Reasons and Strategies for Strengthening Childhood Development Services in the Healthcare System

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EXECUTIVE SUMMARY

Recent early brain development research affirms the significant role that early childhood development plays in establishing the critical foundations for children's academic success, health, and general well-being. Early childhood development is largely influenced and shaped by nurturing relationships, human interaction, environments and experiences, and culture. Children's physical health, cognition, language, and social and emotional development are critical underpinnings to school readiness.

Low-income children are far more likely than their counterparts to be at-risk for poor developmental outcomes. Fortunately, early investments in young children and their families can make a significant and long-term impact on child well-being and academic success and can reduce the need for more costly interventions.

All families with young children need some type of support during their child's early years. Families overwhelmingly indicate that they want accessible early childhood development information and guidance from credible sources, mainly their pediatric or primary care provider. Indeed, the health care system plays a primary role in helping families achieve their child's optimal health and development. It is the one system that nearly all families come in contact with during a child's first five years and even before—through prenatal care, well-child visits, and other interactions. Without the active involvement of the health care system in early childhood development, important opportunities for assuring optimal development can be missed, and problems can go undetected until a child enters kindergarten or even later.

Child development services include:

- Developmental surveillance, screening and assessment,
- Developmentally-based health promotion and education,
- Developmentally-based interventions, and
- Care coordination.[1]

Child development services should be a routine part of preventive pediatric care. However, many pediatric providers struggle to fully integrate routine child development services into primary care settings. Key barriers include time limitations, lack of training on the use of developmental screening and assessment tools, inadequate service reimbursement amounts, and minimal early childhood development training during medical education.

Efforts to improve child development services are being implemented at the state, community, and primary care practice level. Promising practices at each of these levels provide important

[1] Regalado, M and Halfon, N. "Primary Care Services Promoting Optimal Child Development From Birth to Age 3 Years: Review of the Literature." *Archives of Pediatric Adolescent Medicine*, 2001: Vol. 155: 1311-1322.

insights and strategies for strengthening child development services in the health care system.

Primary care settings are tackling the barriers to integration of child development services through evidence-based preventive standards, the strengthening of internal office systems, the implementation of performance monitoring and tracking systems, and the improvement of community-based referral and follow-up systems between providers and community agencies.

Community agencies can serve as a bridge and conduit between state programs and policies and what occurs in primary care practices. Efforts at the community level to strengthen child development services in health care settings include creating linkages with physicians, hospitals, and other providers that can strengthen child development services and referral mechanisms; fostering partnerships; strengthening tracking and assessments systems in public programs; educating providers about early childhood development resources in the community; becoming educated about real or perceived confidentiality barriers that can prohibit the sharing of critical information; and working to improve referral and feedback loops between agencies and providers.

State efforts to strengthen child development services often involve multiple and complex funding streams, competing priorities for child health and education, and different federal program requirements. States can strengthen child development services and support communities and primary care settings by:

- creating comprehensive and coordinated systems of care that integrate relevant federal and state programs for young children and their families;
- maximizing and using multiple federal financing streams, particularly Medicaid, SCHIP, Early Intervention, Title V, and TANF;
- building effective partnerships between state health, education, human service, mental health and substance abuse agencies; professional associations representing physicians, hospitals and other providers; child advocates; parent and family groups and others;
- using multiple public programs such as child care, WIC and Family Planning as key entry points for linkages and referrals to child development services;
- fostering and supporting innovative child development service practice models at the community level;
- conducting training and continuing education on early childhood development and child development services for providers, community agencies, and others;
- creating public awareness campaigns to educate parents and caregivers about the importance of early childhood development;
- developing model child health and development reporting forms for use in public programs and settings; and
- building and strengthening data systems that track the provision of child development services.

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OVERVIEW: THE CASE FOR EARLY CHILDHOOD DEVELOPMENT

The concept of investing early in children, youth, and their families early in order to prevent health, education, and social problems in the future is not new. Studies have demonstrated the benefits and cost-effectiveness of prevention programs and efforts targeted to women, infants, and children, particularly those who are low-income.[2] In particular, early brain development research affirms the long-lasting impact that early experiences in the first five years of life have on young children and stresses the importance of maximizing investments in early childhood development.

Recent early brain development reports based on a decade of research confirm that child development is far more complex than previous notions of "nature versus nurture." As this research makes clear, human development is a dynamic and interactive process between genetics and experience that occurs rapidly from birth to age five but is also life-long. Early environments, nurturing relationships, human interaction, early experiences, and culture are among the factors that play a critical role in a child's development.[3] Moreover, early emotional development and early learning are interrelated. Children who do not reach age-appropriate social and emotional milestones, such as a secure attachment with a parent or other primary caregiver, face a far greater risk of school failure.[4]

The critical foundations for learning, school success, health, and general well-being are established well before a child enters kindergarten. Children's physical health, cognition, social emotional development, and language development are essential underpinnings to school readiness. However, striking disparities in what children know and can do are evident very early, are strongly associated with social and economic circumstances, and are predictive of subsequent academic performance.[5] Children who are not successful early in school may also have greater problems with later behavioral, emotional, academic, and social development.[6] Fortunately, early investments in young children and their families can make a significant impact on child well-being and reduce the need for more costly interventions. Early intervention efforts have been shown to improve school readiness, health status, and academic achievement, and to reduce the need for grade retention, special education services, and welfare dependency.[7]

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[2] Centers for Disease Control and Prevention. *An Ounce of Prevention…What Are the Returns?* 2nd ed., rev. Atlanta, GA: US Department of Health and Human Services, CDC, 1999; Karoly, L. *Investing in Our Children: What We Know and Don't Know About the Costs and Benefits of Early Childhood Interventions*. Santa Monica, CA: RAND, 1998.

