Services

Preoccupation with Other Elements of Health

Given that pediatricians are often more focused on direct treatment of disease and disease-preventative strategies than child development,^{5,6} for many young children, developmental delays are not identified until reaching school age,⁷ well past the critical period of early childhood.

Ambiguity in Developmental Monitoring Guidelines

Across the world, different countries provide different specifications and guidelines for pediatricians to perform developmental monitoring, often with limited justification for differences in these guidelines, if guidelines are provided at all (Table 2, Appendices 1 and 2, <http://links.lww.com/JDBP/A372>).

Difficulty in Incorporating Guidelines into Practice

When developmental monitoring and screening guidelines are available, pediatricians often have difficulty in adhering to them,^{8,9} in fully providing health

Table 1. Definition of Terms and Resources

Term	Definition
Pediatrician	The term "pediatrician" refers to physicians who specialize in pediatrics and deliver care to children. However, many of the recommendations presented in this article also apply to other providers who may fulfill all or parts of the pediatricians' roles, such as family physicians, other primary care physicians, advanced practice providers, or, if applicable, allied and community health care workers delivering pediatric care. For example, in the United States and Canada, pediatricians take on the lead role in providing developmental monitoring in clinical settings, whereas in many European countries, general practitioners serve in this capacity, and in yet other countries, nurses or community health workers provide this care
Developmental monitoring	The process of assessing and supporting a child's development. Monitoring differs from screening in that it is longitudinal and is conducted in collaboration with the family. Monitoring also includes assessing the risk factors that may be present in the child's social and environmental circumstances and interpreting how these may affect a child's development
Developmental screening	The use of multidomain developmental assessment instruments or screening tools to identify and define recognized risk
Developmental delay	Occurs when a child is not developing and/or achieving skills in one or more areas of development according to the expected time frame (synonymous with "delayed development"). The term usually is used for children younger than 5 yr
Developmental disability	Refers to a childhood mental or physical impairment or combination of mental and physical impairments that result in substantial functional limitations in major life activities (synonymous with "developmental disorder")
Referral	A pediatric care provider (as defined above, not necessarily an MD) provides referral to necessary services and appropriate information to families

Table 2. Developmental Monitoring Guidelines Across Different Global Contexts^a

Country/Region	Monitoring or Screening Guidelines Present?	If Yes, These are Summarized as	Who/Which Organization Provides Guidelines?	Monitoring Required for all Children?	Screening Required for all Children?	Who Performs Monitoring or Screening?	Challenges to Providing Developmental Monitoring
United States	Yes	Surveillance begins at birth and screening occurs at 9-mo, 18-mo, and 30-mo well-child visits or when child demonstrates risk	American Academy of Pediatrics	No	No	Pediatricians, family physicians	Variation across states in rates of developmental monitoring, barriers to providing include (1) funding, (2) time, and (3) pediatricians' knowledge about the importance of ECD
United Kingdom	Yes	England—2 screenings, first at 9 months—1 year, second at 2–2.5 yr. Northern Ireland—developmental review at 2–2.5 yr. Scotland—child health review at 27–30 mo visit. Wales—27 mo developmental check	National Health Service	Yes (England, Scotland, Wales)	Yes, in England, using the Ages and Stages Questionnaire	General practitioners	General practitioners rarely have adequate training to perform developmental monitoring, screening, and referral: As many as 67% of general practitioners in the United Kingdom may have no training in pediatrics at all
Canada	Yes	Enhanced well-baby visit at 18 mo	Canadian Pediatric Society and Canadian Task Force on Preventative Health Care	No	No	Pediatricians	None identified
Europe (region)	No consensus across region	n/a, although some individual countries' health systems offer guidelines, such as in Sweden	Individual countries are responsible	No	No	General practitioners, public health nurses, multidisciplinary teams	Great variability in guidelines across countries primarily because of political and logistical reasons, as well as including variable wealth distribution and downward pressure on health care funding
Latin America and Caribbean (region)	No consensus across region	n/a	Individual countries are responsible	No	No	General practitioners, public health nurses, community health workers	Barriers to funding, a lack of reliable population data on the prevalence of developmental delay, irregular access to health care services for children
Middle East and North Africa (MENA, region)	No consensus across region	n/a, although some individual countries' health systems offer guidelines, such as in Israel	Individual countries are responsible for providing their own	No	No	Pediatricians, general practitioners, nurses, nurse midwives in community health centers	High patient loads with insufficient time per patient, ineffective referrals to tertiary care centers, not all physicians knowledgeable about ECD, funding barriers in some fee-for-service countries. Special consideration needed for refugee and displaced children.
India	Yes	"Child Health Screening and Early Intervention Services"—screening is performed for children aged 6 wk to 6 yr using some tools (bell rattle, torch, toys) and a developmental check list	Ministry of Health and Family Welfare, Government of India	No	Yes, using government-sponsored developmental checklist	Mobile health teams in rural child care centers or government funded schools	(1) Screening program is not routinely implemented; (2) parents are unaware of the existence and need for these services; (3) health care is prioritized for emergency situations, which is not a suitable setting to conduct screening; (4) India has a heterogeneous population of doctors, with variable proficiency in ECD principles
China	No, only for children with suspected disabilities ages 0–6	n/a	n/a	No	No	n/a	High patient loads with insufficient time per patient, most clinical professionals do not receive training on ECD, inappropriate screening tools, and a lack of family involvement in the evaluation and identification process

