

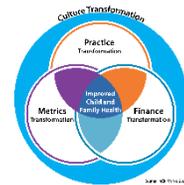
Young Child Health Transformation: What Practice Tells Us

Evidenced-Based and Promising Programs; Child Medical System
Change Initiatives; and Principles, Qualities, and Attributes of
Effective Practice Upon Which to Build

Working Paper

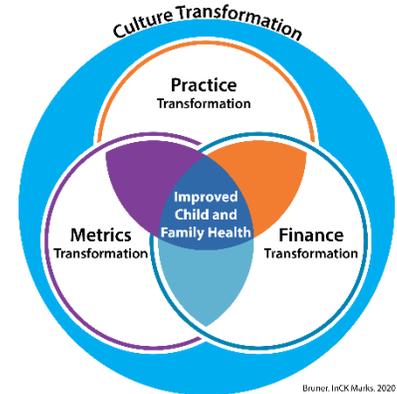
InCK Marks Child Health Care Transformation Series

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Framework for Transforming Children's Health Care

Children's primary care providers include: pediatricians in solo or group practice, family practitioners in rural and urban clinics, nurse practitioners and physician assistants in community health centers, and others. All aim to be a family-centered medical home.



Research and professional guidelines such as *Bright Futures* point to a need for more family-centered medical homes that emphasize: 1) prevention, promotion, attachment, and healthy development, 2) meaningful family engagement, and 3) connections to and collaborations with other services in the community. In addition to providing high quality medical care, child health practitioners are being called upon to identify and initiate responses to individual needs within the social determinants of health, including stress and adversity (economic, social, and psychological). In short, they are being called upon to transform their practice.

Changing the culture of children's primary care will require transformation in practice, measurement, and financing. Most important, transforming child health care will require a culture of practice with emphasis on whole family team-based care, health equity and long-range outcomes, not short-term costs.

Across the country, exemplary practices demonstrate how to create high-performing medical homes, which deliver more team-based, relational, and family-centered primary and preventive services. We have the knowledge base to move toward broader diffusion and adoption of child health care transformation.

[InCK Marks](#) encourages child health practitioners, experts, advocates, researchers, and policy makers to help advance child health care transformation and promote health equity for all children.

- **Practice Transformation** – Moving toward more high performing, family-centered medical homes with prevention, promotion, developmental, behavioral, and other services that respond to both bio-medical and social determinants of health. This includes reaching the standards set by *Bright Futures* and the expectations set by Medicaid's Early and Periodic Screening, Diagnostic, and Treatment (EPSDT) benefit.
- **Metrics Transformation** – Using measures and measurement tools to guide performance and support practice transformation, including those related to the child, home environment, and family strengths and goals. Practice-level measurement tools and system-level and population level metrics are all needed.
- **Finance Transformation** – Providing financing that recognizes how preventive and promotive primary care for young children has lifelong impacts and long-term cost savings across multiple public systems, that rewards the greater value of high performing medical homes over existing practice. This is particularly true for Medicaid financing.
- **Culture Transformation** – Advancing health equity via transformed medical homes that value and build from family culture, strengths, and goals and are connected to the neighborhoods and communities served. Assuring family-centered care focused on healthy development (cognitive, social/relational, emotional/behavioral, and physical) requires advancing equity and combatting racism and bias in all its forms

Preface

Internationally, children in the United States ranked 37th in their well-being among 41 high and middle-income countries (above only Mexico, Bulgaria, Rumania, and Chile), according to a 2017 UNICEF report.¹ At the same time, the United States spends more per capita on medical care than all of these countries and less on preventive, promotive, and developmental health-related and other services.^{2 3} Health care, broadly defined, is not the only factor contributing to child well-being, but it does play a substantial role, particularly in the earliest years of life.

This working paper is about what we know about transforming child health care in the critical prenatal-to-three years to improve child health and well-being. Current research and practice innovations do not provide all the answers to how best to transform child health care, but this working paper offers a state-of-the-field review of the literature, particularly related to evidenced-based programs and systems change initiatives and their attributes, which shows the substantial (and growing) knowledge base about the promise of child health transformation to improve child health and well-being. Its conclusion is simple: We know enough to act – both broadly and deeply.

The takeaway messages of this working paper are provided both on the next page and at the end of the paper. This working paper is just that; it is designed to elicit further comment and encourage those in the field to continue to revise, refine, and expand upon the evidence base provided from this state-of-the-field review.

This paper is part of a series of working papers on child health care transformation based upon the framework established by the InCK Marks National Advisory Team: Charles Bruner, Kay Johnson, Maxine Hayes, Kamala Allen, Mayra Alvarez, Melissa Bailey, Scott Berns, Elisabeth Burak, Paul Dworkin, Wendy Ellis, Jeff Hild, Shadi Houshyar, Nora Wells, and David Willis. Charles Bruner and Kay Johnson took particular responsibilities in developing this working paper, with, Maxine Hayes, Melissa Bailey, Paul Dworkin, Jeff Hild, and David Willis providing oversight and careful review.

Acknowledgements and Disclaimers

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Opportunities for Child Health Transformation for Young Children

Takeaway Messages

1. We have a substantial set of evidenced-based and promising program models in young child health care upon which to build and expand. These apply a more holistic, prevention, promotion, and developmental approach to improving child health and life course trajectories in the context of the family and community.
2. We have more systemic approaches to child health transformation that draw upon and incorporate these different program models into primary care practice and response, both within medical practice and connected to community services.
3. These program models, innovative practices, and system reforms have advanced sufficiently to be recognized as the desired standard of care within primary child health practice.
4. These program models, innovative practices, and system reforms share common principles or attributes that go beyond individual program elements and involve the relationships that practitioners and staff develop with children and families and their communities. These represent the skills and qualities that are fundamental to practice transformation.
5. Advancing innovative practices to become the standard of care is moving beyond solely testing new models and attracting early adopters to the stage of developing the overall policy, financing, and accountability expectations within the child health system needed to support majority adoption of such practice, particularly focused upon child populations (and neighborhoods) of highest opportunity and need.

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Introduction: Child Health and the Earliest Years of Life

The field of child health care is undergoing transformation. From definitions of child health⁴ and health equity^{5 6 7} and medical homes for children^{8 9 10} to the new standards for well-child visits outlined in the latest edition of *Bright Futures*,¹¹ the expectation is growing for the child health practitioner both to respond earlier to a child's developmental concerns (physical, cognitive, social, and emotional) and to provide at least a first response to the home environment upon which healthy child development is based. The P.A.R.E.N.T.S. Science (Protective factors,^{12 13 14} Adverse childhood experiences,^{15 16 17 18} Resiliency,^{20 21 22} Epigenetics,^{23 24} Neurobiology,²⁵ Toxic stress,^{26 27} and Social determinants of health^{28 29}) underscores the critical role of the first years of life to a child's lifelong development and the foundational role parents and caregivers play in that development.^{30 31} Achieving equity in early childhood is also a priority driving transformation.³²

Child health practice champions and innovators have created a diverse array of new models, programs, and practices, many with impressive research findings. Some of these represent discrete new program models that might be incorporated into any practice. Others have been more systemic and designed to change overall pediatric responses within a medical system (particularly within federally qualified health centers (FQHCs) or children's or other teaching hospitals). Most recognize that success is dependent as much upon the skills and qualities of staff and the relationships established with the child and family (qualities or attributes of effective practice) as the specific program elements or protocols.^{33 34}

The first three years are a particularly important time for pediatric practice transformation. During this period, the child's primary care provider typically has the most contact with the child and family in the professional setting most well positioned to respond to the family's needs and the child's development.³⁵ During this period, visits to a child health practitioner are most frequent, both because of the numbers of recommended well-child visits and the fact that children are most likely to have infections or illnesses which require medical care. This also is a time of rapid growth and the child's home and community environment and foundational relationships play a huge role in a child's development – physical, cognitive, social, and emotional.^{36 37} In terms of school readiness at age five and even measured development at age three, there already are profound, preventable differences in development by place, race, and poverty that require responses that extend well

Working Definitions for Key Terms

Child health is a state of physical, mental, intellectual, social and emotional well-being and not merely the absence of disease or infirmity. Healthy children live in families, environments, and communities that provide them with the opportunity to reach their fullest developmental potential. World Health Organization

Health equity is achieving the highest level of health for all people. Health equity entails focused societal efforts to address avoidable inequalities by equalizing the conditions for health for all groups, especially for those who have experienced socioeconomic disadvantage or historical injustices. Healthy People 2020

Medical Home is an approach to providing comprehensive primary care that facilitates partnerships between patients, clinicians, medical staff, and families. National Resource Center for Patient/Family-Centered Medical Home

beyond medical care.^{38 39 40 41} Yet this is also the period when the fewest public investments in healthy child development occur.⁴²

Effectiveness Research and High Performing Medical Homes

Increasingly, policy makers and child health funders are seeking to take action to address such disparities. They also are looking for, and sometimes requiring, evidence of program or practice effectiveness before making those investments.⁴³ (While the determination of whether a program is “evidenced-based” is subject to various interpretations and there is no single methodological standard for such determination, such designation generally involves research findings that have been published in a peer-reviewed journal.)