[3] Shonkoff, JP and Phillips, DA. *From Neurons to Neighborhoods: The Science of Early Childhood Development*. Washington DC: National Research Council and Institute of Medicine, 2000.

[4] Peth-Pierce, R. *A Good Beginning: Sending America's Children to School with the Social and Emotional Competence They Need to Succeed*. Bethesda, Maryland: The Child Mental Health Foundations and Agencies Network.

[5] Ibid.

[6] Ibid.

[7] Karoly, L. *Investing in Our Children: What We Know and Don't Know About the Costs and Benefits of Early Childhood Interventions,* 1998.

The health care system plays a central role in promoting optimal child health and development and in contributing to school readiness. It is the one system with which nearly all families come in contact in a child's first five years of life and can intervene even before a child enters school. The health care system can help solidify a child's trajectory for academic success by assuring that infants are born healthy, that parents receive child development information and support, and that children meet their optimum developmental potential. Health care services that support a child's healthy development should begin as early in pregnancy as possible and continue throughout a child's first five years of life.

While many recognize the health care system's important role in early childhood development, routine child development services are not consistently provided in health care settings. Flexibility in federal programs such as Medicaid and the State Children's Health Insurance Program (SCHIP) provide an important opportunity to strengthen early childhood development services. This issue brief provides a framework for the provision of child development services in the health care system, offers strategies for strengthening child development services, and identifies examples of promising practices at the state, community, and primary care level. It is based on the research, key national policy reports, and state and local innovations that were featured at a national meeting of state health agency administrators, providers, and others interested in improving early childhood development services, policies, and practices.[8]

[8] "Improving Early Childhood Development: Promising Strategies for States and the Health Care System" was held January 30–February 1, 2002 in Jacksonville, FL. The national meeting was co-sponsored by the Agency for Healthcare Research and Quality User Liaison Program, Centers for Medicare and Medicaid Services, The Commonwealth Fund, and the American Academy of Pediatrics, and administered by the National Academy for State Health Policy. Senior state and local health officials from across the country participated in presentations and discussions to address ways to strengthen early childhood development services in the health care system.

THE ESSENTIAL ROLE OF THE HEALTH SYSTEM IN EARLY CHILDHOOD DEVELOPMENT

Without the active and ongoing involvement of the health care system in child development, opportunities for assuring optimal development can be missed, and developmental problems can often go undetected until a child enters kindergarten or even later. Approximately 15 to 18 percent of children in the United States have a developmental or behavioral disability; however, only 50 percent of these children are identified as having a problem prior to starting school.[9] Preventive child health and development services address behavioral, social, and learning problems in the health care system and help improve trajectories for very young children, especially those who are low-income.

Nearly one in five young children (18 percent in 2000) live in poverty in the United States.[10] Children who live in poverty are more likely to be at-risk for poor health, academic, and social outcomes. These children, including the children of the working poor, are more likely to be uninsured, have unmet medical needs, and have no usual source of care.[11] Parents who are low-income are more likely to have higher rates of mental health problems and report generally higher levels of stress.[12] They are less likely to engage in activities that help foster healthy child development, such as breast-feeding, establishing daily routines, and reading to their child.[13]

What Families Want From Health Care Providers to Support Their Child's Healthy Development

All families with young children need some type of support during their child's early years. Changes in family structure, work patterns, and other aspects of society are placing increased demands on families which, in turn, can have a negative impact on child development. These challenges are further compounded when families are low-income, headed by a teen parent, experience substance abuse and mental health problems, or have other issues. To navigate their child's first years of life, families want more information, services and assistance from health care providers on how they can help their children thrive and learn.[14]

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[9] Glascoe FP. "Early Detection of Developmental and Behavioral Problems." *Pediatrics in Review*. 2000: Vol. 21, No. 8: 272-280.

[10] Song, Y and Lu, H. *Early Childhood Poverty: A Statistical Profile*. New York: National Center for Children in Poverty, March 2002.

[11] Bloom B, and Tonthat L. "Summary Health Statistics for U.S. Children: National Health Interview Survey," 1997 Vital Health Stat 10(203), 2002.

[12] Vandivere S, Anderson Moore K, and Zaslow M. *Children's Family Environment, 1999 Snapshots of America's Families II.* Washington, DC: Urban Institute, 1999.

[13] Young KT, Davis K, Schoen C, et al. "Listening to parents: a national survey of parents with young children. *Arch of Pediatr and Adolesc Med*," March 1998: 152:255-262.

[14] Young, KT, Davis, K, and Schoen, C. *The Commonwealth Fund Survey of Parents with Young Children*. New York: The Commonwealth Fund, 1996.

Recent national surveys indicate that most parents understand the important role they play in their child's health and development. In fact, 71 percent of adults in a recent survey understand that brain development can be impacted very early and 76 percent realize that a child's early experiences have a significant impact on abilities that appear much later in a child's life.[15] Many families, however, lack important knowledge and information about how they can best support their child's optimal development.

