

PROMOTING YOUNG CHILDREN'S (AGES 0-3) SOCIOEMOTIONAL DEVELOPMENT IN PRIMARY CARE

ABSTRACT:

This report presents an overview of principles, recommendations, and interventions designed to address early childhood socioemotional development within the pediatric primary care setting. It provides high-level recommendations of next steps in order to develop a comprehensive theory of change around how to target interventions within the setting at scale to advance this work in the future.

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EXECUTIVE SUMMARY

The National Institute for Children's Health Quality (NICHO), Ariadne Labs, and the Einhorn Family Charitable Trust (EFCT) have worked together, in close partnership with experts in child health, early childhood development, and intervention delivery at scale, as well as lived experience experts (parents, grandparents, caregivers, etc.), **to define the opportunity to shape healthy socioemotional development for children ages 0 to 3 within the pediatric primary care setting**. This report presents an overview of principles, recommendations, and interventions designed to address early childhood socioemotional development and highlights aspects of those efforts that can be augmented, adapted, and built upon in the pediatric primary care setting.

BACKGROUND

Substantial literature highlights the importance of fostering socioemotional development in young children and the opportunity to do so within the context of pediatric well-visit care. Individuals' development in early childhood has critical implications on later physical, social, emotional, and economic outcomes.^{1,2} A healthy caregiver-child bond is critical for healthy socioemotional development; the child feels safe and securely attached and receives consistent and reliable responses from the primary adult caregiver.³ Indeed, the quality of infants' early relationships and interactions shape the architecture of the brain and affect long term sensory, language, and cognitive development.¹

Pediatric primary care is a nearly-universal, de-stigmatized point of connection for families with young children, even in high-risk populations. For example, 88 percent of children on Medicaid receive pediatric well-care in the first six months of life.^{4,5,6} These visits also serve as a source of trusted advice for families, especially when a longitudinal relationship can be established. Healthcare providers are in a unique position to address the intersection of physical and socioemotional health and development.^{7,8,9} Unfortunately, relatively few socioemotional interventions take place in primary care settings, and socioemotional screening within primary care for infants and toddlers is not universal.^{7,10}

FINDINGS

Through an **environmental scan**, **expert meeting**, and a **survey of the current field of interventions**, a vision of success and recommendations emerged for optimizing socioemotional development in the pediatric setting. This is captured within the following general principles:

- **All families** can benefit from and deserve enhanced socioemotional functioning.
- Approaches should be **widely available** to all families, not limited to "at-risk" groups.
- The **caregiver-child bond** may be viewed as a stepladder to help enhance socioemotional functioning. The goal of any approach should be to meet families where they are and help them move higher up the ladder.
- Optimize interactions and access to resources for all families before, during, after, and in between pediatric well-child visits.
- Identify families where socioemotional development is at risk. Connect these families to resources that match their risk and needs.

At the expert meeting, a broad range of experts (including those with lived experience, such as parents, grandparents, and caregivers) identified **11 specific design elements for the pediatric well-child visits that incorporate the above principles**. Six main design elements (#1-6) are relevant to the well-child visit itself. Five others (#7-11) relate to, but extend beyond, the clinical well-child visit.

1. Use well visits to **assess bond** between caregiver and child.
2. Model behaviors that promote socioemotional development during well visits.
3. Educate families about socioemotional development and age-appropriate expectations during visit.
4. Modify visit structure and timing to allow for meaningful interactions.
5. Provide access to extended care team members (i.e., in addition to the physician) during and between visits to continue family support and identify families requiring extra resources; build team unity so all care team members feel they are part of team (including parent supports and community supports).
6. Improve the quality of interaction between care team and caregivers.
7. Create an office culture that promotes openness and nurturing and fosters the bond between care team and caregiver, as well as caregiver and child.
8. Use the waiting room to foster and model pro-social interactions.
9. Provide all families with resources to promote socioemotional development and age-appropriate expectations between visits.
10. Connect families to tailored resources they can access during and between visits. Tier resources based on level of need. Use extended care team to help families navigate systems.
11. Use time between visits to strengthen bond between care team and caregivers.

The environmental scan and survey of existing interventions highlighted two key challenges to overcome on the path toward the vision of success. There is an overall **lack of standardized measurement of the caregiver-child bond**, which may be a reflection of the few existing standardized tools that measure it. In addition, there are **barriers to scaling**, including financing, training, buy-in, and the pediatric visit structure.

NEXT STEPS

The following five targeted lines of inquiry are recommended in order to further investigate how to overcome the key challenges and incorporate the 11 design elements to ultimately create optimal, scalable approaches for promoting socioemotional development via well-child care:

- **Identify and Implement Standardized Socioemotional Outcome Measurement within Primary Care Assessments** – Create a measure of the caregiver-child bond that can be implemented in pediatric care.
- **Define the Path for Scaling Interventions in the Pediatric Setting** – Clarify the path to achieving full scale within pediatric care, through case studies of prior scaling efforts within the setting and site visits to evaluate scaling successes and potential of current approaches.
- **Validate the Design Elements Recommended for Pediatric Well-Child Visits** – Work with interventions, providers, and/or practices to test and validate the six design elements related to the well visit.
- **Investigate Impact, Scalability, and Collaboration between Pediatric Care and Other Settings** – Examine the opportunities for synergy across settings, including the five recommended design elements that extend beyond the well visit.
- **Establish a Learning Community to Enhance Existing Interventions' Efforts to Scale** – Create a network for existing interventions to share scaling strategies and accelerate their scaling efforts.

There is a tremendous opportunity for the pediatric well-child visit to have a positive impact on the lives and socioemotional development of the overwhelming majority of U.S. families. Advancing these five next steps can strengthen efforts in primary care to promote the optimal healthy development that all children deserve.

I. OVERVIEW

Early childhood is a critical window of opportunity for promoting socioemotional health which has significant implications on long-term wellness. Promoting optimal socioemotional development requires a comprehensive, system-wide approach, including ways to support all children and their parents across multiple settings. Pediatric primary care presents a promising and underutilized resource for driving impactful socioemotional health interventions that can be scaled and spread to the majority of all U.S. families.

The National Institute for Children’s Health Quality (NICHQ), Ariadne Labs, and the Einhorn Family Charitable Trust (EFCT) have worked together, in close partnership with experts in child health, early childhood development, and intervention delivery at scale, as well as lived experience experts (e.g., parents, grandparents, caregivers), to define the opportunity to develop scalable interventions in the context of pediatric well-child care for children ages 0 to 3 (see the [Expert Meeting List](#) for full list of experts and their bios). **The goal of this work has been to identify optimal, scalable approaches for promoting healthy socioemotional development and improving the caregiver-child bond via well-child care.**

This effort has involved three focus areas:

- **Existing Approaches** used by current interventions in this space
- **Expert Recommendations** for key design elements required in potential approaches
- **Vision of Success** for the future, outlining general principles and recommendations to achieve optimal, scalable approaches for promoting socioemotional development via well-child care



This report presents an overview of principles, recommendations, and interventions that are designed to address early childhood socioemotional development, and highlights aspects of those efforts that can be augmented, adapted, and built upon in the pediatric primary care setting. It provides high-level recommended next steps to develop a comprehensive theory of change to use in future work to scale socioemotional interventions.