This has been most pronounced in the many studies and analyses of preschool programs, with proponents often citing high rates of return on such investments and policy makers making investments in them.⁴⁴ This also has been true with home visiting, with the Maternal Infant and Early Childhood Home Visiting (MIECHV) federal initiative placing an explicit emphasis upon reviewing and establishing home visiting models with sufficient research findings to warrant the designation of being “evidenced-based” and giving them priority for funding.⁴⁵

In addition to these, there also have been several independent efforts to synthesize at least a portion of the research in the field and to identify, particularly in the prenatal to age three period, evidenced-based or promising program models that advance healthy child development which concentrate upon (or include) those initiated or directly linked to the primary child health practitioner. Some are systematic reviews of the research literature.^{46 47 48} Others are analyses designed to inform policy and practices. These various research syntheses should not be viewed as comprehensive efforts to fully identify the published programmatic literature and are far from an exhaustive list of all programs that might be identified. Each takes a somewhat different approach to identifying programs. The programs they do identify defy neat categorization, as some are very discrete additions to some element of primary child health practice while others seek to more broadly change the overall practice itself.

In general, however, the program models and practices identified can be applied to the primary (well-child) pediatric visit in one or more of three areas:

1. **Office visit:** Interactions the practitioner and other staff have with the child and family (screening, anticipatory guidance, brief interventions, information gathering and dissemination in the office, and the structure of the visit);
2. **Enhanced care coordination:** Additional or enhanced care coordination or family engagement is offered or provided to respond to potential issues or concerns outside the normal well-child visit (including referrals and follow-ups for community services); and
3. **Additional health-related and community services:** Additional promotion, prevention and early intervention services to address identified concerns and enhance strengths, within or outside the practice, including those related to parent-child nurturing and support.

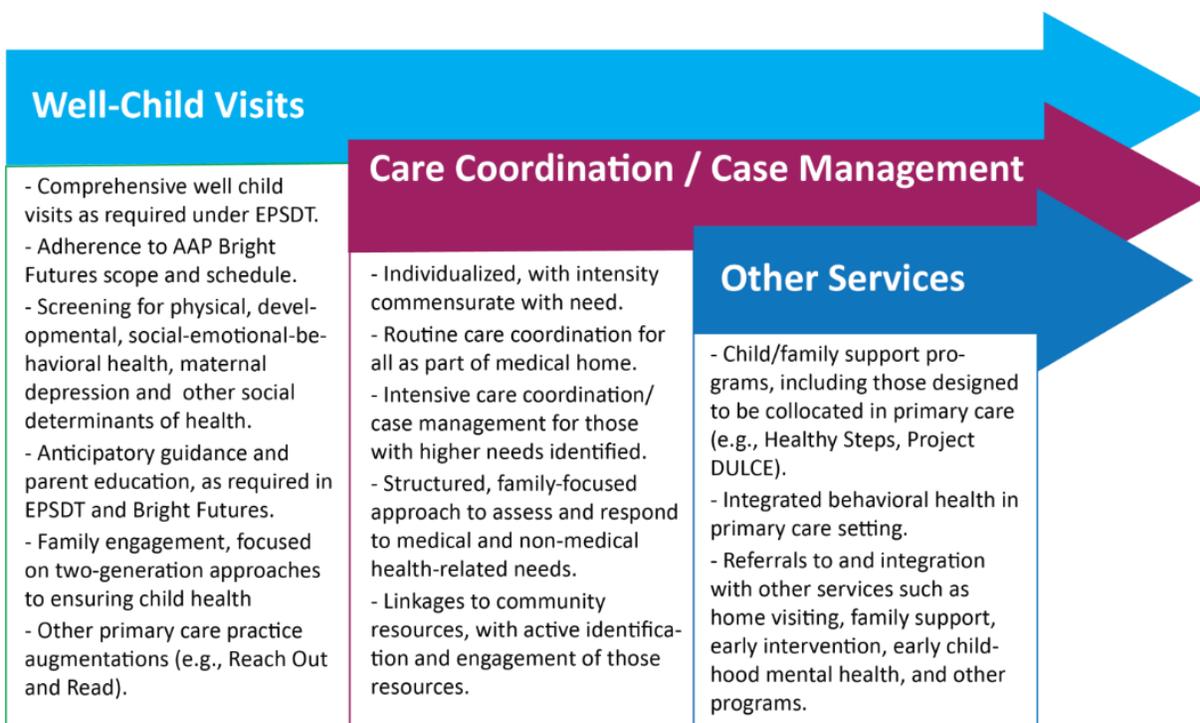
These have been described as core elements of a “high performing medical home,”⁴⁹ depicted in Figure One, which may be structured in different ways but involves additional practitioners with expanded

knowledge and skills. For greatest effectiveness, all three areas need to be addressed and aligned, but gains have been achieved incrementally by pursuing a program model that addresses only one particular area.

Particularly within larger practices, child health champions and innovators also have taken a more systemic approach, seeking to transform child health through addressing practice elements across all these areas within their settings. In many instances, these have drawn from multiple program models in doing so. Some have been subject to substantial research showing their benefits.

Finally, some research into effective program models or systemic changes has sought to describe the qualities, attributes, or practice approaches that are reflected in or common to effective program model operation or to systems change efforts. This research also has suggested that those seeking to adopt models or make systems changes to view these qualities or attributes as core to successful replication or adaptation. This paper first describes the research base related to program models, then related to more systemic approaches, and finally to the qualities or attributes of those models and approaches.

Figure One: High Performing Medical Homes for Young Children



State-of-the-Field Summary of Research on Evidenced-Based or Promising Models for Young Child Primary Care

In the last several years, several different environmental scans of published studies within early childhood have focused upon or at least incorporated evidenced-based or promising programs which involve the child health practitioner in expanded and key roles. None provides a comprehensive review and even the compilation of their lists likely does not identify all programs originating in the child health practitioner setting with strong research findings. At the same time, the fact that these independent reviews with different foci came up with a substantial and often overlapping list of evidenced-based programs points to the emergence of a field of practice with a strong evidence base.

- In 2017, the National Institute for Children’s Health Quality (NICHQ), with Ariadne Labs and the Einhorn Family Charitable Trusts, conducted an environmental scan for promising programs to improve young children’s social and emotional development, identifying 26 different programs, 16 of which in use in the child health primary care setting. Developed as part of the Promoting Optimal Child Development Project, the analysis sought to identify “optimal, scalable approaches for promoting healthy socioemotional development and improving the caregiver-child bond via well-child care.”⁵⁰
- Continuing a series of analyses related to early childhood programs, in 2018 a RAND report identified 115 evidenced-based programs in early childhood, some in early care and education or in providing economic supports to families but some also connected to parenting and family support – with a number, particularly of the latter category, being based within or having strong connections to primary child health practice.⁵¹
- A 2018 report on health equity prepared for the Robert Wood Johnson Foundation identified and enumerated promising efforts to improve young child health equity from pediatric care sites, describing a number of these programs as contributing to reducing health disparities and improving young children’s healthy development.⁵²
- In 2019, the National Academy of Sciences Engineering and Medicine (NASEM) released a report, *Vibrant and Healthy Kids*, with a section on innovative child health delivery models, describing a number of promising practices.⁵³ In addition, other recent reports from NASEM review the evidence on strategies and programs to promote healthy development, including: a) effective family-focused preventive interventions,⁵⁴ b) fostering healthy mental, emotional, and behavioral development,⁵⁵ c) supporting parents of children ages 0-8,⁵⁶ and d) moving from evidence to implementation in early childhood programs.⁵⁷
- Between 2015 and 2017, the Health Equity and Young Children (HE&YC) Initiative of the Child and Family Policy Center operated a learning collaborative which included six exemplary young child health program models (and six more systemic efforts) – all designed to improve young children’s health trajectories through primary and preventive health services.⁵⁸
- In 2018, the Center for the Study of Social Policy worked to identify candidates for a similar learning collaborative for the Pediatrics Supporting Parenting initiative, starting with the identification of 68 candidates and narrowing those to 12 program models, later following up with site visits of those programs.⁵⁹

Each of these studies used different criteria for their identification and designation of promising programs and sites, but there was substantial overlap in the programs they identified. Table One shows a composite picture of the program models identified by these six distinct efforts, which include 40 different programs in all, many represented on several lists. It speaks to the substantial innovation and growing research base in the early childhood primary health care practice arena. While Reach Out and Read has nearly a thirty-year history, most of the programs represented are more recent, yet contributing to a strong and growing base of tested programs. Many of these have evolved beyond a demonstration site to broader application and diffusion, while also engaging in continuous learning and improvement activities. The array of such evidenced-based and promising programs collectively provides a basis for states, communities, practices, and health financing systems to take actions to enhance primary promotion and preventive child health services. In addition to these programs, there also now is a national enumeration of evidenced-based home visiting programs that are operating in many communities. Some, but not all of these, are on this list, and there is much more research and evidence on home visiting programs than shows up on this program list. A specific Project LAUNCH project is cited, but there are a number of different Project LAUNCH projects that are much more community and early childhood system based and some of these also have research components and evidence that could be reviewed in a more comprehensive meta-analysis of the field.