Families overwhelmingly indicate that they want accessible child development information and guidance from credible and knowledgeable sources. Outside of their own family, parents most frequently rely on and turn to their pediatric provider[16] for information about parenting and child development.[17] In spite of what families clearly want from their pediatric provider, child development services are not consistently provided in health care settings. In a national survey of parents with young children, parents were least satisfied with the extent to which their child's regular doctor helped them understand their child's development.[18]

In addition to child development information and guidance, parents want support from providers in other areas that can affect child health and well-being.

For parents of young children:

- 89 percent believe that health care providers should ask about alcohol or drug use in the home; however, only 44 percent of parents have been asked this by their provider,
- 85 percent believe providers should ask whether a parent has someone to turn to for emotional support, but less than 50 percent of parents have been asked by their provider,
- 56 percent believe providers should ask about violence in the community but less than 22 percent have been asked this by their provider.[19]

[15] Civitas, Brio Corporation, Zero-to-Three and DYG, Inc. *What Grown-ups Understand About Child Development: A National Benchmark Survey*, 2000.

[16] "Pediatric provider" and "primary health care provider" are used interchangeably in this issue brief to refer to any health care provider (including pediatricians, family physicians, and nurse practitioners) and setting (including managed care organizations, private practices, community health centers, and local health departments) that provide preventive child health and development services to infants and young children.

[17] *What Grown-ups Understand About Child Development: A National Benchmark Survey*, 2000.

[18] Young, KT, Davis, K, and Schoen, C. *The Commonwealth Fund Survey of Parents with Young Children*. New York: The Commonwealth Fund, 1996.

[19] Halfon, N, Olson, L, et. al. *Summary Statistics from the National Survey of Early Childhood Health, 2000*, National Survey of Early Childhood Health Summary Statistics.

The Role of Primary Care Providers

Child development services are provided by a variety of primary health care providers such as pediatricians, family physicians, and nurse practitioners, and in settings including local health departments, community health centers, and private physician practices. Regardless of the setting, it is important that children and their families have a medical home: accessible, continuous, comprehensive, and coordinated health care provided or directed by well-trained physicians who are able to manage all aspects of a child's pediatric care.[20]

Primary care providers play a central role in child development, particularly in the first five years of a child's life and even before a child is born or conceived. They have regular access to women, infants, young children, and families, providing an important window of opportunity to assess and positively influence child health and development. For instance, providers can educate women of child-bearing age about the importance of folic acid intake to prevent neural tube defects[21] and promote proper nutrition and adequate prenatal care to lower the risk of having a low-birthweight infant.[22] For very young children, pediatric providers recommend and help assure that children receive nine to ten well-child visits within the first 24 months of life.[23]

In addition to placing greater focus on child development, pediatric providers can address family, psychosocial, and community issues during general health supervision. They can use child health and development visits as an opportunity to inquire about the health of the mother or primary caregiver. For women with maternal depression or other mental health concerns, pediatric providers can serve as an important link to other services and supports. Finally, a clear link exists between a mother's use of health services for herself and her use of services for her child, a fact that may encourage providers to use a two-generational approach to child health services.[24]

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[20] Policy Statement: "The Medical Home." *Pediatrics*. 1992: Vol. 90, No. 5: pp. 774.

[21] Acuna J, Yoon P, and Erickson D. *The Prevention of Neural Tube Defects with Folic Acid,* the Centers for Disease Control and Prevention, and the Pan American Health Organization.

[22] Centers for Disease Control and Prevention. *An Ounce of Prevention…What Are the Returns?* 2nd ed., rev. Atlanta, GA: US Department of Health and Human Services, CDC, 1999.

[23] Policy Statement: "Recommendations for Preventive Pediatric Health Care." *Pediatrics*, 2000: Vol. 105, No. 03: pp. 645.

[24] Wright K, Kuo A, Regalado M, and Halfon, N. "Developmental and Behavioral Health Services for Children: Opportunities and Challenges for Proposition 10," in N Halfon, E Shulman and M Hochstein, eds., *Building Community Systems for Young Children*, UCLA Center for Healthier Children, Families and Communities, 2001.

The Impact of Parental Depression on Child Development

Depression is the most prevalent mental disorder nationally. It occurs twice as frequently in low-income groups as compared to others and is the leading cause of disability among women.[25]

Infants and toddlers of depressed parents are:

- less attentive, more fussy, and experience lower activity levels,
- 6-8 times more likely to be diagnosed with a major depressive disorder, and
- 5 times more likely to develop conduct disorders.[26]

Parental depression can lead to harsh or negative interactions with the child, lack of interest or follow-through on important prevention activities such as use of car seats and child-proofing, and limited school readiness for children.[27]

When asked about child development assessment, most pediatricians (93 percent) agree that pediatricians should inquire about child development during health supervision; however, few (36 percent) think that their time is sufficient for developmental assessments and still others (65 percent) report having inadequate training in assessment. [28] The emphasis in many pediatric visits continues to be on more traditional preventive health topics such as immunizations and nutrition.

[25] Lennon MC, Blome J, and English K. *Depression and Low-Income Women: Challenges for TANF and Welfare-to-Work Policies and Programs*. New York: National Center for Children in Poverty, 2001.
[26] Ibid.
[27] Adalist-Estrin A, "The Influence of Parental Mental Health on Child Development." Presentation at the Agency for Healthcare Research and Quality, User Liaison Program, Improving Early Childhood Development: Promising Strategies for States and the Health Care System, Jacksonville, FL. January 2002.
[28] Halfon N, Hochstein M, Sareen H, et al. "Barriers to the Provision of Developmental Assessments During Pediatric Health Supervision," Presentation at the Pediatric Academic Societies Meeting, Baltimore, MD. May 2001.