(Table continues)

Table 2. Continued

Country/Region	Monitoring or Screening Guidelines Present?	If Yes, These are Summarized as	Who/Which Organization Provides Guidelines?	Monitoring Required for all Children?	Screening Required for all Children?	Who Performs Monitoring or Screening?	Challenges to Providing Developmental Monitoring
Australia	Previous national guidelines discontinued, some regional guidelines in place	Healthy Kids Check and Expanded Healthy Kids Check launched, later discontinued in 2015. Healthy Under 5 Kids or Children in remote aboriginal communities, Key Ages and Stages framework in Victoria.	Government of Northern Australia, Victoria State Government	Northern Australia and Victoria	In Victoria, yes	General practitioners, community nurses, aboriginal health workers, and remote area nurses	General practitioners may not receive necessary training in ECD. Audit of the Healthy Under 5 Kids found that health workers rarely performed developmental monitoring and screening appropriately and that more training was needed.
Sub-Saharan Africa	No	n/a	n/a	No	No	Not present	Barriers to funding, developmental care not always prioritized, health care workers do not always receive training in this area, children's access to routine health care services is limited
South Africa	Yes	The Road to Health Booklet provides a developmental checklist of milestones and associated ages between 3 d and 12 yr	South African Health Department	Yes	Yes, in the form of developmental checklist using the Road to Health Booklet	Community health workers using the Road to Health Booklet	The Road to Health Booklet has yet to be proven fully efficacious; studies have found that it is underpowered relative to validated developmental tools

*For more detail and specific references, please see Appendix. ECD, early childhood development.

supervision and counseling,¹⁰ and in performing appropriate referrals.¹¹ In one study, the American Academy of Pediatrics (AAP) investigated the feasibility of implementing their screening algorithm across several primary care practices¹¹ and found that practitioners struggled to fulfill 3 key AAP recommendations: (1) administer standardized screening at a 30-month well-child visit, (2) administer screening after developmental monitoring raised concerns, and (3) simultaneously make referrals to medical subspecialties and local early intervention programs after a positive screen. In other studies, cited challenges to adhering to guidelines included limited time with patients¹²⁻¹⁴ and nonavailability of intervention and referral options,¹³ particularly for pediatricians working in low- to middle-income countries (LMICs).¹⁵

Lack of Training

Many pediatricians in LMICs, and even in some high-income countries (HICs), often do not have formal training in the principles of early childhood development (ECD), in developmental services, or in communicating developmental concerns to parents.^{6,13,15}

Ambiguity in Screening Tools

Numerous screening tools are available, yet pediatricians often struggle to select which tool to use when guidelines are not provided or are unclear. In addition, not all screening tools are necessarily appropriate to all cultural contexts (Table 2). Most screening tools are developed and validated in high-income, English-speaking countries, and when translated, these tools do not always maintain their validity and are often culturally incongruous.¹⁶⁻²⁰ Furthermore, the prevalence of developmental delay in populations may be overestimated when using translated screening tools with Western cutoff points.¹⁷ One study reviewed 14 screening tools commonly used in LMICs and found that of these tools, none fully met the high-quality criteria as established by World Health Organization (WHO) experts. Only 4 tools (disability screening schedule (DSS), guide for monitoring child development (GMCD), Malawi developmental assessment tool (MDAT), and Ten Questions Questionnaire) were found to have adequate overall psychometric properties (defined as sensitivity and specificity equal to or greater than 80%).²¹

Strategies to Improve Support of Early Childhood Development and Developmental Monitoring