II. BACKGROUND

SOCIOEMOTIONAL DEVELOPMENT

Healthy socioemotional development entails the ability to play, communicate, learn, face challenges, form satisfying, trusting relationships with others, and experience and handle a full range of emotions.¹¹ Substantial literature highlights the importance of fostering socioemotional development in young children and the opportunity to do so within the context of pediatric well-visit care. Individuals' development during early childhood has critical implications on later physical, social, emotional, and economic outcomes, including better cognitive, linguistic, and executive functioning skills; improved moral and regulatory outcomes; and improved high school graduation, employment, and incarceration rates.^{1,2} Many things lead to children not achieving their full potential, including on the most serious end of the spectrum, adverse childhood experiences (e.g., absence of serve and return, trauma, neglect, abuse).^{1,2,12,13}

A healthy caregiver-child bond is critical for healthy socioemotional development; the child feels safe and securely attached and receives consistent and reliable responses from the primary adult caregiver.³ Indeed, the quality of infants' early relationships and interactions shape the architecture of the brain and affect long term sensory, language, and cognitive development.¹ Individuals' ability to develop crucial coping mechanisms such as empathy and resilience stems from relationships and experiences in this critical, earliest time period. There are varying levels of attachment and effective relationship building between parents and children that can shift over time.^{14,15}

There has been a significant focus on children's cognitive development and achieving developmental milestones, but traditionally less focus on socioemotional development. In recent years, that has begun to change. While many existing programs focus on the poor and underserved, literature reveals that 15 percent of children who are not at high socioeconomic risk exhibit disorganized attachment with their caregiver.^{16,17} This indicates that intervention is required across classes in order to achieve a widely scalable approach to benefit as many children and families as possible.





PEDIATRIC PRIMARY CARE SETTING

There are many settings for addressing young children's socioemotional development. Such settings include the home, community centers and programs, early childhood education centers, and healthcare providers.^{18,19} Of these potential settings for intervention, focusing on primary care is promising for a variety of reasons. Pediatric primary care is a nearly-universal, de-stigmatized point of connection for families with young children, even in high-risk populations. For example, 88 percent of children on Medicaid receive pediatric well-care in the first six months of life.^{4,6,20} These visits also serve as a source of trusted advice for families, especially when a longitudinal relationship can be established. This makes it a very strong point of entry for mental health screening, early intervention, and linkages to appropriate services as necessary.²¹ The Early Periodic Screening, Diagnosis, and Treatment schedule for well-child care recommends ten well-child pediatric visits in the first three years of life, and 13 by age five.⁶ With ten distinct chances for interaction, there is opportunity for longitudinal engagement and building of trust between families and their children's primary care teams.

Healthcare providers are in a unique position to address the intersection of physical and socioemotional health and development.^{7,8,9} Unfortunately, for a number of reasons, many may not engage with families in conversations on this topic, relatively few of the multitude of socioemotional interventions take place in primary care settings, and socioemotional screening within primary care for infants and toddlers is not universal.^{7,10} The lack of interventions in this arena likely is due in part to perceived inherent design challenges. Primary care providers face increasing demands for non-clinical responsibilities such as billing, documentation, and evaluation. Some primary care providers also report lack of confidence and/or training to conduct socioemotional screening.²² While clinicians already have numerous competing demands for a brief visit, including physical growth and development, household safety, and vaccinations, providers who have participated in socioemotional health interventions have reported that time constraints did not weigh heavily in terms of limitations.⁸ There is a clear opportunity for interventions, sensitive to the barriers and competing demands in the primary care space, to strengthen the promotion of socioemotional development in pediatric well-child care.

III. APPROACHES

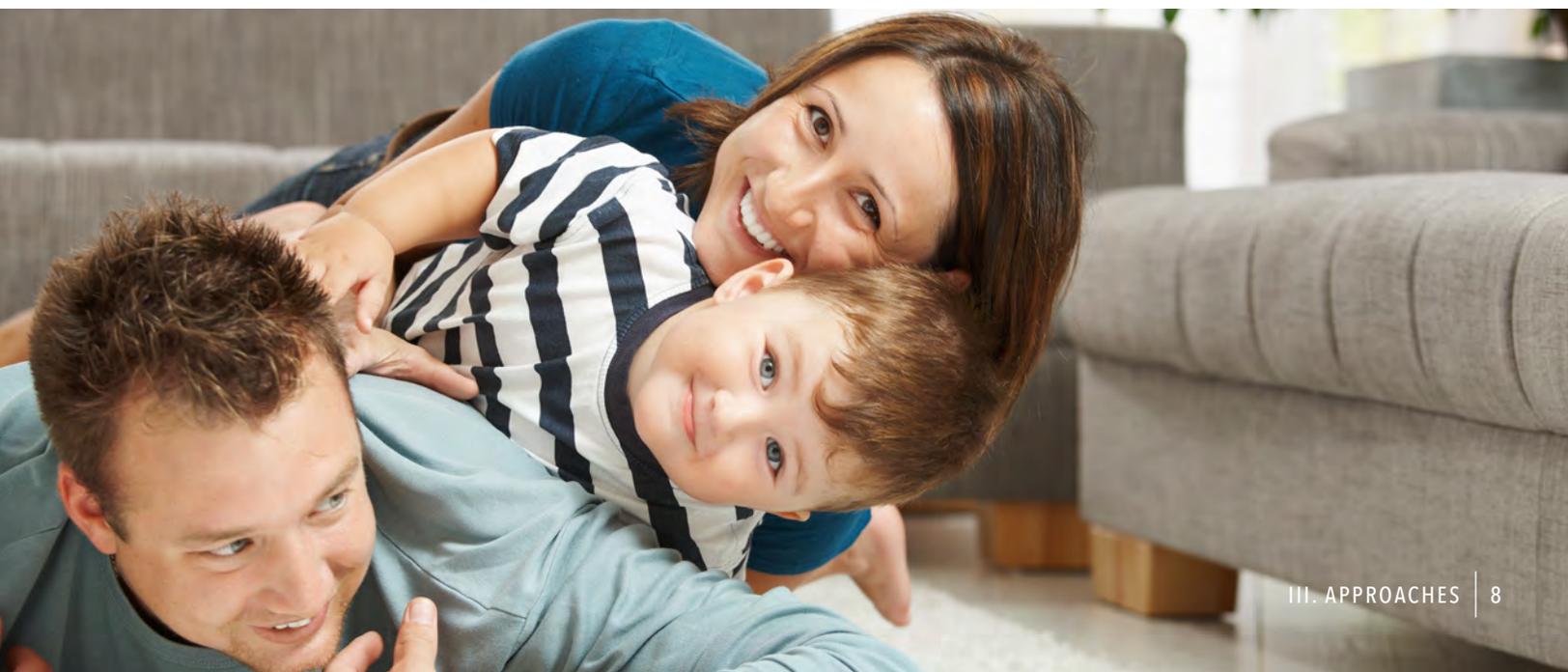
An in-depth environmental scan was conducted to gain a rich understanding of the current state of evidence and the key levers for addressing the issue of socioemotional development in early childhood. This process identified what types of interventions currently exist, what populations they serve, and what outcomes they are achieving. The assessment included:

- Review of the peer-reviewed literature
- Review of the “grey literature,” such as unpublished reports and websites
- Scan of related initiatives, e.g., based on program websites
- Key informant interviews to fill in any gaps in the scan

The research revealed that there are a multitude of interventions focusing on promoting young children’s socioemotional development. These interventions exist in a variety of settings, including but not limited to, the outpatient clinical setting. Given the potential for interventions to be adapted from one setting to another, the environmental scan examined interventions across multiple settings and included an analysis of interventions with some evidence of impact. Each of these 29 interventions, as well as six that were later identified through expert nomination, is presented by setting in the table on the following page. For more details and references, please refer to the [full environmental scan document](#).