PREVENTIVE CHILD DEVELOPMENT SERVICES: PROMOTING THE OPTIMAL DEVELOPMENT OF YOUNG CHILDREN

Child development services should be a routine part of preventive pediatric care and an integral component of general child health supervision. However, the degree to which they are regularly provided by primary care providers is inconsistent. Numerous factors and competing priorities for preventive pediatric care mean that child development services can get shortchanged. When child development services such as developmental assessments and anticipatory guidance are delivered, they are often a small and indistinguishable piece of general primary pediatric services. This makes it difficult to target services for quality improvement and enhanced service provision strategies that are separate from other components of health supervision.[29] Fortunately, early brain research reports have prompted health care providers and others to more clearly define the scope of routine child development services and take measures to improve the quality and consistency of services.

Child development services can be categorized in the following four key areas:

- **developmental surveillance, screening and assessment** services that include gathering information from the parent, developmental monitoring including screening for developmental problems, parent-child observation, and assessment of child development and behavior;
- **developmentally-based health promotion and education** including anticipatory guidance and parent education that addresses areas such as the parent-infant relationship, sleep patterns, discipline, injury prevention, and language development, and literacy programs that encourage reading to young children;
- **developmentally-based interventions** that provide families with services and support within or outside of the health care setting and through mechanisms such as phone consultation and home visiting. Interventions include problem-focused counseling and speech, language, and physical therapies for children who have or are at-risk of developmental delays; and
- **care coordination** to manage and monitor the ongoing care of young children and link families to community agencies and services not provided in the health care setting.[30]

[29] Regalado, M and Halfon, N. "Primary Care Services Promoting Optimal Child Development From Birth to Age 3 Years: Review of the Literature." *Archives of Pediatric Adolescent Medicine*, 2001: Vol. 155: 1311-1322.
[30] Ibid.

Child Development Surveillance, Screening, and Assessment

Levels of Early Childhood Development Detection[31]

Developmental surveillance or monitoring includes eliciting and attending to parental concerns, obtaining a relevant developmental history, making accurate and informative observations of children, and sharing opinions and concerns with other relevant professionals.[32] It means assessing risk factors for negative developmental outcomes, including prenatal and perinatal conditions, nutritional deficiencies, environmental toxins, sensory impairments, and poverty.

Developmental screening refers to a brief assessment procedure designed to identify children who should receive more intensive diagnoses or assessments.[33]

Developmental assessment or evaluation refers to a more in-depth evaluation of children and may lead to a definitive diagnosis, plan of remediation, determination that there is no problem, or further observation.[34]

Routine developmental surveillance, screening, and assessment are important components of child development services for infants and young children. The American Academy of Pediatrics (AAP) recommends that all infants and young children be screened for developmental delays and that screening procedures be incorporated into the ongoing health care of the child as part of the provision of a medical home. Developmental screening should be part of routine preventive pediatric care that is culturally sensitive and family-centered, and connected to community-based resources and programs.[35]

Numerous evidence-based child development and behavioral assessment tools are available for screening and identifying developmental delays in young children. However, no single universally accepted tool currently exists. Each tool offers its own unique strengths and weaknesses for detecting developmental delays and application in a primary care setting.

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[31] Policy Statement: "Developmental Surveillance and Screening of Infants and Young Children." *Pediatrics*, 2001.Vol. 108, No. 1, pp. 192-196.

[32] Dworkin, PH. "Detection of behavioral, developmental, and psychosocial problems in pediatric primary care practices." *Curr Opin Pediatr*. 1993;5:531-536.

[33] Meisels SJ, Provence, S. *Screening and Assessment Guidelines for Identifying Young Disabled and Developmentally Vulnerable Children and Their Families*. Washington, DC: National Center for Clinical Infant Programs, 1989.

[34] Policy Statement: "Developmental Surveillance and Screening of Infants and Young Children." *Pediatrics*, pp. 192-196.

[35] Ibid.

The availability of multiple screening and assessment tools—combined with multiple factors such as limited physician training and time constraints—can impede the consistent use of standardized tools and the ability to implement assessment systems. For these and other reasons, many pediatric providers continue to rely on clinical judgment for detecting developmental delays rather than on standardized tools. In fact, only 44 percent of pediatricians report using a developmental screening instrument and 38 percent report using a formal assessment.[36]

Developmental screening tools that use parent report are increasingly being examined for use in health care settings because they may remove some of the time burden on pediatric providers. Structured mechanisms for eliciting parents' concerns have been shown to be fairly accurate and reliable in detecting children at risk of developmental problems.[37] Screening tools that rely on parent report such as the Ages and Stages Questionnaire (ASQ) and the Parents' Evaluation of Developmental Status (PEDS), are often favored because of their utility for integration in a primary care setting.[38] (See Appendix A for an overview of developmental screening tools.)