Learn About Developmental Monitoring, Screening, and Referral

Pediatricians who are not knowledgeable about developmental services, as well as those who are knowledgeable seeking additional training, should attend educational sessions as provided by their respective pediatric departments, national pediatric associations, or other agencies such as the IPA, WHO, and United Nations International Children's Emergency Fund (UNICEF) (detailed in the section Engagement With the WHO,

UNICEF, World Bank, and IPA). Free resources are available online, such as through the Centers for Disease Control's Learn the Signs, Act Early Program.²²

Adopt the Principles of Early Childhood Development

Pediatricians should also become more informed about ECD practices, initiatives, and its supporting science^{2,23-25} and raise it to at least the priority levels of other aspects of pediatric care, such as vaccination and nutrition. ECD should be part of anticipatory guidance and routine care. Pediatricians should base their practice on the scientific evidence describing normal ECD, supporting ECD interventions, and delineating how to advise caretakers about enhancing development in typically and atypically developing children. Children with specific conditions that may manifest in part as developmental problems, such as cerebral palsy or autism spectrum disorder, should be included in mainstream ECD care²⁶ and should receive additional developmental care targeted to their condition (whether with neurodevelopmental specialists or other auxiliary services).²⁷ The WHO provides numerous resources, applicable to pediatricians in both HICs and LMICs, on what can be offered during early childhood visits to support ECD and promote nurturing care.^{23,25} Nurturing care, as defined by the WHO, is key to ECD and refers to the conditions created by public policies, programs, and services that enable communities and caregivers to ensure children's good health and nutrition.^{3,23-25} The provision of nurturing care is a very important strategy in enhancing ECD. Although its provision would enable the desired outcome, it may not necessarily ensure achieving that outcome given the need for other strategies discussed throughout this position paper.

Empower Parents and Families

Parents and families play a pivotal role in a child's development. Family-centered participatory support aligns caregivers and care providers to enhance the strengths of the family through recognition of this pivotal role.²⁸ Pediatricians should empower families by providing them with information on child development, involve parents in decision-making about a child's developmental needs, encourage the child's participation in family life, and praise the family for the support they provide to the child.²⁸

Address Parents' and Families' Concerns

Pediatricians can play an important role in eliciting and addressing parents' and families' concerns about their children's development. In the primary care setting, pediatricians should provide parents and family with counsel and advice on how to care for their children's developmental needs; inform them of their child's rights for optimal ECD;²⁴ and provide guidance regarding their child's progress, best future management options, and selection of evidence-based interventions.²⁹

In this, pediatricians should also take into consideration how socioeconomic factors and cultural norms may influence parent reception, implementation, and expectations.³⁰

Advocate More Powerfully for Early Childhood Development and Developmental Monitoring

At the national level, advocacy should address improved ECD funding, improved developmental monitoring programs, and improved intervention services and referral resources, including auxiliary services (speech, occupational, and physical therapies). At the community level and through their own departments, pediatricians should advocate for improved early childhood programs, home visiting efforts, community public health centers, and integration of ECD principles into the services of others caring for young children and their families (e.g., early childcare and education, social work, and public health). In practice, advocacy efforts can be achieved individually, through a pediatrician's own efforts, or through organizations that support advocacy efforts, such as the AAP. Individually, pediatricians can appear in the media, phone their state or federal officials, invite community leaders or officials to their clinic to see children's health issues firsthand, or share their perspective on children's health issues with local media outlets such as newspapers.³¹ Pediatricians can also increase their advocacy roles and political positions through serving on advisory councils to ministries of health, advisory boards of NGOs, and/or public education campaigns.

Lead Interventions at the Primary Care Level

Part of pediatricians' responsibilities is helping families access ECD services. This help should include planning and coordinating care with other service providers whose work addresses children's development. More specifically, coordinated care seeks to align patient care activities among pediatricians, specialists, community health workers, child care workers, home visitors, families, and others who interact with both children and their parents to provide synchronized care to a patient.³² Besides coordinated care, the most notable clinical intervention that pediatricians should be aware of is probably the UNICEF/WHO Care for Child Development Package and Guide for Clinical Practice,³³ an evidence-based approach for guiding caregivers on how to support their child's development.

Use Screening Tools as Appropriate

Pediatricians are encouraged to use tools that are approved for use in their local population and according to local guidelines (e.g., the US has screening guidelines provided by the AAP,³⁴ while the Canadian Task Force on Preventive Health Care advises the following: "We recommend against screening for developmental delay using standardized tools in children aged one to four years with no apparent signs of developmental delay and whose parents and clinicians have no concerns about development"³⁵). Screening tools should only be used if they have been validated across studies and

demonstrated to be applicable to children in the country of interest (Supplementary Table 1).