The bottom line from Table One is that there are a number of recognized, promising and evidenced-based programs (many with evidence that compare favorably with those in the early care and education world)⁶⁰ to draw upon in developing more preventive, promotive, and developmental primary health services for young children. There is a growing array both of exemplary programs showing the efficacy of such an approach and the diffusion and adaptation of such programs into the field suggesting the ability to retain effectiveness as programs are scaled.

Table One: Crosswalk of Evidenced-Based/Promising Program Lists from Select Reviews Involving Primary Child Health Care for Young Children (0-3)

Program or Model	NICHQ	CSSP	NASEM	RAND	HERWJ	HE&YC
ACE Screening Intervention						
Attachment and Biobehavioral Catch-up (ABC) *						
Brazelton Touchpoints						
Centering Parenting						
Centering Pregnancy						
Chicago Doula Project						
Child First *						
Circle of Security Parenting						
Collaborative Problem-Solving Approach						
Community Health Workers						
DULCE						
Empowering Mothers						
Family Connects *						
Family Foundations						
Family Spirit *						
Filming Interactions (FIND)						
Health Leads						
Healthy Start Plus Family Thriving						
HealthySteps						
Help Me Grow						
Incredible Years						
Infant Health and Development Program						
Infant Parent Psychotherapy (IPP)						
Medical Legal Partnerships						
Infant/ Early Childhood Mental Health Consultation						
Minding the Baby *						
MOMs						
My Baby and Me						
Newborn Individualized Development Care (NIDCAP)						
Nurse Family Partnership *						
Parent-Child Interaction Therapy (PCIT)						
Parent-Focused Redesign (PARENT)						
Pri-Care						
Project Launch – Massachusetts						
Promoting First Relationships						
Quality Through Technology (QTIP)						

Reach Out and Read						
SEEK (Safe Environment for Every Kid)						
Strengthening Families						
Triple P Positive Parenting Program						
Video Interaction Project						
WE CARE						

TABLE NOTES: There are many more programs that have a research or evidence based that have or could be used within a pediatric setting than those enumerated in these different reviews, none of which sought to be comprehensive and exhaustive.

* Those with asterisks represent home visiting program models and all five are included in the more than 20 home visiting programs approved in the federal Home Visiting Evidence of Effectiveness (HomVEE) system as of October 2019.

Project LAUNCH Massachusetts is a particular, well-researched LAUNCH site from a number of Project LAUNCH (Linking Actions for Unmet Needs in Children's Health) Initiatives supported by federal funding from the Substance Abuse and Mental Health Services Administration (SAMHSA) and designed to improve children's healthy development birth to eight. A cross-site, multi-year evaluation is available at: <https://www.acf.hhs.gov/opre/research/project/cross-site-evaluation-of-project-launch-linking-actions-for-unmet-needs-in>

State-of-the-Field Summary of Research and Case Studies of System Change Initiatives to Transform Primary Care Practices for Young Children

In addition to these specific program models, child health practitioner champions and innovators within larger medical systems, particularly children's or teaching hospitals or FQHCs, have sought multiple child health changes that often draw upon specific models but also seek to incorporate a new primary care service delivery structure that extends beyond a particular programmatic addition. These champions give attention to changing the practice paradigm or the culture within their systems to be more family-centered, ecological, flexible, and holistic in their responses, extending beyond traditional medical services. CFPC's HE&YC Initiative, supported by the Robert Wood Johnson Foundation, included six such system change efforts within its learning collaborative.⁶¹ These initiatives tend to be funded from multiple sources, often leveraging some funding from the medical system, additional local resources and partnerships with community service providers, and foundation or federal project funds. While many include research components, they generally seek to identify impacts at the patient population level rather than for discrete elements within their programs. Often, these systems reforms represent iterative approaches that are strategic and opportunistic in responding to their experiences and patient needs, incorporating additional components or systems change elements as they mature.

In addition to the six efforts selected by the HE&YC Initiative, there is a growing body of such innovations throughout the country, some with substantial research evidence, although there is not yet a network established across them. Appendix One provides a brief description of the six systems initiatives involved with the HE&YC Learning Collaborative along with a number of others most often

cited in the literature because of their research findings and testing. While all these are robust efforts both to transform practice and to learn and evaluate and continuously improve as they do so, they are by no means more than a small representation of innovative efforts developing at the ground level. More detailed information about the initiatives described in Appendix One is contained and in another InCK Marks report.

“Effective implementation of an intervention starts with identifying its core components and the logic model or theory of how those components are intended to bring about the desired outcome. Also sometimes referred to as the active ingredients, essential elements, or mechanisms of change, core components are those variables that are essential if a program is to function as designed.... Identifying those components that are truly essential makes it possible to then adapt nonessential elements to meet local needs and preferences” NAM.
Fostering Healthy Mental, Emotional, and Behavioral Development in Children and Youth. p. 222.

State-of-the-Field Summary of Core Principles, Qualities, and Attributes Associated with Evidenced-Based Programs and Systems Change Initiatives.

In 1989, Lisbeth Schorr’s *Within Our Reach*⁶² described a number of highly successful social programs serving vulnerable children and youth and looked deeper into them, beyond specific program structure, to the attributes that appeared as foundational to their effectiveness. The National Center for Service Integration’s 1994 report, *Beyond the Buzzwords*,⁶³ identified a complementary set of principles of effective practice, including a description of reform efforts across education, social services, mental health, early childhood education, child welfare, and other services and their definitions of similar, undergirding principles. When working with young children and their families, particularly in efforts to strengthen the safety, stability, and nurturing in the home environment, it long has been recognized that effective social responses are based upon developing relationships and the skills of the frontline practitioner in understanding and working with the families being served. The fact is that programs and models are dependent for their success in significant measure by the qualities and implicit biases of the staffing and the approach to children and their families and not just the specific program model under which they may operate.

In terms of primary child health care, there also have been several efforts to define such principles or attributes of effective practice. This includes the definition of a medical home adopted by the AAP, the American Academy of Family Physicians, the American College of Physicians, and the American Osteopathic Association⁶⁴ and what qualities it possesses: accessible; family-centered; continuous; comprehensive; coordinated; compassionate; and culturally effective (see insert).

The 2016 National Academy of Science, Engineering and Medicine report *Parenting Matters: Supporting Parents of Children Ages 0–8* describes specific elements of effective programs, which include (1) parents as partners, (2) tailoring interventions to parent and child needs, (3) service integration and interagency collaborative care, (4) peer support, (5) trauma-informed services, (6) cultural relevance, and (7) inclusion of fathers.⁶⁵

In 2018, the HE&YC Learning Collaborative representatives from six exemplary programs and six systems initiatives reported in more detail on the elements and qualities that were common to the success of their care coordination and community engagement efforts, with emphasis upon the qualities and skills of that care coordinator, including: patient/family centered with a concerted and persistent engagement with and empowerment of families; emphasis upon fostering family capacity, strengths, and resources; recognizing the care coordinator as integral to and a partner with the medical home team; engaging with other agencies/partners; continuous improvement and learning; and flexibility, humor, humility, and self-care.⁶⁶ These qualities were further spelled out in ways to distinguish them from traditional practice and offer guidance to incorporating and sustaining them within practice (see Appendix Two for some of this detail).

Similarly, the Center for the Study of Social Policy (CSSP), conducting visits to 10 exemplary sites within pediatrics (which themselves employed different program models), identified 14 common practices to support the social and emotional development of young children and the parent child relationship, grouped within three categories: 1. nurture parents' competence and confidence; 2. connect families to additional supports to promote healthy social and emotional development and address stressors; and 3. Develop the care team and clinic infrastructure.⁶⁷ Appendix Three provides more detailed descriptions of the 14 common practices.