Developmentally Based Health Promotion and Education

Anticipatory guidance for parents and other caregivers is an important part of child development services and has been shown to improve child development outcomes. It includes preventive counseling to promote optimal growth and development, parenting education and developmental advice, and motivation to adopt healthier practices. Anticipatory guidance appears to be most effective when education efforts are directed toward increasing positive interaction between parent and child. It can also be effective when targeted to specific issues such as sleep habits, discipline, and promoting children's learning.[39]

Typically, anticipatory guidance acknowledges the importance of early emotional development, reinforces the parent-child relationship, and addresses those areas most conducive to early intervention. Topics for discussion often include:

- parent-child interaction,
- discipline,
- infant and toddler sleep habits,
- child temperament, and
- child learning.[40]

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[36] Halfon, N, Olson, L, et al. *Summary Statistics from the National Survey of Early Childhood Health,* 2000.
[37] Regalado, M and Halfon, N. *Primary Care Services Promoting Optimal Child Development*, 1311-1322.
[38] Glascoe FP. "Early Detection of Developmental and Behavioral Problems." *Pediatrics in Review*, 272-280.
[39] Regalado, M and Halfon, N. *Primary Care Services Promoting Optimal Child Development*, 1311-1322.
[40] Ibid

Ideally, anticipatory guidance might also address other topics that can have a major impact on child and family health, among them injury prevention, maternal depression, and domestic violence.

Anticipatory guidance is maximized when effective and productive relationships exist between practitioners and parents. Families should feel comfortable addressing child development issues with their pediatric provider. In turn, providers need effective communication skills and techniques in order to elicit critical information about child development, to counsel parents, and to provide important developmentally-based education. In establishing relationship-based practices, providers focus their efforts on promoting the parent-child relationship and, at the same time, recognize that the relationship between the parent and practitioner is fundamental to quality services.[41]

Developmentally Based Interventions

Developmentally based interventions provide families with young children with some of the services and supports that they need to assure their child's healthy development. These interventions may be provided within or outside of the health care setting and through such vehicles as phone consultation or home visiting. They may include such interventions as problem-focused counseling for excessive crying or the management of colic, or more intensive services such as speech, language, and physical therapies for children who have or are at-risk of developmental delays.

Among these interventions, home visiting is a long-standing prevention strategy used by states and communities to improve health outcomes for women, children, and their families, and a mechanism that is being used in many early childhood development efforts.[42] Home visiting is used to strengthen parenting skills, prevent child abuse and neglect, improve child health, and enhance child development services. It can serve as an important vehicle for providing or connecting families with additional supports such as smoking cessation services and additional parenting education.

Care Coordination

Care coordination involves managing and monitoring the ongoing care of young children and their families and linking families to health and developmental services (e.g., behavioral and psycho social services) in the community. Since developmental interventions are outside of the pediatric office, linkages between pediatric settings and community based systems can be

[41] Kaplan-Sanoff M, "Neurons to Neighborhoods." Presentation at the Agency for Healthcare Research and Quality, User Liaison Program, Improving Early Childhood Development: Promising Strategies for States and the Health Care System, Jacksonville, FL. January 2002.
[42] Curtis D, *Building State Medicaid Capacity to Provide Child Development Services: Early Findings from the ABCD Consortium*. Portland, ME: National Academy for State Health Policy, February 2002.

inconsistent and incomplete.[43] Care coordination is highly dependent on effective outreach and referral mechanisms, well-integrated systems of preventive care and early intervention services and supports, and efficient feedback loops between community agencies and providers.

[43] Halfon N, *Creating a Health Care Home for the 21st Century: Improving the Delivery of Developmental and Behavioral Services for Young Children*. Presentation at the Agency for Healthcare Research and Quality, User Liaison Program, January, 2002.

CHALLENGES TO INTEGRATING CHILD DEVELOPMENT SERVICES IN THE HEALTH CARE SYSTEM

In spite of national reports, policy statements and nationally-recognized child development guidelines such as Bright Futures,[44] the inclusion of routine child development services in the primary care setting remains highly inconsistent.

Key barriers include:

- time limitations for providers,
- lack of appropriate provider training to use developmental screening and assessment tools,
- inadequate reimbursement amounts and administrative barriers to billing,
- lack of bi-lingual providers, and
- graduate medical education programs that lack comprehensive training on early childhood education and development.

When families must be referred to services outside of the health care setting, insufficient community resources, inadequate provider referral mechanisms, and fragmented linkages between pediatric providers and community agencies provide further challenges.

These challenges are not limited to private pediatric providers and managed care organizations. Local health departments and community health centers may have more flexibility in determining the amount of time spent during well-child visits or in obtaining outside grants to support greater integration of child development services into their efforts. However, high client caseloads, insufficient resources, and administrative barriers to billing that outweigh relatively low reimbursement amounts present other challenges.

In addition to system and provider barriers, there are inherent challenges to early detection of developmental delays. Because child development is a dynamic and interactive process, children can develop at different rates making it difficult to fully assess whether a child is experiencing problems or just developing more slowly. Many families may not be aware of what a developmental screening will tell them and if a developmental delay is detected, where to take their child for services. In addition, some families may find it difficult to consider that their child is experiencing a developmental delay. For these and other reasons, many young children are

[44] Bright Futures is a set of comprehensive, expert health supervision guidelines for children and adolescents from birth through age 21, which were initiated by the Health Resource and Services Administration, Maternal and Child Health Bureau, with additional support from the Centers for Medicaid and Medicare Services, and reviewed by over 1000 health professionals, educators, and child advocates.

often screened or given a more in-depth developmental assessment only when significant developmental delays are evident.[45]

Addressing the social and emotional health of young children and their families poses a particular challenge for the health care system. Children at risk for emotional and behavioral problems may be difficult to identify through routine pediatric care, and services and resources are difficult to find and coordinate, despite the fact that this aspect of early child development is a widespread concern. The mental health system does little for children ages 0 to 5, so the burden of responsibility falls to primary child health care providers. These providers may not have the expertise to address mental health issues for such young children and their families.