The 25 intervention programs in Group 1 (“Promising Interventions”) were included based on expert nomination and/or repeated mention in the literature. They are grouped together because they were assessed through a diversity of evaluation methods.

In the case of intervention programs that use home visiting for part or all of their intervention model, the Department of Health and Human Services (DHHS) has established criteria for evaluating the effectiveness of programs and impact on outcomes in key areas. The 10 interventions in Group 2 are all home visiting programs that have been deemed by the DHHS to meet Home Visiting Evidence of Effectiveness criteria for early childhood home visiting,²³ and that demonstrated positive outcomes in at least one of the following three areas: child development and school readiness, maternal mental health, and/or positive parenting.



INTERVENTIONS FOCUSED ON PROMOTING YOUNG CHILDREN'S SOCIOEMOTIONAL DEVELOPMENT

PROGRAM NAME/SETTING*	CS	ECE	HV	FC	OP	NICU	S
GROUP 1: "PROMISING INTERVENTIONS"							
1. ACE Screening Intervention							
2. Assuring Better Child Health and Development (ABCD) Program							
3. Brazelton Touchpoints; Newborn Behavioral Observation**							
4. CenteringParenting**							
5. Circle of Security Parenting**							
6. Collaborative Problem-Solving Approach							
7. DULCE							
8. Family Foundations							
9. Family Nurture Intervention							
10. FIND Video Coaching							
11. Healthy Start + Family Thriving Program							
12. Incredible Years Advanced Parenting Education in Pediatrics (APEP)							
13. Infant Health and Development Program							
14. Newborn Individualized Developmental Care and Assessment Program (NIDCAP)							
15. Parent-Child Interaction Therapy							
16. ParentCorps							
17. Project LAUNCH							
18. Reach Out and Read**							
19. Reaching Educators, Children and Parents							
20. SafeCare							
21. Smart Start							
22. The Parent-Child Home Program							
23. Thirty Million Words**							
24. Triple P-Positive Parenting							
25. Video Interaction Project**							
GROUP 2: APPLYING HOME VISITING AND PREVIOUSLY ASSESSED AGAINST UNIFORM CRITERIA							
26. Child FIRST (CF)							
27. Early Head Start–Home Visiting (EHS-HV)							
28. Family Check-Up (FCU)							
29. Family Spirit (FS)							
30. Healthy Families America (HFA)							
31. Healthy Steps (HS)							
32. Minding the Baby (MTB)							
33. Nurse Family Partnership (NFP)							
34. Parents as Teachers (PAT)							
35. Play and Learning Strategies (PALS)							
Grand Total (Across All 35 Interventions)	11	7	20	2	20	3	6

*Abbreviations for Settings: CS = community setting, ECE = early childhood education, HV = home visiting, FC = foster care, OP = outpatient clinical setting, NICU = neonatal intensive care unit, S = school

**Expert Nominated

Of the 35 interventions reviewed, 20 included application (in part or in full) in the outpatient healthcare setting. However, none of them currently reach even one in ten children, with the largest intervention currently reaching less than 7% of the U.S. population aged 0-5, and most only currently reaching around 1,000 children a year (about .00001% of this population). Furthermore, although the self-reported work of larger interventions reaches more children, socioemotional development is addressed in a much more diminished intensity within those interventions than within smaller interventions. To promote positive socioemotional development in the majority of children, intervention efforts must be expanded. Given the potential reach of the primary care setting, experts in the field want to identify the barriers to full scale while also more fully understanding the level of scale being achieved by current interventions. Some existing barriers to scale that have already been identified include:

- Well-child visits are predominantly fee-for-service, short visits
- The focus of the visits is physical growth and development
- Most well-child care is provided by physicians (some by additional staff), and physicians do not necessarily receive training on how to promote socioemotional development
- Development and mental health are, indeed, increasing concerns and areas of focus in pediatrics, but as previously stated, the field is still not routinely engaging in primary prevention around socioemotional development specifically

More data about current reach and barriers to scale can be found in [Section IV](#).

For those interventions that are not currently in the outpatient setting, there may also still be promise for adaptation to achieve scalability in primary care. This potential is based, in part, on the success of these interventions with prior adaptations. Many of the interventions have been implemented in a wide variety of populations, and most of the interventions did successfully adapt to new settings, populations, and areas beyond their original scope. Specifically:

- 17 of these interventions already exist in multiple settings
- Many existing interventions are implemented in a variety of populations, including across cultural contexts, languages, and geographies
- Several interventions exist in multiple modalities, including in-person, online, and/or video components
- Many of the interventions allow for a variety of implementers to administer them, including parents themselves, health and social service professionals, early childhood specialists, and community members/peer educators who receive special training

It should be noted that due to the diversity of measurement among existing interventions, it is currently very challenging to evaluate the impact and effect across interventions that focus on young children's socioemotional development and health. However, these intervention programs have demonstrated adaptability and success in reaching new populations, indicating promise for potential scale within the pediatric well-visit setting. (For further detail, please refer to the [full environmental scan document](#).)

IV. EXPERT RECOMMENDATIONS

EXPERT MEETING: EXPLORING OPPORTUNITIES IN PRIMARY CARE

NICHO, Ariadne Labs, and EFCT convened 67 experts (including 39 content experts and 28 lived experience experts—see the [Expert Meeting List](#) for full list of experts and their bios) in Boston, MA, for a two-day expert meeting to identify opportunities within pediatric primary care to promote optimal socioemotional development (for children ages 0-3). The two days were informed by the results of the environmental scan, and facilitated by leaders from NICHO (Shikha Anand and Marianne McPherson), Ariadne Labs (Atul Gawande and Lisa Hirschhorn), the Design Team (a small group of experts in the fields of scale, early childhood, and program design and implementation, as well as lived experience experts such as parents), and Nancy Settle-Murphy from the facilitation, training, and communications consulting firm Guided Insights.

The expert participants defined success both from the perspective of a family as well as the population-level community perspective, and proposed measures of success for the short-term (6-12 months) and longer term (3-5 years).

Expert participants reinforced the opportunity to help all children and families improve their socioemotional function, being inclusive of all primary caregivers (e.g., mothers, fathers, grandparents). At the same time, experts acknowledged the need for particular attention to children and families who might fall into at-risk groups, on a variety of criteria (e.g., socioeconomic status, social isolation, adoptive parents).

The underlying premise around identifying possible intervention approaches was that caregiver-child interactions are critically important for children's short and long-term emotional wellness and health. This dynamic can also impact the parents' wellbeing, which in turn influences the child. Parenting is hard; even pediatricians, who have extensive formal training in infant care, report feelings of inadequacy when caring for young children. There is evidence for a number of successful interventions that have improved parent and child outcomes. While certain factors increase the risk of poor socioemotional development, all families deserve attention in this area. Primary care is a unique and important opportunity for multiple reasons including that almost all families bring their children to well-child visits multiple times starting early. There are varying levels of attachment and effective relationship building between parents and children that can shift over time.^{15,18} This continuum could be likened to a stepladder, with the possibility of improving the relationship and moving higher up the ladder, while recognizing that families may move up and down the ladder toward an overall progression, with providers always meeting families where they are.