Owing to limited time for clinical encounters, screening can be performed using parent-completed questionnaires, which are time-efficient, cost-effective, and can be completed in or outside of the clinic.³⁶ These may not always be accurately completed by parents³⁷ but in limited resource settings may be the best option.^{38–40} Of note, screening tools are most effective when part of a holistic assessment of the child in the context of family and culture and only when they are linked to intervention.

Engage in Research on Screening Tools

Academic pediatricians may consider research on developing country-specific or culture-specific tools. Developing cross-culturally appropriate screening tools is of significant research interest. In this process, evaluating these tools and their implementation across HICs and LMICs is key (Supplementary Digital Content, Figure 1, <http://links.lww.com/JDBP/A371>).⁴¹

Refer Early and Where Appropriate

Pediatricians are encouraged to give guidance to caregivers and make an appropriate referral as soon as a concern for delay is identified.⁴² This requires being educated about available local resources and auxiliary services. Too often, prompt referral of children suspected of developmental delay does not happen, which has profound adverse effects because time is lost when intervention could be most effective.⁶ In settings in which referral pathways do not exist, pediatricians should acquire a basic knowledge of common developmental interventions so that they may provide useful advice, even if rudimentary.

Provide Additional Support for Marginalized and At-Risk Children

Pediatricians working in densely populated urban areas, LMICs, areas of conflict, and/or asylum countries may encounter children facing armed conflict situations, refugee children, or migrant children. These environments have proven negative effects on ECD.^{43–45} Pediatricians who work in conflict areas or where there are substantial numbers of refugee families should pursue training that equips them to care for the specific developmental needs of these children.

Other factors that affect ECD include systemic racism,⁴⁶ neglect and abuse,⁴⁷ poverty,⁴⁸ living in rural areas,⁴⁹ housing instability,⁵⁰ certain cultural practices,⁵¹ and other adverse childhood experiences,⁵² all of which can interfere with optimal ECD.⁵³ For caring for children in humanitarian settings (includes a range of environments, from refugee camps to underprivileged urban areas), the WHO recommends that pediatricians should continue to provide developmental monitoring relevant to the setting and phase of the emergency.⁴⁵ Médecins Sans Frontières also hosts conferences on caring for children in humanitarian settings.⁵⁴ For children at risk of early childhood adversity, pediatricians should consider implementing standardized measures to identify other family-level or community-level factors that put

children at risk for impaired development and link identified children to community services.⁵³ For further discussion on the effects of these factors and of other social and nonsocial factors on ECD, see the study by Uchitel et al.²⁴ (2019).

ACADEMIC PEDIATRIC DEPARTMENTS AND MEDICAL TRAINING AND EDUCATION PROGRAMS

Challenges to Supporting Early Childhood Development and Developmental Monitoring

Limited Collaborations in Academic Departments

Academic pediatric departments often have limited engagement with their country's respective pediatric associations. Given that, in many countries, those associations play a strong role in determining guidelines for developmental services and in shaping public policy, academic departments should be more involved with and supportive of those associations.

Gaps in Medical School Curricula and Residency Training

Education and training play a pivotal role in determining a pediatrician's early childhood development (ECD) skills. Educational content may be influenced by national standards set by professional organizations, such as the American Association of Medical Colleges in the United States or by public institutions, such as Health Education England in the United Kingdom.

Few medical schools currently include ECD in their curricula.⁵⁵ An understanding of ECD is essential for medical students not only so they understand the importance of ECD, but also so they can be aware of one of the central tenets of pediatrics and thus make an informed decision about their choice of specialty. Although only some medical students will become pediatricians, many others will enter fields related to pediatrics, such as family medicine and child psychiatry, in which understanding child development is highly useful.