Collectively, these different iterations point to a knowledge base regarding effective practice that recognizes the centrality for foundational relationships, starting where families are, and supporting them in their development and responsibility to nurture and protect their children. This cannot be reduced to a simple program model. It requires that programs and models include these key elements as a major part of their mission and culture and continuous training, reflection, and improvement activities. While much of the emphasis over the last decade has been upon identifying evidenced-based programs as a condition for making public investments, both Appendices Two and Three point to the re-emergence of attention to broader principles for practice change very much in keeping with the work

Description of Select Elements of a High-Quality Medical Home and its Relation to Families

Family-centered: The family is recognized and acknowledged as the primary caregiver and support for the child, ensuring that all medical decisions are made in true partnership with the family.

Comprehensive: Preventive, primary, and specialty care are provided to the child and family.

Coordinated: A care plan is created in partnership with the family and communicated with all health care clinicians and necessary community agencies and organizations.

Compassionate: Genuine concern for the well-being of a child and family are emphasized and addressed.

Culturally Effective: The family and child's culture, language, beliefs, and traditions are recognized, valued, and respected.

around effective practices related to service integration and population-level change established a quarter century ago.⁶⁸ (see Appendix Four).

Discussion of Progress

Particularly when seeking to fundamentally transform the operation of programs, practices, and systems, the diffusion of innovation literature⁶⁹ often is cited as a core to understanding and accelerating change. The diffusion of innovation discusses five stages in the process of transforming systems to new program or practice – starting with innovators, going to early adopters, extending beyond (with the help of respected colleagues) to the early majority, then picked up by the late majority, and finally dealing with laggards in the field. Moving from an investment in innovation⁷⁰ and often the development of new paradigms to replace older models,⁷¹ diffusion is advanced by attracting early adopters and advocates that extend to support from respected colleagues in the field, which then sets the groundwork for changing the overall standard of practice for the field.⁷²

In terms of primary child health practice transformation, there has both been substantial innovative practice and early adoption of program models and broader systems efforts, with further articulations by respected colleagues and leaders in the field.⁷³ Advancing to its incorporation by the majority of practices, as the operating standard of care, not only requires continued innovation and learning in the field, but also establishing the pathways for infrastructure and general financing system change for moving into the standard of practice by the majority of those in the field.

While there will always be some “flying the plane while building it” entailed in this work, the child health transformation field has advanced sufficiently to move beyond supporting testing of new models to rigorously applying what has been learned to make it part of the financing and management of primary child health care for the field as a whole. In short, we now “know enough to act” to build the policy will and support for establishing policy and financing systems to advance it, as well as continue to work to promote continuous improvement and learning at the practice level (see takeaway messages, below).

Opportunities for Child Health Transformation for Young Children

Takeaway Messages

1. We have a substantial set of evidenced-based and promising program models in young child health care upon which to build and expand. These apply a more holistic, prevention, promotion, and developmental approach to improving child health and life course trajectories in the context of the family and community.
2. We have more systemic approaches to child health transformation that draw upon and incorporate these different program models into primary care practice and response, both within medical practice and connected to community services.
3. These program models, innovative practices, and system reforms have advanced sufficiently to be recognized as the desired standard of care within primary child health practice.
4. These program models, innovative practices, and system reforms share common principles or attributes that go beyond individual program elements and involve the relationships that practitioners and staff develop with children and families and their communities. These represent the skills and qualities that are fundamental to practice transformation.
5. Advancing innovative practices to become the standard of care is moving beyond solely testing new models and attracting early adopters to the stage of developing the overall policy, financing, and accountability expectations within the child health system needed to support majority adoption of such practice, particularly focused upon child populations (and neighborhoods) of highest opportunity and need.

Appendix One:

Select and Notable Systems Change Initiatives

This Appendix describes select exemplary system change initiatives identified through projects and scans conducted by the authors over the past five years. Some were identified through the Health Equity and Young Children Collaborative Innovation Network, and others were identified through a recent InCK Marks scan of the literature and the field. While these represent some notable examples of practice transformation, they do not seek to be a detailed review of the field. There almost certainly are many other examples of practice transformation and systems change in primary care for young children in communities across the country. These represent ones that have received some level of national recognition – and often have secured foundation or other funding to enable them to significantly enhance their programmatic as well as systems change features in their pediatric settings.

These exemplary systems change initiatives have: a) aimed to transform primary pediatric care, b) integrated various other services and models within this transformation, and c) provided effective care coordination in a family-centered, community-based systems approach. They show how practice transformation can be based in and led by children’s hospitals, federally qualified health centers (FQHCs), health care systems, and other entities. Most can be described as or are aiming to become high performing medical homes.

Systems Change Initiatives in the Health Equity and Young Children Collaborative Innovation Network.

Five systems change initiatives were identified through and active in the 2016-2018 Health Equity and Young Children Collaborative Innovation Network, funded under a grant from the Robert Wood Johnson Foundation and led by the Child and Family Policy Center. This group of exemplary sites worked together over a two-year period to help define the key elements of an advanced, high performing medical home and to identify the essential attributes of a system to support the health, development, and well-being of young children and their families.

The Children’s Clinic, “Serving Children & Their Families” (TCC) was founded in 1939 in the greater Long Beach Community in California to provide health care for all children. TCC serves as the anchor organization for the Moving Health Care Upstream team in Long Beach to provide innovative, integrated, quality care that contributes to a healthy community. TCC offers an advanced medical home that goes well beyond medical care and responds to legal concerns and social risks, as well as partnering with children and their families. The clinic uses a multi-disciplinary team approach including physicians, nurse practitioners, mental health professionals, Medical-Legal Partnership, care coordinators, and health educators. Services also include health coverage eligibility screening and enrollment, interpretation and translation, and referrals. TCC recently implemented the Everychild Bright Beginnings Initiative to screen pregnant women and parents of young children for protective and risk factors and to provide interventions and referrals for those most at risk.

Healthy Development Services (HDS) operates from the Rady Children Hospital-San Diego with funding from First 5 San Diego. HDS was created to address service gaps for young children with mild to moderate developmental and behavioral concerns not severe enough to qualify them for Part C Early Intervention Services. It operates through a partnership between First 5 San Diego, AAP-CA3 Chapter, and local service providers, creating a countywide system with coordinated services. HDS reaches a

number of pediatric health care settings and other community sites across San Diego County to provide developmental screening and follow up, through parent coaching, care coordination, and direct intervention and treatment services for more than 25,000 children annually. HDS works with a wide range of community providers and organizations to ensure parents and other caregivers have the help and support to address developmental and behavior child health concerns.

With federal funding from Project LAUNCH (Linking Actions for Unmet Needs in Children’s Health), the **MA Partnership for Early Childhood Mental Health Integration** designed and tested a model (known as MYCHILD) to address early childhood mental health needs at 7 Boston sites. Staff provide consultation and support within the primary care setting related to early childhood mental health, as well as conduct mental health consultation in early care and education settings. Full integration into pediatric primary care settings and deployment of a unique Family Partner-Clinician team – an early childhood trained, master’s level mental health clinician and a trained “family partner” with lived experience – were key features of the model. Families were linked to teams via a warm hand-off by a pediatrician, based on screening or clinical judgment. Activities included family case management and support family, provider and community consultation and education about early childhood mental health; and short- and medium-term family-centered, dyadic care for children in need of intervention.

Maricopa Integrated Health System (MIHS) is the only public, non-profit teaching hospital and health care system in Arizona, with a 140-year history of providing health care in Maricopa County (including Phoenix). The safety-net health system name recently changed to **Valleywise Health**, with a vision to be nationally recognized for transforming care to improve community health. This health system operates a care coordination/medical home model which uses trained care coordinators to provide services to children birth through age 5 and their families, employing evidence-based clinical guidelines and measuring progress on improving outcomes for children with developmental delays and asthma and on promoting healthy nutrition and weight. Key to operations is a warm handoff from the practitioner to the care coordinator and an individualized care plan developed for all families. With support from Arizona’s First Things First early childhood initiative, the health system has created five Family Learning Centers as places that support families in providing safe, stable, and nurturing home environments, integrated with Valleywise Health.