Key ideas for consideration in pediatric primary care-based intervention aimed at improving the caregiver-child bond and the child's socioemotional development included:

- Success for both parent and child, measuring the relationship and engagement of the whole family
- Measuring the extent to which children receive appropriate services and educational placements
- Measuring whether parents have improved levels of support, self-efficacy (especially re: health-seeking skills), and mental health
- Strengthening the community (e.g., measuring the socioemotional health of the community)
- Better organized and integrated systems of care (including health and education)
- Greater involvement at the community level and concept of socioemotional community health

Based on the environmental scan and synthesis from the expert meeting held in June, a vision of success and recommended design elements emerged in relation to optimizing socioemotional development in the pediatric setting. It is important to think of these findings as an “ideal state”, and consider what is possible and reasonable for adaptation and adoption in the pediatric setting.

VISION OF SUCCESS: GENERAL PRINCIPLES

A vision of success and recommendations emerged for optimizing socioemotional development in the pediatric setting. This is captured within the following general principles:

- **All families** can benefit from and deserve enhanced socioemotional functioning.
- Approaches should be **widely available** to all families, not limited to “at-risk” groups.
- The **caregiver-child bond** may be viewed as a stepladder to help enhance socioemotional functioning, with the possibility of always improving the relationship and moving higher up the ladder. The goal of any approach should be to meet families where they are, and to acknowledge that while a family may move up and down the ladder over time, there is an opportunity for overall progression that moves higher up the ladder.
- Optimize interactions and access to resources for all families before, during, after, and in between pediatric well-child visits.
- Identify families where socioemotional development is at risk. Connect these families to resources that match their risk and needs.

WELL-CHILD VISIT RECOMMENDED DESIGN ELEMENTS

The participants in the expert meeting identified 11 recommended design elements for the well-child visit that incorporate the general principles outlined above. The design elements have been grouped into those that are relevant to the well-child visit itself, and those beyond, but related to, the clinical well-child visit. Implementing, at scale, all 11 design elements might require broad-based systems change, so it is not surprising that no existing program currently addresses all design elements.

These elements represent the overarching themes of the numerous suggestions that came from the expert meeting. While they include both experiential design elements and others that simply offer information, the research on behavior change has found that experiential elements play a primary role. In addition, further testing would be required to determine if each element can be implemented along a spectrum or is purely binary (e.g., the element exists or it does not). It is understood that full implementation is an ideal state developed by participants; there may be incremental steps and iterations, as well as testing and revision, in order to improve the well-child visit over time.

DESIGN ELEMENTS RELEVANT TO THE WELL-CHILD VISIT CLINICAL ENCOUNTER



DESIGN ELEMENT 1: Use well visits to assess bond between caregiver and child

- Implement universal written screener for socioemotional development, similar to developmental assessment tools
- Assess for physical punishment and punitive parenting methods
- Assess stressors/vulnerabilities that are interfering with caregiver/child bond (barriers)
- Give caregivers tools for self-reflection, allowing them to choose to disclose reflections with care team during visit
- Use direct observation (consider checklist) to assess strength of bond, tailor intervention according to bond strength: may observe reading, feeding, playing, talking, diaper changing
- Use wordless books to see parent-child socioemotional connections
- Take time alone with primary caregiver to assess bond with his/her partner
- Assess major stressors: domestic violence, depression, food, education, and housing insecurity



DESIGN ELEMENT 2: Model behaviors that promote socioemotional development during well visits

- Use props in exam room to model serve and return relationship (posters, exam table paper, wallpaper, etc.)
- Model something doable as take away for parent to use later when needed
- Use every opportunity for care team to model serve and return behaviors: check-in, vital signs, physical exam, immunizations, check-out
- In exam: ask about favorite games of parent – demonstrate a relevant, age-appropriate game (tossing a ball back and forth, give toy or game to family, etc.)
- Use the post-vaccination time to model calming behaviors



DESIGN ELEMENT 3: Educate families about socioemotional development and age-appropriate expectations during the visit

- Use technology to point to micro-strategies/skills/stories via smartphone during visit, encourage caregivers to access same resources post-visit
- Take videos of caregivers and children playing together during visit for strength-based feedback
- Provide information about breaking bread together as a family (quality of time more important than quantity)
- Educate caregivers regarding responding to infant cries
- Educate caregivers about how to handle age-appropriate behaviors including crying, tantrums, defiance, hitting
- Educate caregivers about age-appropriate punishment





DESIGN ELEMENT 4: Modify visit structure and timing to allow for meaningful interactions

- > Create opportunity for each family to meet care team before birth; ensure care team has access to information about prenatal care and course
- > Use vital signs assessment as opportunity for medical assistant or nurse to have private conversation with family before they see pediatrician
- > Redesign visit to create time alone between pediatrician and caregiver while children are being watched by care team or volunteer
- > Use group well-child care to promote bonding between caregivers and children, model behaviors, and allow families to teach each other with care team during visit
- > Separate room for well-care and for sick child – opportunity for quick conversation and screening
- > Create opportunities for more frequent check-ins with families beyond well visits to address/monitor concerns
- > Use well-child visit also as well-parent visit (use family medicine model)
- > Make each well-child visit a longer visit



DESIGN ELEMENT 5: Provide access to extended care team members

(i.e., in addition to the physician) during and between visits to continue family support and identify families requiring extra resources; build team unity so all care team members feel they are part of team (including parent supports and community supports)

- > Horizontal supports: Parent advisory council, caregiver matching for 1:1 peer support, intergenerational pairing (use retired volunteers to help caregivers navigate early childhood parenting)
- > Care coordinator for caregiver and child – help accessing medical, mental health, and community resources
- > On-site mental health professional
- > Social worker
- > Developmental specialist (e.g., Healthy Steps, DULCE)
- > Nurture Specialist to coach caregivers in calming cycles strategy
- > Visiting nurse or other home visiting specialist
- > Primary care/women's health providers/behavioral health providers for caregivers



DESIGN ELEMENT 6: Improve quality of interaction between care team and caregivers

- > Take a picture of baby at each well visit and give to the family, use to discuss socioemotional development
- > Use video conferencing to make it easier for all caregivers to attend well visits (consider cell phones as low-cost solution)
- > Strengths-based comments during, before, and after visit
- > Begin with encouragement and strengths-based guidance, then move on to provider concerns
- > Require protected interactions – eye-to-eye, no screen, pay attention
- > Normalize the “What’s your child’s challenge” conversation, as well as the “What’s your challenge as a caregiver” conversation (standard script)
- > Explain how baby is doing from socioemotional perspective, ask meaningfully how caregivers are doing

- > Ask open-ended questions to encourage family opening up, build trust
 - Begin visit with question that makes parents feel safe (“It’s hard, isn’t it?”, “How do you enjoy your baby?”)
 - “How can I help?” vs. “What do you need?”
 - “What are your priorities – what is important to you?”
 - “Tell me how you chose baby’s name.”
 - “What is the most exciting moment you have had with your child since the last visit?”
 - “Is parenting/ caregiving what you expected?”
 - “How can I support you?”
- > Use physical exam to engage caregivers with opportunity for family to ask questions
- > End with open-ended question (“Is there anything you want to tell me about your child that I haven’t seen?”)
- > Ensure child and caregiver leave feeling calm and safe – allow time to calm down if upset (e.g., immunization visits); model calming behaviors

DESIGN ELEMENTS RELATED TO BUT EXTENDING BEYOND THE WELL-CHILD VISIT CLINICAL ENCOUNTER



DESIGN ELEMENT 7:

Create an office culture that promotes openness and nurturing and fosters the bond between care team and caregiver, as well as caregiver and child

- > Make patient feel acknowledged, respected, and welcomed
- > Ensure cultural competency by training staff in cultural norms of families most often represented in practice
- > Decrease stressors inherent to provider visit