[45] Glascoe FP. Early Detection of Developmental and Behavioral Problems. *Pediatrics in Review*, 272-280.

STRATEGIES FOR IMPROVING CHILD DEVELOPMENT SERVICES IN THE HEALTH CARE SYSTEM

Multiple strategies, including improved financing mechanisms, quality improvement and standard setting, and provider training and education, can be used to improve the integration and implementation of child development services in health care settings. Numerous federal programs including Medicaid and SCHIP, TANF, Child Care, Head Start, and Early Head Start recognize and support the importance of intervening early with young children and their families. Through state innovations and the flexibility provided under these federal programs, unique opportunities exist to create comprehensive systems of care that assure the optimal health and development of all young children and their families.

Maximizing the Delivery of Child Development Services Under Medicaid and SCHIP

Medicaid and SCHIP are the largest sources of federal support for health coverage for low-income children, and the largest source of financing for child development services. Medicaid provides insurance coverage to approximately 23 million low-income children or more than one in four children in the United States.[46] SCHIP provides coverage to approximately 4.6 million children who are not eligible for Medicaid because family incomes and resources are too high to qualify.[47]

In Medicaid, eligible children are entitled to a defined set of health care benefits under the Early and Periodic Screening, Diagnostic and Treatment (EPSDT) benefit. Preventive services under EPSDT include a thorough health and developmental history including a mental and physical development assessment, age-appropriate immunizations, and health education and anticipatory guidance.

[46] Rosenbaum S, Proser M, Schneider A, and Sonosky C. *Room to Grow: Promoting Child Development Through Medicaid and CHIP*. Washington, DC: Center for Health Services Research and Policy, July 2001.
[47] Centers for Medicare and Medicaid Services. *The State Children's Health Insurance Program Annual Enrollment Report*, February 2002.

Using EPSDT assessment tools to improve developmental screening

State Medicaid agencies can encourage the provision of child development services through the use of comprehensive encounter and screening forms for EPSDT visits. For example:

- Arizona's Health Care Cost Containment System (AHCCCS) developed an age-specific EPSDT tracking form to insure that all EPSDT components are met during each well-child visit, with input from the MCOs and the medical community. The form is completed by the provider, one copy is kept in the medical record and one copy is sent to the MCO. The MCOs are responsible for ensuring that EPSDT screens are performed and that the tracking form is completed.

- Maine adopted the encounter forms based on the Bright Futures Guidelines for Health Supervision of Infants, Children and Adolescents for use during EPSDT well-child visits. The series of 19 health assessment forms provides age-specific information about services to be provided, such as immunizations, and outlines suggestions for anticipatory guidance.

- Washington developed a well-child exam form for all primary care providers to use during well child visits. The form furnishes guidance and information to both physicians and parents and addresses age-specific issues in development.

In SCHIP, eligible children are not entitled to a defined set of health care benefits. Rather, children qualifying for SCHIP receive health care services as determined by the state and subject to certain federal requirements.[48]

States can strengthen the child development services provided to young children in Medicaid and SCHIP by:

- providing screening tools for primary care providers to use during the well-child visit that contain a specific focus on early child development;
- enhancing the service settings in which covered services will be delivered and broading the range of health professionals who can be reimbursed under state programs;
- redefining classes of covered services to create an early childhood development benefit; and

[48] Rosenbaum S, Proser M, Schneider A, and Sonosky C. *Room to Grow: Promoting Child Development Through Medicaid and CHIP*, July 2001.

- requiring a "preventive standard" of medical necessity to determine when covered Medicaid and SCHIP benefits will be available.[49]

Capitalizing on States' Roles as Insurance Regulators and Public Health Care Purchasers

States have the opportunity to use their role as insurance regulators and health care purchasers to strengthen child development services in health care systems. States can have an impact on whether public and private health care purchasers expect early childhood development competency from the health services that they purchase. They can also influence whether purchasers pay for services offered by non-traditional professionals and in non-traditional settings.

State governments, relevant state agencies, and purchasers can capitalize on their respective roles in health care purchasing and insurance regulation by:

- providing financial incentive arrangements that encourage provision of early childhood development services;
- requiring that pediatric networks demonstrate the use of practice guidelines that incorporate early childhood development and that they also demonstrate core competencies in early childhood development;
- using the contracting process with managed care organizations and other health systems to require or encourage inclusion of child development services;[50]
- implementing quality improvement interventions with contracting managed care organizations by using the External Quality Review Organization (EQRO);[51] and
- expecting managed care organizations to measure the early childhood development performance of their contract networks.[52]

[49] Ibid.
[50] Optional Purchasing Specifications for Child Development Services in Medicaid Managed Care, Washington, DC: Center for Health Services Research and Policy, July 2001.
[51] The federal Centers for Medicare and Medicaid Services requires states contracting with managed care organizations to contract with External Quality Review Organization (EQRO) for external quality review.

[52] Rosenbaum S, "Strategies for Improving Early Childhood Development Services Within the Health Care System," Presentation at the Agency for Healthcare Research and Quality, User Liaison Program, January 2002.