In pediatric residency training programs, often not enough is taught about the principles of ECD and developmental services.⁵⁶ Practicing pediatricians have reported inadequate training on normal development, developmental delay, and screening during their medical education.^{57,58} This may also be true for general physicians, nurses, and community health workers in countries where they provide primary care for children (e.g., the United Kingdom).⁵⁹

Strategies to Improve Support of Early Childhood Development and Developmental Monitoring

Strengthen Medical School Curricula and Residency Training

Medical students should graduate with a general understanding of developmental services. Students should learn about developmental monitoring and referral as they rotate through pediatric care services. The basic principles of prevention, including screening, should be covered in

other parts of their education, such as in core educational modules. Free resources are also available for teaching medical students about developmental delay and screening. The Association of American Medical Colleges, for example, offers a free podcast on screening and a resource reference sheet (but these resources are limited to students who speak English).⁶⁰ For medical schools in lower- and middle-income countries (LMICs), where resources may be more limited, e-learning is a potential strategy.⁶¹

Residents in pediatrics should have formal training in screening tools, basic ECD intervention methods, referral pathways, anticipatory guidance, and how to communicate with parents and families regarding developmental monitoring and intervention options. These topics should be of high priority and should be covered regularly throughout training, such as through refresher seminars, workshops, educational computer modules, and pediatric grand rounds.⁶² Educational sessions need to also include content from pediatric subspecialists on the impact of chronic conditions on developmental trajectories and parenting behaviors. Residents should also be aware of the roles that international organizations play in supporting child development (such as the IPA, the WHO, UNICEF, and the World Bank) and the various frameworks that set standards for child health and development (e.g., the Nurturing Care Framework,²⁵ the Millennium Development Goals,⁶³ and the Sustainable Development Goals⁶⁴). Information about these organizations' activities can also be found in their documents presenting data on variations in children's health and development around the world.

Engage New Partnerships

Academic institutions are encouraged to capitalize on the resources of their respective national pediatric associations, the WHO, UNICEF, and the IPA. This includes physician training, conferences, advocacy initiatives, and research opportunities (further detailed in Engagement With the WHO, UNICEF, World Bank, and IPA). To begin this process of partnership, the Impact Initiative for International Development Research provides the following recommendations for academics and NGOs, such as pediatric associations, on how to engage with one another.⁶⁵ For academics, this includes creating research proposals collaboratively and making research relevant to communities in need. For NGOs, this includes finding cost-effective ways to maintain long-term relationships and building collaborations, at all levels, with academia (i.e., not only targeting large institutions and late-stage career researchers). While these suggestions are applicable to ECD, they are also universal and can be applied to other areas of pediatrics to forge new collaborations.

Consider New Areas of Research

Research areas to target are the equivalence of developmental milestones across high-income countries (HICs) and LMICs,³⁶ the effectiveness of new ECD initiatives (in partnership with NGOs or local governments carrying out these initiatives), and the long-term effects of the COVID-19 pandemic on ECD (e.g., poor neonatal outcomes,⁶⁶ school closures and cognitive development,⁶⁷

changes in access to ECD services,⁶⁸ or how increased social risk factors may impact a child's developmental presentation⁶⁹). Other areas to continue research include tuberculosis, malaria, malnutrition, and poverty, all of which have a profound and prevalent impact on children's development in less developed countries.

Ensure Adherence to Guidelines

Academic pediatric departments should ensure that their departments' pediatricians are delivering developmental services according to local and national guidelines. If none are present in the country of practice, departments should encourage their faculty to develop guidelines of their own, informed by the general principles of nurturing care, and accordingly practice developmental monitoring, intervention guidance, and ECD care.

Establish Departmental Sections on Developmental Pediatrics

Specialized divisions within pediatric departments for developmental and behavioral pediatrics can enhance training and improve the provision of ECD services in the institutions and the communities they serve. Divisions can also serve as a home for children's development programs that provide multisectoral services and ECD interventions, such as is done in certain hospitals in China.⁷⁰ In addition, departmental sections on developmental pediatrics may offer training opportunities for community pediatricians.

NATIONAL AND INTERNATIONAL PEDIATRIC ASSOCIATIONS

National pediatric associations, such as the American Academy of Pediatrics (AAP), the Royal College of Paediatrics and Child Health,⁷¹ and the Philippine Pediatric Society,⁷² provide clinical guidance based on the best available evidence, continuing education for member physicians, and advocacy for their members as well as for child health and development. Training workshops, national conferences, and publication of advocacy and/or position statements are also important activities. Multinational pediatric associations, such as the European Academy of Paediatrics,⁷³ and the Asian Pacific Pediatric Association⁷⁴ can fulfill the same roles as national associations and, in addition, work to unite national associations and further their collective interests. International associations, such as the IPA and the International Developmental Pediatrics Association,⁷⁵ serve the interests of physicians, trainees, and academic departments of all nations.