- > Ensure team is accessible between visits; visit times are available and convenient
- > Ensure pediatrician and care team are trained in socioemotional development; what to ask and how to relate
- > Change ecology; make it a norm that parents know to expect a focus on socioemotional development, nurturing, calming
- > Connect as people, not power dynamics; relate and remember first parenting moments, first time care team members brought their children to pediatrician
- > Training for care teams to learn and be accountable for focusing on socioemotional issues and how to model serve and return behaviors
- > Protocol and train active listening/empathy for care team



DESIGN ELEMENT 8:

Use the waiting room to foster and model pro-social interactions

- > Meet immediate needs of families to increase comfort (water, snacks, entertainment)
- > Use waiting room TV, and staff who will conduct waiting room activities (e.g., play therapists, community health workers, family partners) to model pro-social behavior; include fathers and other caregivers as examples (not just mothers)
- > Teach about nurturing in waiting room (e.g., NOORA Health)
- > Conduct play groups in the waiting room with leader that is trained in social and emotional development (consider parent volunteer, community health worker)
- > Use a waiting room greeter to check in with families, ask what's on their minds, and if any needs are unmet (doula, parent/family leader, care coordinator, social work student)
- > Use parent coaches (grandparents) who guide parent in goal setting, in waiting room
- > Use waiting room to assess physical family needs (housing, education, child care, etc. – e.g., Health Leads)



DESIGN ELEMENT 9:

Provide all families with resources to promote socioemotional development and age-appropriate expectations between visits

- > Digital tools that have songs, games, video to promote socioemotional development (e.g., F.I.N.D. program at Oakland Children's Hospital)
- > "0-3 Toolkit" – a big packet that pediatrician can give away on the first visit
- > Provide all families with information about WIC and food, housing, health, mental health, domestic violence, child care, child development, opportunities for parent/child development; distribute this information with vaccination information and anticipatory guidance (e.g., Bright Futures)
- > Give families toys, books, activities (printed out) for engagement after visit so they can practice what they have learned during visit
- > Every pediatrician/primary office team universally should have pamphlets and a tablet (e.g., iPad) with information that mirrors the life cycle needs from comprehensive approach
- > Information on what secure attachments look like available in different mediums (pamphlet, tablet, kiosk)
- > An app that takes/reinforces what families have learned about socioemotional development during well visit
- > Kiosk or tablet with comprehensive info for families with community resources from food pantries to playgrounds
- > Connection to existing parenting groups and family partners in community; community supports to promote socioemotional development (play groups, etc.)





DESIGN ELEMENT 10:

Connect families to tailored resources they can access during and between visits. Tier resources based on level of need. Use extended care team to help families navigate systems.

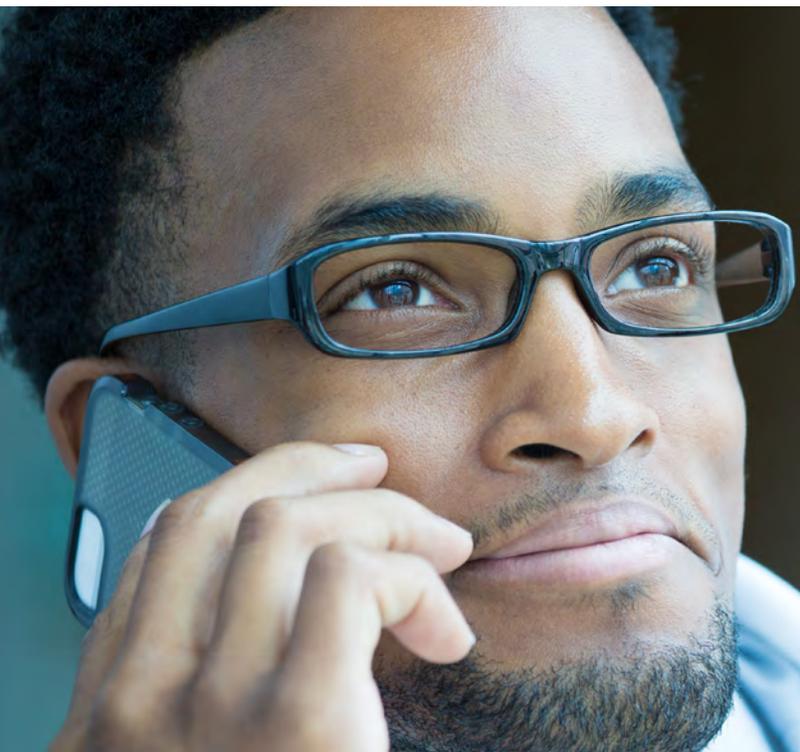
- Local resource guide – available through technology (app, website), printed, and printable through kiosks in office that are searchable by need
- Social worker to address social concerns
- Domestic violence coordinator (clinic or community based), shelters, emergency numbers
- Housing assistance
- Legal assistance for custody, housing, labor, and immigration issues
- Behavioral health professional for family mental health concerns
- Substance use resources
- Parents and families with similar challenges: social, mental health, physical health
- Behavioral interventions delivered via video/computer



DESIGN ELEMENT 11:

Use time between visits to strengthen bond between care team and caregivers

- Courtesy follow-up phone call 2-3 days after each well visit to ensure needs and concerns have been addressed, answer follow-up questions
- Parent coordinator within clinic to support the medical team with 5-10 minute follow-up calls/check-ins or pre-visit calls to help build relationship and establish trust with families
- Build awareness of accessible pathways to engage with care team between visits
- Follow up to close the loop on each referral
- Call each family who has missed an appointment
- Create opportunities to email/text providers between visits to make the physician more a part of the core team that is helping family raise a child; use pictures, stories to ensure care team gets to know child
- Use technology communication mediums to enable structured follow-up between pediatrician and family



INTERVENTION SURVEY

In order to gather primary data on current best practices in the field about the design elements, a [survey](#) was disseminated to implementers and experts engaging in existing interventions within the field. Specifically, the survey captured:

- Information about each intervention, description of its implementation, and its relationship to the primary care context
- Self-assessment of the extent to which each intervention currently addresses, has the potential to address, and has existing barriers to implementing design elements in relation to optimizing socioemotional development in the pediatric setting
- Key measures related to the intervention to measure success at scale
- Considerations for scale, related to the intervention's current state

Of the existing interventions identified through the [environmental scan](#) and through expert nomination, 26 provided further detail about their intervention's current state, measurement, and applications for scaling existing and potential approaches. These interventions can be found in the table below. The majority of these interventions were designed to be implemented across multiple settings, although some are not currently in use in the primary care setting. *Italicized interventions* denote the 10 interventions that do not focus within the primary care setting:

- ACE Screening Intervention
- Brazelton Touchpoints; Newborn Behavioral Observation
- CenteringParenting
- Circle of Security Parenting
- Collaborative Problem-Solving Approach
- DULCE
- *Family Check-Up (FCU)*
- Family Foundations
- *Family Nurture Intervention*
- *FIND Video Coaching*
- Healthy Start + Family Thriving Program
- Healthy Steps
- Healthy Steps and Child and Adolescent Integrated Behavioral Health*
- Incredible Years Advanced Parenting Education in Pediatrics (APEP)
- Infant Health and Development Program
- Minding the Baby (MTB)
- *Newborn Individualized Developmental Care and Assessment Program (NIDCAP)*
- *Nurse Family Partnership (NFP)*
- *ParentCorps*
- *Play and Learning Strategies (PALS)*
- Reach Out and Read
- *SafeCare*
- *The Parent-Child Home Program*
- *Thirty Million Words*
- Triple P-Positive Parenting
- Video Interaction Project

*Note: "Healthy Steps and Child and Adolescent Integrated Behavioral Health" was reported as a separate intervention from "Healthy Steps" due to variations in structure and approach

Due to the subjective nature of the survey, the accuracy and efficacy of interventions' alignment with the design elements could not be determined. Overall, self-reported achievement, potential, and barriers to those design elements did not have strong relationships with interventions' characteristics or settings.