Primary Health Care (PHC) is a federally qualified center with six primary care sites in Des Moines, Ames, and Marshalltown, Iowa. More than half of young child patients are covered under Medicaid, with another large share immigrants or refugees without health coverage. PHC uses a team approach that enables primary care practitioners to call in either a family support worker or a behavioral health specialist at the time of the office visit to respond to social and mental health concerns. Family support workers play vital care coordination roles in linking families to culturally and linguistically responsive community resources. Referrals include formal connections with Iowa Legal Aid for medical-legal assistance and with Iowa First Five (a state program modeled after Help Me Grow) for connections to developmental services. PHC makes use of its location in underserved neighborhoods to be a locus not only for providing medical care but also for connecting isolated families with culturally and linguistically responsive support.

Other Child Health System Change Initiatives The following are descriptions of other systems change initiatives from around the country representing robust efforts to transform child health, by no means exhaustive of the efforts in the field.

Bayview Child Health Center-Center for Youth Wellness is an FQHC in San Francisco with an integrated pediatric care model to recognize the impact of Adverse Childhood Experiences (ACEs) on health and seeks to treat toxic stress in children. The Center for Youth Wellness provides research, training, and advocacy support. The Bayview Child Health Center emphasizes a comprehensive medical home which provides services to treat children, adolescents and their caregivers. This involves routine screening for all patients, paired with a multidisciplinary, trauma-informed approach to address identified concerns. Care coordinators are embedded in the pediatric clinic and offer education to children and their caregivers about the impact of ACEs and toxic stress on health. They can provide brief interventions, information and referral resources, and coordinate care among internal and external providers for families. The Center for Youth Wellness helped to develop and uses the PEARLS screening tool, which has been selected as one of three approved for use in California Medi-Cal.

Boston Medical Center for the Urban Child's Pediatric Practice of the Future was launched in 2016 to revolutionize care for pediatric patients and their families, building on its ongoing work as the largest safety net health center in New England. BMC Pediatrics is home to widely disseminated care innovations, including: Reach Out and Read, Medical-Legal Partnership, Project DULCE, and Health Leads. The Center for the Urban Child and Healthy Family and Pediatrics Primary Care are leading efforts to build the "Pediatric Practice of the Future" through fundamental systems change—creating and scaling novel health delivery approaches, and working with families, interdisciplinary colleagues, communities and other family-serving sectors. One of the core tenets of the Center's work is the belief that redesign of health care will only be successful if families co-create solutions, and the Center is using a Human Centered Design process to deeply understand what Boston Medical Center pediatric families expect and hope for from their health care.

Children's Hospital at Montefiore (CHAM) is located in the Bronx in New York City, serving a large population of children of color, many of whom live in adverse conditions. Montefiore Medical Center is the university hospital and academic medical center for the Albert Einstein College of Medicine. CHAM is the hub of Montefiore's Child Health Network. In addition to primary care, this network offers a range of specialized programs to help the most vulnerable children, including: innovative service delivery approaches for children with developmental disabilities, lead poisoning prevention and treatment, HIV related care, and a child protection center. To promote optimal young child development, CHAM/Montefiore has employed Healthy Steps and Medical-Legal Partnerships as part of its responses. The work has served as a model for New York State efforts to expand Healthy Steps and initiate a First 1000 Days in Medicaid Initiative.

Cincinnati Children's Hospital Medical Center (CCHMC) has become a recognized national leader in children's health quality and innovation. Community-based primary care transformation efforts are underway. Select CCHMC pediatric primary care clinics were part of a project delivering a bundle of preventive services for infants and toddlers (including screening for lead, developmental concerns, maternal depression, and food insecurity), which increased the proportion of visits including preventive services from 58% to 92%. An effort using care coordination significantly improved the prompt delivery of newborn visits. CCHMC is the home for Every Child Succeeds home visiting, which creates opportunities to link primary care and home visiting. As an example of how individual clinics respond to

their communities, the Hopple Street Health Center in the CCHMC network includes use of integrated behavioral health, Healthy Steps, Medical-Legal Partnership, a food pantry, social determinants of health screening, and other approaches to identify and address social risks among the children and families served.

Health Share of Oregon is a nonprofit joining four competing health plans, three county-run mental health agencies, and several provider organizations in the greater Portland area. Oregon Medicaid requires any participating health plan or provider to be in a regional coordinated care organization (CCO), and Health Share is one of 16 COOs. Health Share leaders increased investment in young children based upon data showing that for more than half of Health Share adult members with complex and costly health conditions, negative social determinants and adverse experiences had accumulated from childhood to become a cascade of risk multipliers. The “Ready + Resilient” plan strategies for assuring a strong start for children include: improving the quality and quantity of screening of women and children in health care and community settings; building and enhancing clinical and community interventions and referral systems; and improving systems of care for populations with complex social or medical needs. Health Share’s goal is that children are ready for kindergarten, and families are connected to the health and social resources they need to thrive.

Nemours Children’s Health System. Nemours is a nonprofit children’s health organization, delivering family-centered care to 250,000 children annually in hospitals and clinics in Delaware, New Jersey, Pennsylvania, and Florida. In the Delaware Valley, Nemours employs more than 100 pediatricians who are primary care providers. In 2004, the Nemours Health and Prevention Services initiative was created to focus on innovation to promote optimal child health and well-being. They also received a grant from the Center for Medicare and Medicaid Innovation (CMMI) Health Care Innovation Awards to target asthma prevention. Recently, Nemours has designed a multi-pronged transformation, with efforts to negotiate outcome-based contracts with payers, including assessments of social determinants of health, expanded prevention efforts, and work to transform the way the state pays for children’s care under Medicaid. Nemours believes its willingness to invest in prevention efforts, shift to value-based reimbursement, and work with the state to take on risk will yield better care for patients.

Odessa Brown Children’s Clinic (OBCC) at Seattle Children’s Hospital is dedicated to promoting quality pediatric care, family advocacy, health collaboration, mentoring, and education in a culturally relevant context. From its beginning in 1970, OBCC has grown at two sites with a care team includes 5 pediatricians, 5 nurse practitioners, and other nurses, social workers, mental health professionals, dentists, nutritionists, and community program staff. OBCC augmented services for young children to include: Promoting First Relationships (PFR) for children from birth to age 3 and their parents, and Parent-Child Interactive Therapy (PCIT) for children age 3–7 and their caregivers. The clinic also has a strong program for serving children and families with sickle cell disease and works in partnership with the Washington Medical-Legal Partnership (MLP).

The **Rhode Island Patient-Centered Medical Homes for Kids (PCMH-Kids)** is a multi-practice, multi-payer initiative through which practices share a common contract with all payers. Since 2015, the PCMH-Kids Initiative has involved a total of 20 pediatric practices. The patient population represents more than half of Rhode Island children and nearly all of the state’s children covered by Medicaid. Funding from the Centers for Medicare and Medicaid Services has helped to support practice transformations. The screening framework identifies and responds to children: 1) who have high utilization (e.g., ER visits or hospitalizations for behavioral health), 2) have poorly controlled or complex

conditions (e.g., asthma, ADHD, or other behavior diagnoses), or 3) are at-risk based on social, family or environmental factors (e.g., homelessness, gaps in care, high lead levels/exposure). Responses have included: increased developmental screening, integrated behavioral health, and shifts in the approach to care coordination. This project advanced care coordination through a multidisciplinary team, including parent consultants and social workers who offer care coordination that can address social determinants which significantly affect a child's health.

For more information on these initiatives and their research bases, see: Johnson, K and Bruner, C (2020). Exemplary Practices and Systems Change Elements: Transforming Services to Promote the Healthy Development of Young Children. InCK Marks.

Appendix Two:

HE&YC Learning Collaborative Statement on Care Coordination with Exemplary Primary Health Care Practice for Young Children

[E]xemplary programs engage in coordination activities that well exceed the traditional meaning of the term; that is, identifying families' needs and connecting them to services and resources. Their activities are more intentional and intensive, involve concerted efforts to assess and understand the family's current position, help enhance the family's resiliency, build on the family's aspirations and strengths, and support and strengthen the family's role in nurturing the child. Participants identified common practices foundational to success. These include:

Patient/family centered, with a concerted and persistent engagement of families: Families who have had unsatisfactory experiences with public services and systems are more hesitant to engage with the care coordinator. Since engaging families often takes persistence and specific skills, care coordinators often benefit from training in motivational interviewing, appreciative inquiry, supervision, and reflective practices; such trainings help hone and develop skills that assist with establishing rapport with isolated and distrustful families.

Emphasis on fostering family capacity, strengths, and resiliency: Most families fill roles similar to care coordinators and case managers for themselves and their young children. Through encouragement and mentoring, professional care coordinators work to build families' capacities. This support fosters family resiliency, personal growth, and the protective factors (Attachment C) that help make productive connections with other programs. Further, supporting resiliency in the families helps them become more confident and capable in their ability to support their children's healthy growth and development.