An example of using the EQRO to improve preventive services for young children

Washington state has incorporated provisions in its contract with the EQRO to conduct an EPSDT Quality Improvement Project. Focused patterns of care (FPOC) studies are being used to assess utilization patterns, quality of care, and patient outcomes for the EPSDT population. The EQRO contractor is required to:

- conduct a FPOC chart review study of infants (up to 18 months), children (2 to 6 years), and adolescents (12 to 20 years);
- calculate clinic and provider level performance measures using chart review data; and
- develop and implement quality improvement interventions with clinics and/or providers based on findings from the chart review study, historical EPSDT studies, and focus sessions with providers and parents of children.

Improving Accountability, Quality Measurement and Improvement, and Data and Tracking Systems

Health care providers, state health agency administrators, policy makers and others can improve the quality of child development services by strengthening accountability and quality improvement systems and improving data collection and tracking systems. With regards to quality improvement measures, few exist that assess health care system performance in child development services. Many measures rely heavily on medical record or administrative data and provide information about children's *access* to preventive care but not the *quality* of such care.[53]

A recently developed quality improvement measure, the Promoting Healthy Development Survey (PHDS), assesses preventive developmental services for children ages birth to four years and is based on national guidelines from the American Academy of Pediatrics and Bright Futures. PHDS is designed to help providers, consumers, purchasers and others assess the degree to which health plans and providers provide recommended developmental services. The survey measures seven areas of preventive child development care:

- anticipatory guidance and parental education from providers;
- health information;
- follow-up for children at risk;
- assessment of family well-being and overall safety;
- assessment of smoking and substance abuse in the family;

[53] Bethell C, Peck C. "Assessing Health System Provision of Well-Child Care: The Promoting Healthy Development Survey." *Pediatrics*, May 2001: Vol. 107, No. 5; pp 1084-1094.

- family-centered care; and
- the helpfulness and effect of care provided.[54]

PHDS has many uses in health care settings. It can complement and supplement states' reporting requirements under EPSDT. Some states have used PHDS to strengthen purchasing and contracting by assessing the quality of care at the health plan and practice levels. In addition, PHDS has been used for quality improvement efforts to strengthen implementation of child development services in areas such as use of reporting forms, referral services, and coverage of developmental screening.[55]

In addition to quality improvement measures, data systems that effectively track and assess the provision of child development services in public health care settings are also important. Many state health agencies have existing data systems that track and assess the provision of child health services in health departments and in public programs such as Medicaid and SCHIP. However, many of these systems may not include specific measures covering the provision of child development services such as child development screenings and assessments. Finally, some states are using EPSDT reporting forms and charting tools to address age-specific issues in child development and provide guidance to primary care providers and parents.[56]

State agencies, purchasers, health care providers, health plans, and others can enhance quality improvement efforts, and data and tracking systems by:

- integrating child development quality improvement measures in health care practices and settings;
- utilizing quality improvement data to strengthen practice and purchasing;
- compiling quality improvement data to educate key stakeholders about the benefits and importance of child development services;
- incorporating or obtaining measures of child development services, such as the provision of child development screening and assessment, in existing health care tracking and assessment systems; and
- using enhanced reporting forms to track child development services and charting tools to address age-specific issues in child development.

[54] Peck C, "Measuring the Quality of Preventive Care Delivered to Young Children: How a Parent-Based Survey Can be Used to Inform Policy Decisions." Presentation at the Agency for Healthcare Research and Quality, User Liaison Program, January 2002.
[55] Ibid.
[56] Curtis, D. *Building State Medicaid Capacity to Provide Child Development Services: Early Findings from the ABCD Consortium*. February 2002.

Creating Comprehensive, Coordinated Systems of Care for All Children, Including Those Who Have or Are At-Risk for Developmental Delays

States have certain flexibility under federal programs to establish comprehensive systems of early childhood care for all children, including those who have or are at-risk of a developmental delay. By maximizing key federal programs such as the Maternal and Child Health Services Block Grant (Title V of the Social Security Act) and the Early Intervention Program for Infants and Toddlers (Part C of the Individuals with Disabilities Education Act) and fully coordinating these programs with Medicaid and SCHIP, states can help assure stronger and more efficient systems of early childhood development services and supports at the state and community level.

Under Title V, states must spend 30 percent of their federal block grant allocation on preventive and primary care for children and youth, and 30 percent on services for children with special health care needs (CSHCN). State Title V programs work to assure the health of all women, children, and youth—including those with special health care needs—through a variety of programs and initiatives. The flexibility of Title V allows for it to be an originating and supportive source for child development programs, including direct care for mothers and children as well as interventions for an entire family.

Through the Early Intervention Program, *all* children ages birth to three who are experiencing developmental delays or who have a diagnosed mental or physical condition that is likely to result in a developmental delay, are entitled to a range of services and supports. States may also elect to serve children who are *at-risk* of having substantial developmental delays if services are not provided.[57] States must establish an Early Intervention Program that includes several key components including a definition of developmental delay, a comprehensive child find (i.e., outreach to potentially eligible families) and referral system, a timely and comprehensive multidisciplinary evaluation of children's needs, and services and service coordination.

The unique complexities of federal programs, which are often administered by different state agencies, can pose significant barriers to seamless integration, particularly at the community level, but the challenges are not necessarily insurmountable. States can strengthen coordinated systems of early childhood services and supports by:

- assuring that programs such as Title V and Early Intervention are maximized and coordinated with Medicaid and SCHIP;
- fostering effective feedback mechanisms between community agencies and pediatric providers;
- educating pediatric providers about the availability of Early Intervention services and supports, and where they can refer children who have or are at-risk of a developmental delay;
- assuring that children in the Early Intervention program are assessed for

[57] Shackelford J, *State and Jurisdictional Eligibility Definitions for Infants and Toddlers with Disabilities Under IDEA*. Chapel Hill, NC: National Early Childhood Technical Assistance System, April 2000.

eligibility for Medicaid or SCHIP; and

- coordinating data systems between Early Intervention, Medicaid, SCHIP, and other relevant programs.