CURRENT STATE: MEASUREMENT ALIGNMENT

A variety of measurement tools are used to determine the impact of interventions focusing on young children’s socioemotional development and health, though it should be noted that there was generally a distinct lack of measurement of the caregiver-child bond. Among the existing intervention programs outlined in the environmental scan, the 10 most-frequently-utilized, validated, reliable measurement scales are:

1. Achenbach System of Empirically Based Assessment–Preschool Module (ASEBA)²⁴
2. Ages and Stages Questionnaire (ASQ)²⁵
3. Bayley Scales of Infant Development (BSID)²⁶
4. Brief Infant/Toddler Social Emotional Assessment (BITSEA)^{30,27}
5. Beck Depression Inventory (BDI)^{28,29}
6. Center for Epidemiological Studies-Depression (CES-D)³⁰
7. Child Development Inventories (CDI)³⁰
8. Eyberg Child Behavior Inventory (EBCI)²⁹
9. Parents Evaluation of Development Screening (PEDS)³⁰
10. Parenting Stress Index (PSI)^{31,32}

Language adaptations frequently exist for these instruments, and the majority can be self-administered by parents and caregivers in less than 20 minutes. Only one of the tools, the Parenting Stress Index, identifies risks for both child and parent problematic behavior. Several measures are designed for the youngest children under one year of age, but several others are only suitable for toddlers and older children.

Of the 26 interventions that reported measurement use, 23 identified a total of 64 unique measurement tools and approaches that were being or had been used to assess the success of their interventions. Ten of the interventions only measured children’s socioemotional health, while 13 measured both parent and child socioemotional health. It should be noted that the majority of parental measurements were focused on measures of maternal depression, a significant risk factor to the mother-infant relationship dyad and children’s overall socioemotional development.³³ Of the measures that corresponded to socioemotional health of either parent and/or child (age range 0-3), 11 measures were identified as being used within more than one intervention, as shown in the table below:

REPORTED FREQUENCY OF STANDARDIZED MEASUREMENT/SCALE USE BY INTERVENTIONS

MEASUREMENT/SCALE	FOCUS			FREQUENCY UTILIZED
	CHILD	PARENT	DYAD	
ASQ-SE: Ages and Stages Questionnaire - Social-Emotional				7
CBCL/1.5-5: Child Behavior Checklist				4
BASC or BASC-2: Behavior Assessment System for Children				3
PSI/PSI short form: Parenting Stress Index				3
ACE: Adverse Childhood Experiences scale				2
BDI: Maternal depression				2
CES-D: Center for Epidemiological Studies Depression Scale				2
MCHAT: Modified Checklist for Autism in Toddlers				2
PHQ: PHQ2, PHQ2 for maternal depression, PHQ9				2
PRFQ: Parental Reflective Functioning Questionnaire				2
SDQ: Strengths and Difficulties Questionnaire				2

Only eight interventions specifically measured the caregiver-child bond, and only three of those eight utilized a standardized and validated measurement battery—the PSI (Parenting Stress Index)—as noted in the chart above. However, the PSI only focuses on domains of caregiver-child relationship stress. Among the other five interventions that measured the caregiver-child bond, one utilized standardized batteries that focus on more holistic measurement of the caregiver-child relationship—the PACT (Parent and Child Together scale), and CAPES (Child Adjustment and Parent Efficacy Scale)—but these are still developing norms for psychometric assessment validation.^{34,35}

While current interventions are measuring socioemotional health, they are not doing so holistically across both the parent and the child. In particular, **there is limited measurement of the caregiver-child bond among existing approaches, and the current measures being used require more validation.** The overall lack of standardized measurement for the caregiver-child bond may be a reflection of the paucity of existing tools found within the current literature that measure this dyad.

Use of standardized measurement batteries—such as the ASQ-SE and CBCL—had moderate positive effects on an intervention’s reported fulfillment of the design elements. Interventions that utilized standardized measures also generally reported fewer barriers than those that did not. This relationship may indicate standardized measurement’s utility in helping to achieve the design elements recommended for the well-child visits, or may be an indication of the overall strength of an intervention’s design and rigor.

INTERVENTION POTENTIAL, BARRIERS, AND CONSIDERATIONS FOR SCALE

Respondents were asked for suggestions related to measuring the caregiver-child bond at scale. Their suggestions included some standardized measures, but many are currently in development. Therefore, the efficacy of such measures is not yet known. The full list of suggestions for potentially measuring the success of strengthening the caregiver-child bond at scale includes:

- Measuring Alpha Amylase as an indicator of stress among parents and their very young children
- Quality of life measures for children and parents
- Additional measures of adult functioning (from a two generational perspective)
- Strange Situation Procedure measurement
- Simple measure of attachment besides the Strange Situation or Adult Attachment Inventory
- Attachment Inventory
- Brief Infant Toddler Social Emotional Assessment
- Parenting skills measures (e.g., Parenting Scale, Parent and Family Adjustment Scale)
- Parenting self-efficacy measures (e.g., Parenting Tasks Checklist, CAPES)
- Parent adjustment measures (e.g., Depression Anxiety Stress Scale)
- Parental relationship measures (Relationship Quality Index)
- Assessment of parent agreement over discipline (Parent Problem Checklist)
- Longitudinal and standardized use of PACT and CBT across all sites
- Parent Development Interview

All but two interventions specifically reported financial barriers to scaling their intervention, particularly in terms of continued funding (n=7), personnel (n=6), resources (n=6), training (n=4), and payer reimbursement (n=4). Beyond financial constraints, the primary reported barriers to scaling up were:

- Current intervention’s ability to maintain fidelity of concept, implementation, and training
- Gaining additional awareness and dissemination of the intervention
- Adapting and translating to appropriate contexts, cultures, and demographics beyond those originally addressed
- Obtaining sufficient scientific supporting evidence to increase clinical community credibility

These complement some of the existing barriers to scale that were identified within the environmental scan and described in [Section III](#).

V. VISION OF SUCCESS: NEXT STEPS

Based on the results of this project, the following five targeted lines of inquiry are recommended in order to further develop a theory of change for creating optimal, scalable approaches for promoting socioemotional development via well-child care. While the literature search was exhaustive and supported by a subset of experts within the field, lesser known interventions, interventions in development, or alternative interventions that use a combination of approaches could have been overlooked. In considering these lines of inquiry, it is also important to consider feasible interventions that may not even exist yet. Further testing and identification of areas for innovative scale may lead to modification or adaptation of these recommendations.

1. IDENTIFY AND IMPLEMENT STANDARDIZED SOCIOEMOTIONAL OUTCOME MEASUREMENT WITHIN PRIMARY CARE ASSESSMENTS

The importance of the caregiver-child bond's influence on socioemotional development is well recognized. There is an evident need to address the scarcity of existing validated measurement tools and relatively low instances of interventions measuring this critical bond in a standardized way within the context of the pediatric setting. Additionally, further investigation is needed to understand how interventions are currently addressing and measuring the caregiver-child bond and the stepladder of its socioemotional function, and how those processes can be improved and/or standardized.

More extensive and consistent use of standardized measurement may help ease an intervention's overall adoption within the primary care setting. Given the complexity of applying and implementing standardized measurement across diverse contexts and adopting at a larger scale, small pilot-level tests and collaboration among interventions may be necessary to accelerate this process.