Recognizing the care coordinator as integral to and a partner in the care team: The role of the care coordinator requires the exercise of substantial discretion resulting in a greater understanding of the family, as compared to the primary care practitioner or staff of any individual program has. Also, care coordinators also know a wider range of concerns the family may have and the community resources they are accessing. Given this "on-the-ground" leadership role that care coordinators play in responding to a wide variety of family needs, they should be valued across the different systems they collaborate with. Participation of the care coordinator on a team in a value role provides a more interdisciplinary or transdisciplinary approach.

Engaging with other agencies/partners: Because of the varied needs families may have, care coordinators are often in communication with other agencies and community partners. These relationships help care coordinators have a more comprehensive understanding of family strengths and needs, and enable better matches between families, agencies and organizations within the community.

Continuous improvement and learning: Regardless of their backgrounds and pre-service education and training, and given the diversity of the families they serve, care coordinators frequently confront new situations and needs. They often find that families take steps backward, as well as forward, and initial strategies and plans require adaptation. Strong supervision, frequent teaming and peer consultation,

and reflective practice represent core features of care coordination that exemplary programs have built into the workloads and professional development of care coordinators.

Flexibility, humor, humility, and self-care: Effective care coordinators can have many different professional and community backgrounds, including social, legal or public health professional training or life experiences within diverse communities. Exemplary programs have identified flexibility, humor, humility, and self-care as keys to effective care coordination, finding the work fulfilling, and avoiding burnout. Continuous training builds more competent care coordinators who are able deal with the variety of concerns facing families.

Appendix Three:

CSSP Summary of Common Practices in Site Visits of Exemplary Programs

We identified 14 common practices [which] represent three categories of actions pediatric primary care providers can take: 1. Nurture parents' competence and confidence; 2. Connect families to additional supports to promote healthy social and emotional development and address stressors; and 3. Develop the care team and clinic infrastructure. We observed a common thread that ran through the practices: *strong, strengths-based, trusting, and humble relationships among and between parents, the care team, and the community are essential for promoting the social and emotional development of young children.*

1. Nurture parents' competence and confidence.

- *Strengths-based observations and positive affirming feedback guide well-child visits and interactions with families.* Intentionally observing the interactions between parents and children allows providers to be more present in the visit and better able to reinforce healthy behaviors and strengthen parents' confidence.
- *The pediatric provider, or another care team member, models activities that promote social and emotional development and the parent-child relationship and uses strengths-based observations with reading, play, and interactions with children.* Modeling benefits families by demonstrating how parents' simple actions, such as talking, reading, playing, and singing, build a positive relationship with their child through serve and return interactions and encourages parental engagement in reading and play.
- *Anticipatory guidance materials are enhanced and tailored to support parents' knowledge about social and emotional development, the parent-child relationship, and the parent's mental health.* Materials and guidance are tailored and timed to the specific well-child visit to ensure that families are ready for new milestones and are supported around upcoming challenges that may be stressful.
- *The provider and/or another care team member partners with parents to co-create goals and reflect on them in subsequent visits.* It is especially powerful when parents set reasonable goals and create an action plan, considering concrete steps, needs, and even challenges to achieving them.
- *Opportunities are created for families to connect with other families.* Parents appreciate the opportunity to socialize and connect with other families while building their parenting confidence and supporting their own well-being. Involvement in group activities can address social isolation [and] can also be powerful for connecting families of similar ethnic, cultural, and/or linguistic backgrounds.
- *Strategies to support the parents' well-being and mental health are intentionally integrated throughout the well-visit in service of promoting the parent-child relationship and child's social and emotional development.* This often involves connecting families to community supports, which is a key strategy described in a subsequent action category.

2. Connect families to supports to promote healthy social and emotional development and address stressors.

- *A standardized workflow is created to provide developmental, behavioral, and SDOH screenings, health promotion, support, and resources.* All sites implement a standardized workflow to ensure that universal screenings are consistently completed, families are provided education on developmental milestones, and families are connected to any needed supports and resources.
- *Community partnerships are cultivated through clear processes and protocols.* A key step is developing robust community partnerships to have access to an array of quality, culturally effective/appropriate community referrals that can best support families' mental and physical health and concrete needs. Building relationships with community partners can help facilitate "warm hand-offs."
- *Outreach is made to parents during pregnancy to build relationships with the family, identify concrete support needs, and connect to resources.* Connecting with parents during pregnancy can help build early, trusting relationships with families and ease the transition from pregnancy to parenting.

3. Develop the care team and clinic infrastructure and culture.

- *New roles are integrated into the care team to promote the parent-child relationship, connect families to resources, and support parents' well-being.* Many sites are integrating new roles into their care teams through hiring new staff or integrating culturally effective and diverse community partners. These roles bring new expertise and perspectives to the team, allowing for greater ability to partner with families to support their child's development and address family stressors.
- *Structures are created to enhance care team communication and collaboration.* Sites described the critical importance of a care team that has a high level of trust and can effectively collaborate to support families,
- *Care teams and staff are engaged in ongoing learning and development.* While initial training provides a foundation, sites provided ongoing learning opportunities and supports that helped the care team integrate the new knowledge and approaches into their daily work. For example, reflective supervision was identified as a way to support care team staff to reflect on experiences with families, understand their feelings, and make plans for next steps.
- *Care team well-being is supported to prevent burnout/stress/fatigue and retention issues.* [S]ome programs and practices, notably those that helped build relationships with families, had the secondary effect of helping them feel and do better in their role. Intentional structures of support can also strengthen staff satisfaction, motivation, and experiences, contributing to higher retention rates. Reflective supervision was identified as a way to support care team staff to reflect on experiences with families, understand their feelings, and make plans for next steps.
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- *Environments and structures are used to promote relationships and patient experiences.* We observed sites intentionally designing the structures and environments of their clinics to promote long-term, trusting relationships between parents and the care team.

Appendix Four:

Beyond the Buzzwords: Key Principles in Effective Frontline Practice

The National Center for Service Integration 1994 working, *Beyond the Buzzwords*, included an overview of six key principles of effective practice with children and families experiencing challenges or crises, providing both theoretical and empirical evidence of their efficacy and describing how they can be developed and measured in practice. The appendix provided definitions of effective services developed at that time for innovations in different fields (family support, early childhood, child health, child welfare, school-community collaborations, disability, youth development, etc.). The following includes the six principles from the working paper and the from a national forum hosted by the National Academy of Sciences.

Six Principles in Beyond the Buzzword (Kinney, J; Strand, K; Hagerup, M, Bruner, C (1994). *Beyond the Buzzwords: Key Principles in Effective Frontline Practice*. National Center for Service Integration and National Resource Center for Family Support Programs, pp. 7-23.)

- *Building on Strengths*: Effective workers emphasize client strengths, rather than client pathology, and use client strengths and resources in problem solving.
- *A Holistic Approach*: Effective workers view their clients holistically and their treatment plans encompass a broad range of factors.
- *Partnerships in Decision-Making*: Effective workers join with their clients as true partners in a collaborative problem-solving effort.
- *Individual Tailoring of Services*: Effective workers tailor treatment plans to meet the needs and goals of their clients.
- *Goal Setting and Monitoring*: Effective workers and clients work together to create very specific, short-term measurable goals for treatment.
- *Worker Characteristics and Skills*: Effective workers display certain skills and attitudes, including the ability to engage clients in a trusting working relationship, to express appropriate empathy, and to facilitate learning of a broad range of life skills.

National Academy of Sciences National Forum on the Future of Children and Families: General Principles for Effective Services Programs (Schorr, L; Both, D; Copple, C (eds). (1991) *Effective Services for Young Children: Report of a Workshop*. Washington, DC: National Academy Press, pp. 31-35.)

1. Successful programs are comprehensive, flexible, and responsive. They take responsibility for providing easy and coherent access to services that are sufficiently extensive and intensive to meet the major needs of those they work with. They overcome fragmentation through staff versatility, flexibility, and by active collaboration across bureaucratic and professional boundaries.
2. Successful programs deal with the child as an individual and as part of a family, and with the family as part of a neighborhood and a community. Most successful programs have deep roots in the community and respond to needs perceived and identified by the community. They tend

to work with two, and often, three generations, collaborating with parents and local communities to create programs and institutions that respond to unique needs of different individuals and populations.

3. Staff in successful programs have the time, training, skills and institutional support necessary to create an accepting environment and to build relationships of trusts and respect children and families. They work in settings that allow them to develop meaningful one-to-one relationships, and to provide services respectfully, ungrudgingly, and collaboratively. Moreover, front-line workers in these programs are given the same respect, nurturing, and support by program managers they are expected to extend to those they serve.