Challenges to Supporting Early Childhood Development and Developmental Monitoring

Lack of Clear Guidelines on Developmental Monitoring

Across pediatric associations, there is great variability, and often ambiguity, in guidelines for developmental monitoring, screening, and intervention. For example, in the US, the AAP provides clear developmental monitoring and screening guidelines.⁷⁶ In Canada, the Canadian Pediatric Society works alongside Canada's Task Force

on Preventative Medicine to provide national guidelines.³⁵ In the United Kingdom, the Royal College of Paediatrics and Child Health provides screening guidelines for all children in the United Kingdom, but even within the United Kingdom, these differ by region (e.g., England, Scotland, Wales, and Northern Ireland).⁷⁷⁻⁷⁹ Other associations, including the European Academy of Paediatrics,⁷³ the Union of Middle Eastern and Mediterranean Paediatric Societies,⁸⁰ the Asia Pacific Pediatric Association,⁷⁴ and the Latin American Pediatric Association,⁸¹ do not provide any such guidelines.

Early Childhood Development Is Often Neglected in Continuing Medical Education

In Continuing Medical Education workshops, training often presents early childhood development (ECD) and developmental services in theory, rather than focusing on practice-based skills, limiting the extent to which physicians can apply their knowledge to patient care.^{82,83} Furthermore, most pediatric associations do not receive governmental funding or guidance, limiting the extent of training that they can provide.

Advocacy Efforts Are Limited in Focus

In their advocacy efforts, pediatric associations, particularly those in lower- and middle-income countries (LMICs), are often more concerned with immediately urgent life-threatening diseases and disaster situations (e.g., famine, armed conflict, and migration pressures), than ECD, although these issues are tightly linked to developmental disability and delay.⁵³

Strategies to Improve Support of Early Childhood Development and Developmental Monitoring

Provide Comprehensive Early Childhood Development Training

Pediatric associations should provide continuing medical education training in the principles and practices of ECD.²⁴ This would include training sessions at annual conferences through partnerships with local/state governments and academic departments. In continued training, associations typically also draw their experts from academic departments, another argument for the needed stronger relationship between the two.

Provide Evidence-Based Guidelines

If not already present, pediatric associations should contribute to, and take leadership in, the development of guidelines for developmental monitoring and other developmental services (Supplementary Digital Content, Table 1, <http://links.lww.com/JDBP/A372>). Guidelines' underlying principles must possess flexibility to adapt to different political systems, population needs, local resources, and child health care systems. This includes providing guidelines on which screening tools to use, when to use them, and how to initiate or refer for intervention.

Establish Public and Private Partnerships

Pediatric associations should also work more closely alongside the public and private organizations that are responsible for delivering health care-related services. Efforts

should not only be aimed toward developing ECD services but also at improving the delivery of these services.⁸⁴ Other partnerships for associations to leverage are with philanthropic associations, which can often provide funding, on-site or off-site personnel in countries where pediatricians are working, and in some cases, assist in implementation of ECD services in communities. Funding could be directed toward ECD programs themselves, training of pediatricians and other health care professionals in LMICs, subsidizing developmental services in LMICs, research, pilot programs, think tanks, or community organizations supporting or advocating for ECD. Notable organizations working in ECD include the Bill and Melinda Gates Foundation,⁸⁵ the Open Society Foundations,⁸⁶ the Early Childhood Development Action Network,⁸⁷ and the Aga Khan Foundation.⁸⁸ Accomplishing these partnerships is not an easy process. However, in addressing this challenge, one should capitalize on the following: These and similar organizations have established histories of supporting programs across the world and in partnering with local organizations and already have existing track records for establishing these partnerships. Thus, paralleling approaches used in previous and similar partnerships should prove very useful.

Advocate More Powerfully for Early Childhood Development

Pediatric associations should provide position statements and have advocacy projects on ECD. For example, the Canadian Paediatric Society's Early Years Task Force provides position statements on ECD, including a focused statement on an enhanced 18-month well-child visit.⁸⁹ The UK Royal College of Paediatrics and Child Health recently announced their long-term plan for early childhood, which presents preventative care interventions to support ECD.⁹⁰ Similarly, the AAP has published numerous position statements on ECD interventions, including developmental monitoring and screening,³⁴ early literacy,⁹¹ and early education,⁹² and is in the process of developing an overarching cohesive statement on ECD.