Proposed Next Steps to create a validated measure for the caregiver-child bond:

- Identify common elements within any existing measurements of the caregiver-child bond.
- Develop, test, and implement a standardized measurement tool for assessing both improvement in socioemotional development outcomes within the context of the caregiver-child bond, and the caregiver-child bond itself.
- Ensure that adoption within existing interventions is feasible.
- Design a pilot learning collaborative using quality improvement methods that enables socioemotionally-focused interventions to implement this adoption.

2. DEFINE THE PATH FOR SCALING INTERVENTIONS IN THE PEDIATRIC SETTING

The work thus far has examined existing relevant interventions primarily through self-reporting. A more in-depth analysis, including direct observation, could provide a better understanding of which interventions, as well as which of their components, have had the most success in scaling or have the most potential for scaling. Additionally, it could be useful to examine other practices that have been scaled in the pediatric setting and how lessons from those efforts could inform scaling in the area of socioemotional development.

Proposed Next Steps to gain greater clarity and understanding about the path to achieving full scale in the pediatric well-child visit setting:

- Directly observe leading interventions to further identify best practices around scaling approaches in the pediatric setting.
- Investigate cases of other successful scaling practices within the pediatric setting to determine how they can be applied to the area of socioemotional development and scaling of the expert meeting recommended design elements.

3. VALIDATE THE DESIGN ELEMENTS RECOMMENDED FOR PEDIATRIC WELL-CHILD VISITS

In order to adopt the identified expert meeting design elements within the primary care clinic effectively, further exploration and evidence is needed to understand their interaction and impact in the field. Furthermore, the validity and viability of these design elements needs to be assessed with providers and other key experts. Knowledge must be gathered around how these inter-related design elements can be operationalized for specific settings and populations, whether they need to be implemented holistically or can be taken separately, and whether their prioritization is feasible.

If taken separately, it will be important to understand which design elements are most relevant for a specific intervention's approaches and contexts. Additionally, when considering the possible inclusion of one or more of these design elements into current practice, small tests should be administered to learn the necessary components for successful adaptation at larger scales. A learning collaborative model could be used to enable a small subset of interested providers to use and assess different interventions and the recommended design elements while learning from one another. Such a model has been used in several instances at NICHQ to effectively increase hospitals' adherence to and attainment of the WHO's 10 Steps to Successful Breastfeeding.

Proposed Next Steps to validate the design elements recommended for pediatric well-child visits:

- In partnership with the American Academy of Pediatrics, identify "bright spot" pediatric practices that are strengthening socioemotional development and caregiver-child bond to assess the practices' incorporation of the design elements.
- Create a tool that assesses intervention outcomes, in relation to incorporation of design elements, to improve the caregiver-child bond, both holistically and individually.
- Work with interventions and/or providers and practices through a learning collaborative model to administer, integrate, and incrementally test these design elements and their impact on providers.

4. INVESTIGATE IMPACT, SCALABILITY, AND COLLABORATION BETWEEN PEDIATRIC CARE AND OTHER SETTINGS

It is critically important to look at a child's life holistically. The survey of interventions gathered information pertaining to the six design elements strictly within the context of the well-child visit clinical encounter. While the research and experts agree on the potential of the pediatric well-child visit setting to address socioemotional development, the best opportunities to address this issue will likely span across multiple settings. Therefore, the five expert meeting design elements that were related to, but extending beyond, the well-child visit clinical encounter should also be considered. When considering an intervention's inherent scalability and feasibility, one must also look at its effectiveness.

It is important to acknowledge other settings' impact on socioemotional development, and how they might be leveraged through collaboration with primary care settings. Because intervention outcome data have thus far been self-reported, a different assessment approach is needed to determine which potential interventions are the most appropriate, effective, and scalable, particularly in terms of impact and resources. Given the low number of identified interventions exclusively focused on primary care, further investigation is also needed.

Proposed Next Steps to understand the opportunities for impact, scalability, and collaboration between the pediatric setting and other settings:

- Examine the existing impact and scale of approaches to socioemotional development and strengthening the caregiver-child bond that exist in settings other than, but potentially connected to, the pediatric setting.
- Further explore and identify existing scalable components ("kernels") within and through collaboration with pediatric interventions for socioemotional development and the caregiver-child bond.
- Develop and use objective and standardized measures to determine intervention impact and outcomes relating to potential feasibility and scale.

5. ESTABLISH A LEARNING COMMUNITY TO ENHANCE EXISTING INTERVENTIONS' EFFORTS TO SCALE

Intervention barriers to scale provide key areas to address in order to continue to increase the reach of the well-child care visit's impact on early socioemotional development and build an overall theory of change. Using an integrated approach to improvement is critical to address and feasibly overcome existing and potential barriers to scale. Current and potential efforts could be expanded more readily if their efforts were combined or done in partnership within a learning community. These types of collaborative learning environments can allow existing, promising initiatives to address barriers, such as scaling up capacity and means for training providers on how to implement optimal interactions. For example, NICHQ's experience with the collaborative process which utilizes NICHQ's Collaboratory, a web-based technology platform, supports geographically dispersed improvement teams working together to achieve rapid improvement at a large scale.

Proposed Next Steps to expand existing interventions' capacity to scale:

- Using an evidence-based set of guiding principles to partner with existing field leaders, analyze the related features of existing interventions, redesign interventions for scale, and move to implement them across settings and contexts.
- Design a learning community environment of interventions and approaches that is based in quality improvement and focused on addressing barriers to further scaling socioemotional interventions.

VI. CONCLUSION

All families deserve and can benefit from enhanced socioemotional functioning. There is a tremendous opportunity for the pediatric well-child visit to have a positive impact on the lives and socioemotional development of the overwhelming majority of U.S. families. Taking inspiration from this work, it will be important to look beyond existing interventions and discover if there are innovative ways to adapt elements of current interventions to design an effective system that is valuable for all stakeholders.

The following five targeted lines of inquiry are recommended in order to further develop a theory of change for creating optimal, scalable approaches for promoting socioemotional development via well-child care:

- 1. Identify and Implement Standardized Socioemotional Outcome Measurement within Primary Care Assessments** – Create a measure of the caregiver-child bond that can be implemented in pediatric care.
- 2. Define the Path for Scaling Interventions in the Pediatric Setting** – Clarify the path to achieving full scale within pediatric care, through case studies of prior scaling efforts within the setting and site visits to evaluate scaling successes and potential of current approaches.
- 3. Validate the Design Elements Recommended for Pediatric Well-Child Visits** – Work with interventions, providers, and/or practices to test and validate the six design elements related to the well visit.
- 4. Investigate Impact, Scalability, and Collaboration between Pediatric Care and Other Settings** – Examine the opportunities for synergy across settings, including the five recommended design elements that extend beyond the well visit.
- 5. Establish a Learning Community to Enhance Existing Interventions' Efforts to Scale** – Create a network for existing interventions to share scaling strategies and accelerate their scaling efforts.

Advancing these five next steps will lead toward the development of a credible theory of change around how to target interventions to promote children's socioemotional development within the well-child visit and can strengthen efforts in primary care to promote the optimal healthy development that all children deserve.

NICHQ, Ariadne Labs, and EFCT are dedicated to creating the space to explore ways to catalyze activity toward these goals. If you are interested in discussing those plans and/or collaborating in any way, please contact Scott Berns at NICHQ (sberns@nichq.org), Lisa Hirschhorn at Ariadne Labs (lhirschhorn@ariadnelabs.org), or Ira Hillman at EFCT (ira@efct.org).