4. Programs that are successful with the most disadvantaged populations persevere in their efforts to reach the hardest-to-reach and tailor their services to respond to the distinctive needs of those at greatest risk.

5. Successful programs are well-managed, usually by highly competent, energetic, committed and responsible individuals with clearly identified skills and attitudes. Contrary to the common belief that great charisma is essential to running a successful program, managers of effective programs have identifiable attributes that can be learned and systematically encouraged, such as willingness to experiment and take risks, to tolerate ambiguity, and to allow staff to make flexible, individualized decisions.

6. Successful programs have common theoretical foundations that undergird their client-centered and preventive orientation. Staff of these programs believe in what they are doing. Effective programs seek to replace the prevailing preoccupation with failure and episodic intervention with an orientation that is long-term, preventive and empowering.

Endnotes

- ¹ UNICEF (2017). *Building the Future: Children and the Sustainable Development Goals in Rich Countries*. Innocenti Report Card 14. Available at: <https://www.unicef.ca/sites/default/files/2017-06/UNICEF%20Innocenti%20Report%20Card%2014%20EN.pdf>.
- ² Tikkanen, R., Res, M., Schneider, E. (2020). Social spending to improve population health – Does the United States spend as wisely as other countries. *New England Journal of Medicine*. 382;10. 885-887.
- ³ Rosenbaum, S., Johnson, K., Gunsalus, R. (2019). Children. In *Social Injustice and Public Health*. BS Levey (Ed.) Oxford University Press. doi:10.1093/oso/9780190914653.003.0005.
- ⁴ World Health Organization, as cited by First Things First Work Group (2007). Available at: <https://www.buildinitiative.org/Portals/0/Uploads/Documents/Early%20Learning%20Left%20Out.pdf>.
- ⁵ Office of Disease Prevention and Health Promotion. (2016). *Healthy People 2020*. Washington, DC: United States Department of Health and Human Services.
- ⁶ Trent M, Dooley DG, Dougé J; Section on Adolescent Health; Council on Community Pediatrics; Committee on Adolescence. (2019). The Impact of Racism on Child and Adolescent Health. *Pediatrics*. 144(2). pii: e20191765. doi:10.1542/peds.2019-1765.
- ⁷ Braveman P. (2014). What is health equity: and how does a life-course approach take us further toward it? *Maternal and Child Health Journal*. 18(2):366-72. doi:10.1007/s10995-013-1226-9.
- ⁸ American Academy of Pediatrics and National Resource Center for Patient/Family-Centered Medical Homes. Webpage 2019. Available at: <https://medicalhomeinfo.aap.org/Pages/default.aspx>.
- ⁹ Bruner, C (2009). *Medical Homes and Young Children: State Policy Opportunities to Improve Children’s Healthy Development as Part of Early-Childhood Systems Building*. Build Initiative and Child and Family Policy Center.
- ¹⁰ Patient Centered Primary Care Collaborative, National Committee for Quality Assurance. (2007). Health care leaders to use new national criteria for patient-centered medical home. Washington, DC: National Committee for Quality Assurance. Available at: <https://www.ncqa.org/programs/health-care-providers-practices/patient-centered-medical-home-pcmh/>
- ¹¹ Hagan, J., Shaw, J., Duncan, P. (2018). *Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents, 4th Edition*. Elk Grove, IL: American Academy of Pediatrics.
- ¹² Horton, C. (2003). *Protective Factors Literature Review: Early Care and Education Programs and the Prevention of Child Abuse and neglect*. Washington, DC: Center for the Study of Social Policy. Metzler, M. (2007)..
- ¹³ Sege R, Linkenbach J. (2014). Essentials for childhood: promoting healthy outcomes from positive experiences. *Pediatrics*. 133(6):e1489-e1491.
- ¹⁴ Sege, R.D., Harper Browne C. (2017). Responding to ACEs with HOPE: Health outcomes from positive experiences. *Academic Pediatrics*. 17(7S):S79-S85.
- ¹⁵ Felitti, V.J., Anda, R.F., Nordenberg, D., et al. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine*. 14(4):245–258.
- ¹⁶ Burke, N.J., Hellman, J.L., Scott, B.G., Weems, C.F., Carrion, V.G. (2011). The impact of adverse childhood experiences on an urban pediatric population. *Child Abuse and Neglect*. 35(6):408–13.
- ¹⁷ Garner AS, Shonkoff JP; Committee on Psychosocial Aspects of Child and Family Health; Committee on Early Childhood, Adoption, and Dependent Care; Section on Developmental and Behavioral Pediatrics. (2012). Early childhood adversity, toxic stress, and the role of the pediatrician: translating developmental science into lifelong health. *Pediatrics*. 129(1):e224-31. doi: 10.1542/peds.2011-2662.
- ¹⁸ Shonkoff JP, Garner AS; Committee on Psychosocial Aspects of Child and Family Health; Committee on Early Childhood, Adoption, and Dependent Care; Section on Developmental and Behavioral Pediatrics. (2012). The lifelong effects of early childhood adversity and toxic stress. *Pediatrics*. 129(1):e232-46. doi:10.1542/peds.2011-2663.
- ¹⁹ Oh DL, Jerman P, Silvério Marques S, Koita K, Purewal Boparai SK, Burke Harris N, Bucci M. (2018). Systematic review of pediatric health outcomes associated with childhood adversity. *BMC Pediatrics*. 18(1):83. doi: 10.1186/s12887-018-1037-7.

-
- ²⁰ Henderson, N., Benard, B., & Sharp-Light, N. (eds.) (1999). *Resiliency in Action: Practical Ideas for Overcoming Risks and Building Strengths in Youth, Families, and Communities*. San Diego: Resiliency in Action, Inc
- ²¹ Masten, A.S., Barnes, A.J. (2018) Resilience in children: Developmental perspectives. *Children*. 5, 98; doi:10.3390/children5070098.
- ²² Shonkoff, J.P. (2012). Leveraging the biology of adversity to address the roots of disparities in health and development. *Proceedings of the National Academy of Sciences (PNAS)*.109(Suppl 2):17302-17307. doi:10.1073/pnas.1121259109.
- ²³ National Scientific Council on the Developing Child (2010). *Early Experiences Can Alter Gene Expression and Affect Long-Term Development: Working Paper No. 10*. Available at: www.developingchild.harvard.edu
- ²⁴ Hertzman, C., Boyce, T. (2010). How experience gets under the skin to create gradients in developmental health. *Annual Review of Public Health*. 31:329-347. doi: 10.1146/annurev.publhealth.012809.103538.
- ²⁵ National Research Council and Institute of Medicine. (2000) *From Neurons to Neighborhoods: The Science of Early Childhood Development*. JP Shonkoff and DA Phillips (Eds.). Washington, DC: The National Academies Press.
- ²⁶ Browne, C.H. (2014) *The Strengthening Families Approach and Protective Factors Framework: Branching Out and Reaching Deeper*, Center for the Study of Social Policy
- ²⁷ Shonkoff, J. et al. Op cit. 2012.
- ²⁸ Wilkinson, R., Marmot, M. (2003). *Social Determinants of Health: The Solid Facts. 2nd Edition*. London: World Health Organization.
- ²⁹ Shonkoff, J.P., Boyce, W., McEwen, B.S. Neuroscience, molecular biology and the childhood roots of health disparities: Building a new framework for health promotion and disease prevention. *JAMA*. 2009;301(21):2252–2259.
- ³⁰ National Academies of Sciences, Engineering, and Medicine. (2016). *Parenting Matters: Supporting Parents of Children Ages 0-8*. V.L. Gadsden, M. Ford, H. Breiner (Eds). Washington, DC: The National Academies Press.
- ³¹ Garner, A.S., Forkey, H., Szilagyi, M. (2015). Translating Developmental Science to Address Childhood Adversity. *Academic Pediatrics*. 2015 Sep-Oct;15(5):493-502. doi: 10.1016/j.acap.2015.05.010.
- ³² Braveman, P., Acker, J., Arkin, E., Bussel, J., Wehr, K., Proctor, D. (2018). *Early childhood is critical to health equity*. Princeton, NJ: Robert Wood Johnson Foundation.
- ³³ Institute of Medicine and National Research Council. (2015). *Transforming the workforce for children birth through age 8: A unifying approach*. Washington, DC: The National Academies Press.
- ³⁴ Garg, A., Sandel, M., Dworkin, P.H., Kahn, R.S., Zuckerman, B. (2012). From medical home to health neighborhood: transforming the medical home into a community-based health neighborhood. *Journal of Pediatrics*,160(4):535-536.e1.
- ³⁵ Schor, E.L., Abrams, M., Shea, K. (2007) Medicaid: health promotion and disease prevention for school readiness. *Health Affairs*. 26(2):420–429.
- ³⁶ *Neurons to Neighborhoods, op. cit.*
- ³⁷ Schor, E.L. (2007) The future pediatrician: promoting children’s health and development. *Journal of Pediatrics*. 151(suppl 5):S11–S16.
- ³⁸ Bruner, C. (2017) ACE, place, race, and poverty: Building hope for children. *Academic Pediatrics*. 17 (7S) S123-S129
- ³⁹ Chetty, R., Hendren, N., Jones, M.R., Porter, S.R. 2018. *Race and economic opportunity in the United States: An intergenerational perspective*. NBER working paper no. 24441. National Bureau of Economic Research.
- ⁴⁰ Acevedo-Garcia, D., Hardy, E.F., McArdle, N., Crisan, U.I., Romano, B., Norris, D., Baek M., Reece, J. (2016). *The Child Opportunity Index: Measuring and mapping neighborhood-based opportunities for children*. Waltham, MA, and Columbus, OH: diversitydatakids.org and Kirwan Institute for the Study of Race and Ethnicity.
- ⁴¹ Fierman, A.H., Beck, A.F., Chung, E.K., et al. (2016). Redesigning health care practices to address childhood poverty. *Academic Pediatrics*. 16(3)(suppl):S136-S146.
- ⁴² Bruner, C., Johnson, K. (2018). *Federal Spending on Prenatal to Three: Developing a Public Response to Improving Developmental Trajectories and Preventing Inequities*. Center for the Study of Social Policy.
- ⁴³ Bruner, C. (2006). Developing an outcome-evaluation framework for use by family support programs,” in Dolan, P., Canavan, J., Pinkerton, J. *Family Support as Reflective Practice*. Jessica Kingsley Publishers: London, UK.