Special Considerations for LMICs

Children in LMICs are more likely to be vulnerable to deficiencies in basic health and nutrition than in high-income countries (HICs), particularly in rural areas, and these deficiencies negatively affect ECD.⁹³ As of 2010, nearly 250 million children younger than 5 years in LMICs were at risk of poor development due to exposure to stunting or extreme poverty, mostly concentrated in South Asia and sub-Saharan Africa.⁴⁸ Pediatricians and pediatric associations should promote evidence-based interventions,⁹⁴ aimed at addressing maternal and child undernutrition, that can be delivered through community-based platforms, such as community health care workers.^{94,95} Associations should also encourage their respective countries to mainstream ECD into their already existing programs, such as maternal and child health; nutrition; and HIV/AIDS, malaria, and tuberculosis.⁹⁶ Another important strategy is to use multi-country validated tools such as the Guide for Monitoring

Child Development, a multicountry validated tool designed specifically for use by health care providers in LMICs.^{97,98}

ENGAGEMENT WITH THE WHO, UNICEF, WORLD BANK, AND IPA

For pediatricians, pediatric training programs, pediatric departments, and national pediatric associations, engagement with the World Health Organization (WHO), United Nations Children's Fund (UNICEF), World Bank, and International Pediatric Association (IPA) is critical. These 4 organizations can provide educational resources for pediatricians and trainees and program funding, develop the frameworks for early childhood development (ECD) programs, and provide expertise and logistical advice about implementing ECD programs. Notable ECD resources from the WHO include their official guideline on improving ECD,¹ the WHO/UNICEF Care for Child Development program,³³ and the Nurturing Care Framework. The WHO also published their findings from their technical workshop, "Monitoring Children's Development in Primary Care Services," that details developmental terminology and strategies for pediatricians to implement in the clinic.²⁸ Similarly, the World Bank provides a toolkit for measuring ECD in lower- and middle-income countries (LMICs), plays an executive role on the Early Childhood Development Action Network,^{87,99} provides content on the benefits of supporting ECD from a societal and economic standpoint,¹⁰⁰ and finances multiple ECD initiatives.⁹⁹

The IPA regularly hosts ECD workshops for pediatricians and publishes reports on their efforts to support ECD.¹⁰¹ The IPA also contributes to the formulation and implementation of ECD programs and research studies developed by the WHO and UNICEF. This has taken the form of IPA members being consultants to both organizations, such as the Nurturing Care Framework and the Care for Child Development program. Members of the IPA and their allied organization, the International Developmental Pediatrics Association, also organize workshops aimed at training caretakers and trainers of caretakers in the skills of enhancing ECD.

Besides the resources that these groups provide, pediatricians, academic departments, and associations can engage with these international organizations in many ways to promote optimal ECD. This includes collaborating on research studies on ECD interventions; establishing pilot partnership programs for ECD intervention or evaluation; developing workshops on improving ECD monitoring and interventions; developing guidelines for screening, monitoring, and interventions; and establishing and supporting professional advocacy groups.

INTEGRATION AND RECOMMENDATIONS FOR ALL LEVELS OF PEDIATRICS

In this position paper, we describe the greater role that pediatricians, pediatric academic departments, pe-

diatric trainees, and national pediatric associations should take to support early childhood development (ECD). We provide recommendations and suggestions for each group to achieve this goal. These are as follows:

Pediatricians

1. Among ECD initiatives, **developmental monitoring** is one of the most important services that pediatricians can provide in the primary care setting to ensure children's optimal development.
2. If not already knowledgeable, **learn** about international ECD frameworks and strategies, nurturing care, developmental services, local and national guidelines on primary care developmental services, and how to adopt these into clinical practice.
3. Become an **advocate** for a more powerful ECD agenda, funding for ECD, improved developmental monitoring and screening guidelines, improved referral pathways, and improved pathways to auxiliary services and community centers.
4. Support **children's development holistically**, through coordinated care practices and recognizing that screening is only effective in holistic assessments of family and culture.
5. Provide **additional support** for children in densely urban, armed conflict, or refugee situations.
6. Recognize that **parent and family** involvement and empowerment are key to ensuring optimal development in the home.

Pediatric Academic Departments

1. Consider **new partnerships** with their respective national pediatric associations, the WHO, UNICEF, and the IPA.
2. Consider new areas of **research** that are related to current needs of the **ECD agenda**.
3. Ensure that pediatricians are adhering to local guidelines, or, if none available, develop guidelines based on national and/or international guidance.
4. Establish, strengthen and grow **departmental sections** on developmental pediatrics.

Residency Training Programs and Medical Schools

1. **Strengthen curricula** in residency training in the areas of developmental monitoring, formal evaluations for developmental delay, and the principles and practice of ECD.
2. Medical students should graduate with a **general understanding** of developmental services, including prevention, monitoring, and screening.