REFERENCES

- 1 National Research Council and Institute of Medicine (2000) *From Neurons to Neighborhoods: The Science of Early Childhood Development*. Committee on Integrating the Science of Early Childhood Development. Jack P. Shonkoff and Deborah A. Phillips, eds. Board on Children, Youth, and Families, Commission on Behavioral and Social Sciences and Education. Washington, D.C.: National Academy Press.
- 2 Tough, P (2013). *How Children Succeed: Grit, Curiosity, and the Hidden Power of Character*. Mariner Books, Reprint Edition. ISBN: 0544104404.
- 3 Shonkoff, JP, & Bales, SN (2011). Science does not speak for itself: translating child development research for the public and its policymakers. *Child development*, 82(1), 17-32. doi:10.1111/j.1467-8624.2010.01538.x.
- 4 Van Berckelaer, AC, Mitra, N, & Pati, S (2011). Predictors of well-child care adherence over time in a cohort of urban Medicaid-eligible infants. *BMC Pediatrics*, 11, 36. doi:10.1186/1471-2431-11-36
- 5 Committee on Psychosocial Aspects of Child and Family Health and Task Force on Mental Health. Policy statement--The future of pediatrics: mental health competencies for pediatric primary care. *Pediatrics*. 2009;124(1):410-421. doi:10.1542/peds.2009-1061.
- 6 Hagan, JF, Shaw, JS, & Duncan, PM (2008). *Bright Futures Guidelines for Health Supervision of Infants, Children and Adolescents* (3rd ed.). Elk Grove Village, IL: American Academy of Pediatrics.
- 7 Committee on Psychosocial Aspects of Child and Family Health & Task Force on Mental Health, 2009.
- 8 Briggs RD, Stettler EM, Silver EJ, et al (2012). Social-Emotional Screening for Infants and Toddlers in Primary Care. *Pediatrics*. 2012;129(2):e377-e384. doi:10.1542/peds.2010-2211
- 9 Patlak, M., & Health, B. (2014). Strategies for Scaling Effective Family- Focused Preventive Interventions to Promote Children's Cognitive, Affective, and Behavioral Health Workshop Summary
- 10 Wisow LS, Brown J, Fothergill KE, et al. Universal Mental Health Screening in Pediatric Primary Care: A Systematic Review. *Journal of the American Academy of Child & Adolescent Psychiatry*. 2013;52(11):1134-1147.e23. doi:10.1016/j.jaac.2013.08.013
- 11 Promoting Social-Emotional Development. National Center for Infants, Toddlers, and Families: <http://www.zerotothree.org/child-development/social-emotional-development/>
- 12 Halfon, N, Hochstein, M. (2002) Life course health development: an integrated framework for developing health, policy, and research. *Milbank Q*. 80(3);433-479, iii
- 13 Felitti, VJ, Anda, RF, Nordenberg, D, Williamson, DF, Spitz, AM, Edwards, V,... Marks, JS (1998). Household Dysfunction to Many of the Leading Causes of Death in Adults The Adverse Childhood Experiences (ACE) Study, 14(4), 245-258

- 14 Maslow, AH (1943). A Theory of Human Motivation. *Psychological Review*, 50(4), 370-96.
- 15 Tay, L, & Diener, E (2011). Needs and subjective well-being around the world. *Journal of Personality and Social Psychology*, 101(2) 354-365
- 16 National Scientific Council on the Developing Child. Winter, 2004. "Children's Emotional Development Is Built into the Architecture of Their Brains" Working Paper No. 2
- 17 Foy, JM (2010). Enhancing pediatric mental health care: report from the American Academy of Pediatrics Task Force on Mental Health. Introduction. *Pediatrics*, 125 Suppl (June), S69-74. doi:10.1542/peds.2010-0788C.
- 18 Center on the Developing Child at Harvard University. (2010). *The Foundations of Lifelong Health Are Built in Early Childhood*. Retrieved from <http://www.developingchild.harvard.edu>.
- 19 Sege, RD, & De Vos, E (2010). Evidence-based health care for children: what are we missing? *Issue Brief (Commonwealth Fund)*, 85, 1-14
- 20 Committee on Psychosocial Aspects of Child and Family Health and Task Force on Mental Health. Policy statement--The future of pediatrics: mental health competencies for pediatric primary care. *Pediatrics*. 2009;124(1):410-421. doi:10.1542/peds.2009-1061.
- 21 Sege R, Preer G, Morton SJ, et al (2015). Medical-Legal Strategies to Improve Infant Health Care: A Randomized Trial. *Pediatrics*. June 2015:peds.2014-2955. doi:10.1542/peds.2014-2955.
- 22 Olson AL, Kelleher KJ, Kemper KJ, Zuckerman BS, Hammond CS, Dietrich AJ. Primary care pediatricians' roles and perceived responsibilities in the identification and management of depression in children and adolescents. *Ambul Pediatr*. 2001;1(2):91-98.
- 23 U.S. Department of Health and Human Services (US DHHS): Home Visiting Evidence of Effectiveness. Retrieved May 14, 2015, from www.homvee.acf.hhs.gov/models.aspx.
- 24 Ringwalt, S (2008). Developmental screening and assessment instruments with an emphasis on social and emotional development for young children ages birth through five. Chapel Hill: The University of North Carolina, FPG Child Development Institute, National Early Childhood Technical Assistance Center.
- 25 Brookes, PH, & Co, P (2009). Excerpted from ASQ-3 User's Guide, Copyright © 2009 by Paul H. Brookes Publishing Co. Inc., All rights reserved. 1, 3-6.
- 26 Bayley, N (2005). *Bayley Scales of Infant and Toddler Development; Technical Manual* (3rd ed.). Harcourt Assessment, Inc.
- 27 Carter, AS, Briggs-gowan, MJ, Jones, SM, & Little, TD (2003). The Infant – Toddler Social and Emotional Assessment (ITSEA): Factor Structure , Reliability , and Validity, 31(5), 495-514.

- 28 Beck, AT, Ward, CH, Mendelson, M, Mock, J, & Erbaugh, J (1961) An inventory for measuring depression. *Archives of General Psychiatry*, 4, 561-571.
- 29 Beck, AT, Steer, RA, & Garbin, MG (1988) Psychometric properties of the Beck Depression Inventory: Twenty-five years of evaluation. *Clinical Psychology Review*, 8(1), 77-100.
- 30 Carleton, RN, Thibodeau, MA, Teale, MJN, Welch, PG, Abrams, MP, Robinson, T, & Asmundson, GJG (2013). The center for epidemiologic studies depression scale: a review with a theoretical and empirical examination of item content and factor structure. *PloS one*, 8(3), e58067. doi:10.1371/journal.pone.0058067.
- 31 American Psychological Association. (n.d.). Parenting Stress Index. Retrieved from <http://www.apa.org/pi/about/publications/caregivers/practice-settings/assessment/tools/parenting-stress.aspx>.
- 32 Abidin, RR (2012). *Parenting stress index* (4th ed.). Lutz, FL: PAR.
- 33 Maternal depression and child development. (2004). *Paediatrics & Child Health*, 9(8), 575-583.
- 34 Morawska, A, Sanders, MR, Haslam, D, Filus, A, & Fletcher, R (2014). Child Adjustment and Parent Efficacy Scale: Development and Initial Validation of a Parent Report Measure. *Australian Psychologist*, 49(4), 241-252.
- 35 McLaren, L (1988). Fostering mother-child relationships. *Child Welfare*, 67(4), 353-365