-
- ⁴⁴ Bruner, C. (2002) *A Stitch in Time: Calculating the Costs of School Unreadiness*. Washington, DC: The Finance Project.
- ⁴⁵ Johnson. K. (2019) *Medicaid and Home Visiting: The State of States' Approaches*. Johnson Consulting Group.
- ⁴⁶ Peacock-Chambers, E., Ivy, K., Bair-Merritt, M. (2017). Primary Care Interventions for Early Childhood Development: A Systematic Review. *Pediatrics*. 140(6):e20171661
- ⁴⁷ Shah, R., Kennedy, S., Clark, M.D., Bauer, S.C., Schwartz, A. (2016). Primary care-based interventions to promote positive parenting behaviors: a meta-analysis. *Pediatrics*. 137(5):e20153393
- ⁴⁸ Gleason, M.M. (2018). Early Childhood Health Interventions in the Primary Care Setting Promote Developmental Outcomes. *Journal of Pediatrics*. 199:13–15. doi:10.1016/j.jpeds.2018.04.024.
- ⁴⁹ Johnson K, Bruner C. (2018). *A Sourcebook on Medicaid's Role in Early Childhood: Advancing High Performing Medical Homes and Improving Lifelong Health*. Child & Family Policy Center. Available at: https://www.cfpciowa.org/en/issues/health_equity/sourcebook_on_medicoids_role_in_early_childhood/.
- ⁵⁰ Einhorn Family Charitable Trust, Ariadne Labs, and National Institute for Child Health Quality (2016). *Promoting Young Children's (0-3) Socioemotional Development in Primary Care*. Available at: <https://www.nichq.org/resource/promoting-young-childrens-ages-0-3-socioemotional-development-primary-care>.
- ⁵¹ Cannon, J., Kilburn, M., Karaoly, L., Mattox, T., Muchow, A., Buenaventura, M. (2018). *Taking Stock of Outcomes and Economic Returns from Early Childhood Programs*. RAND Corporation: Santa Monica, CA.
- ⁵² Braveman P, Arkin E, Orleans T, Proctor D, and Plough A. (2017) *What Is Health Equity? And What Difference Does a Definition Make?* Princeton, NJ: Robert Wood Johnson Foundation.
- ⁵³ National Academies of Sciences, Engineering, and Medicine. (2019). *Vibrant and Healthy Kids: Aligning Science, Practice, and Policy to Advance Health Equity*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/25466>.
- ⁵⁴ National Academies of Sciences, Engineering, and Medicine. (2015). *Strategies for Scaling Tested and Effective Family-Focused Preventive Interventions to Promote Children's Cognitive, Affective, and Behavioral Health*. Washington, DC: The National Academies Press.
- ⁵⁵ National Academies of Sciences, Engineering, and Medicine. (2019). *Fostering Healthy Mental, Emotional, and Behavioral Development in Children and Youth: A National Agenda*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/25201>.
- ⁵⁶ National Academies of Sciences, Engineering, and Medicine. (2016). *Parenting Matters: Supporting Parents of Children Ages 0-8*. Washington, DC: The National Academies Press. doi: 10.17226/21868.
- ⁵⁷ National Academies of Sciences, Engineering, and Medicine. (2016). *Moving from evidence to implementation of early childhood programs: Proceedings of a workshop—in brief*. Washington, DC: The National Academies Press. doi: 10.17226/23669.
- ⁵⁸ Bruner, C., Dworkin, P., Fine, A., Hayes, M., Johnson, K., Sauia, A., Schor, E., Shah, R., Shaw J. (2017). *Transforming Young Child Primary Health Care Practice: Building Upon Evidence and Innovation*. Child and Family Policy Center and Build Initiative's Health Equity and Young Children Collaborative.
- ⁵⁹ Doyle, S., Chavez, S., Cohen, S., Morrison, S. (2019). *Fostering Social and Emotional Health through Pediatric Primary Care: Common Threads to Transform Practice and Systems*. Center for the Study of Social Policy. Available at: <https://CSSP.org/resource/pspprogram-analysis-report/>.
- ⁶⁰ Heckman: The Economics of Human Potential. Website, <https://heckmanequation.org/>.
- ⁶¹ *Transforming Young Child Primary Care Practice, op. cit.* pp. 2-5.
- ⁶² Schorr, L with Schorr, D (1988). *Within our Reach: Breaking the Cycles of Disadvantage*. Random House: New York, NY. Also see: Schorr, L.; Both, D.; Copple, C. (eds). (1991). *Effective Services for Young Children: Report of a Workshop*. Washington, DC: National Academy Press, pp. 31-35.
- ⁶³ Kinney, J.; Strand, K., Hagerup, M., Bruner, C. (1994). *Beyond the Buzzwords: Key Principles in Effective Frontline Practice*. National Center for Service Integration and National Resource Center for Family Support Programs, pp. 7-23.)
- ⁶⁴ American Academy of Family Physicians, American Academy of Pediatrics, American College of Physicians, American Osteopathic Association (2007). *Joint Principles of the Patient-Centered Medical Home*. www.medicalhomeinfo.org/Joint%20Statement.pdf .

-
- ⁶⁵ National Academies of Sciences, Engineering, and Medicine. (2016). *Parenting Matters: Supporting Parents of Children Ages 0-8*. VL Gadsden, M Ford, H Breiner (Eds). Washington, DC: The National Academies Press.
- ⁶⁶ Child and Family Policy Center (2018) *Lessons from Exemplary Programs: Strategies to Promote Healthy Development in Young Children. Report from the Health Equity and Young Children Learning Collaborative*. Des Moines, IA.
- ⁶⁷ Doyle, S., Chavez, S., Cohen, S., Morrison, S. (2019). *Fostering Social and Emotional Health through Pediatric Primary Care: Common Threads to Transform Practice and Systems*. Washington, DC: Center for the Study of Social Policy. Available at: <https://CSSP.org/resource/pspprogram-analysis-report/>.
- ⁶⁸ Kinney, et. al., *op cit*.
- ⁶⁹ Greenberg, M. (2006). The diffusion of public health innovations. *American Journal of Public Health*. 96(2): 209–210.
- ⁷⁰ Williams, R., Webb, A., Phillips, W. (1996). *Outcome Funding: A New Approach to Targeted Grantmaking*. Rensselaerville Institute, NY.
- ⁷¹ Kuhn, T. (2012) *The Structure of Scientific Revolutions: 50th Anniversary Edition*. University of Chicago Press.
- ⁷² Rogers, E.M. (2003). *Diffusion of Innovation*. 5th Edition. New York, NY: Simon & Schuster.
- ⁷³ *Bright Futures, op. cit.* and other American Academy of Pediatrics reports.