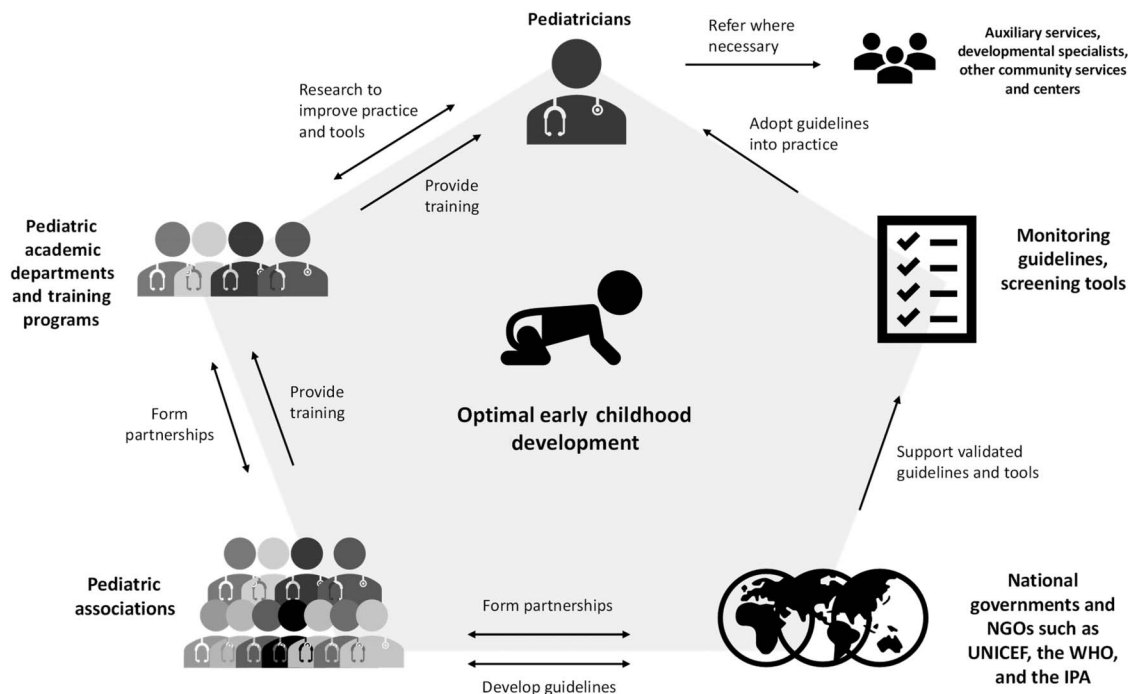


Figure 1. Roles of pediatricians, pediatric academic departments, residency training programs, medical schools, and pediatric associations in ensuring optimal early childhood development (ECD) (a detailed roadmap to how national governments, policymakers, and nongovernmental organizations can support ECD through multiple avenues is described in the nurturing care framework).^{23,25} WHO, World Health Organization; UNICEF, United Nations Children's Fund; IPA, International Pediatric Association; NGO, non-governmental organization.

Pediatric Associations

1. Refocus advocacy efforts to include ECD, particularly new financing initiatives for ECD.
2. Engage with the **WHO, UNICEF, the IPA, and the World Bank** in partnering on advocacy research education and establishing ECD guidelines and programs.
3. Work together and with national governments to **develop evidence-based guidelines** on developmental monitoring, screening, and referrals for pediatricians and specialists.
4. Endorse and participate in the development of **evidence-based, validated, locally applicable** screening tools.
5. Consider new partnerships for **funding** programs, research, advocacy, and physician training, such as public-private partnerships, philanthropies, and the World Bank
6. Consider that screening is only the first step as an ECD initiative and that children's development must be monitored **holistically** and interventions implemented.
7. Provide **training** to pediatricians and other health care workers on developmental monitoring, screening, the principles of ECD, the science supporting it, current national and international ECD initiatives, the principles of nurturing care, and how to adopt these initiatives in the primary care setting

A conceptual framework demonstrating the integration of each of these groups, and their engagement with other professionals who play a role in child health and development, is presented in Figure 1. Addressing these issues is of particular timeliness given the many challenges that today's children face in the current COVID-19 crisis and conflicts across the globe (i.e., in the Middle East, Central America, and Eastern Europe, among others), which have significant effects on ECD.^{102–106} Although much of this article reflects content derived from the US studies and experience, because of the abundance of such studies, many of the points derived from this experience made here can and are meant to be extrapolated to other countries and global regions, whenever applicable. We posit that all levels of pediatrics in all regions of the world must strive to respond to current and future needs so that all children may reach their full developmental potential.

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