Building Strong Linkages With Programs That Serve Low-Income Families and Support Children's Social and Emotional Development

There are numerous federal programs that provide family support and can be used to promote child health and development. For instance, Temporary Assistance for Needy Families (TANF) provides federal funding to support low-income families in achieving maximum self-sufficiency and decreasing adult dependency on public assistance. Federal TANF regulations and recent guidance clearly support use of TANF funds to assure the well-being and healthy development of children and youth, particularly those in low-income families. As a result, states are using TANF to promote quality child care, early childhood education, teen pregnancy prevention, and other related efforts.[58]

Families with young children, particularly those who are low-income, come in contact with a variety of programs during their child's early years, providing an important entry point for providers to assure that child development needs are being met. Head Start and Early Head Start, Child Care, Family Planning, and the Special Supplemental Nutrition Program for Women, Infants and Children (WIC) are some of the federal programs that either have explicit child health and development components or can serve as key contact points for connecting families with young children to child development services. Several states are exploring innovative approaches to child development service integration through these programs such as training public health nurses to conduct child development screens in child care settings, connecting families in the WIC program with child development services, and using these settings to educate parents about the importance of child development.

Strengthening Health Profession Education, Accreditation, and Licensure

Health profession education, accreditation programs, and licensure systems have a significant impact on the degree to which health professionals possess competencies in early childhood development and are trained to incorporate early childhood development concepts into professional standards of practice. They can also influence pediatric standards of practice and whether public and private purchasers consider child development services as important components of what they purchase.

State agencies, health providers, and purchasers can influence early childhood development health profession competencies and practice standards by:

- examining current medical profession licensure policies and practices and

[58]Washington, DC: National Governors' Association, January 2000.

requiring pediatric health professionals to demonstrate early childhood development competency as a condition of licensure;

- strengthening and expanding early childhood development training in medical education;
- incorporating the indirect and direct costs of publicly-funded graduate medical education and training programs into early childhood development services reimbursed by Medicaid and SCHIP; and
- dually certifying early child development specialists and social service/education professionals as health professionals in order to help them qualify for public and private insurance payments.[59]

Creating Public Awareness and Education Campaigns

Increased public awareness and education of parents, caregivers (e.g., grandparents, aunts and uncles), and others about the importance of early childhood development and the role that health systems play is needed. While many parents indicate that they want child development services and support from their pediatric provider, many may not know how or whether to ask for these services. Increased public awareness and education that child development services are an important part of primary health care may result in more requests for these services from families. In turn, this may help influence and shift the health care system towards more consistent and routine provision of child development services.

[59] Rosenbaum S, *Strategies for Improving Early Childhood Development Services Within the Health Care System*. January 2002.

PUTTING IT ALL TOGETHER: PROMISING PRACTICES AT THE PRIMARY CARE PRACTICE, COMMUNITY, AND STATE LEVEL

Efforts to improve child development services in health care systems through service integration and care coordination, better financing mechanisms, partnerships at the state and community levels, and quality improvement measures are being implemented at the state, community and primary care practice level. These promising practices provide important insights and strategies for strengthening child development services in the health care system.

Primary Care Setting

Primary care settings are tackling the barriers to integration of child development services through evidence-based preventive standards, the strengthening of internal office systems, the implementation of performance monitoring and tracking systems, and the improvement of community-based referral and follow-up systems between providers and community agencies.

Effective practice delivery systems include:

- strong leadership;
- guidelines about preventive services that are well-known and used;
- structured assessments of child and family needs at every office visit;
- structured methods and forms to prompt physicians;
- methods to prompt patient involvement;
- linkages with community resources; and
- performance monitoring and feedback.[60]

[60] Margolis P, *Anticipatory Guidance to Optimize Child Health and Development: Translating Evidence Into Practice*. Presentation at the Agency for Healthcare Research and Quality User Liaison Program, January 2002.

Guilford Child Health and the North Carolina ABCD Project[61, 62]

The North Carolina Assuring Better Child Health and Development (ABCD) project is developing a "best practices" model for integrating child development services into local health care delivery systems, targeting children from birth to five years of age. The model includes developmental screening, referral, service coordination and the provision of educational materials and resources for both parents and clinicians serving Medicaid children. It was first piloted at Guilford Child Health – a large pediatric practice that is part of Guilford ACCESS Partnership, one of the state's community-based Medicaid demonstration plans.

At Guilford Child Health, parents complete the Ages and Stages Questionnaire (ASQ) at intake when their child is 6, 12, 24, 36, and 48 months old. The ASQ is scored by a physician or nurse practitioner and used as a teaching tool to reassure parents and reinforce their understanding of their child's healthy development. The practice's Early Intervention Specialist reviews each child's ASQ score. When a problem is detected (i.e., one or more developmental scores are below the ASQ cutoff score) a referral is made to the state's local Early Intervention Program. In addition to routine developmental screening, Guilford Child Health provides families with referrals for necessary services, parenting classes, the Reach Out and Read literacy program,[63] and educational materials covering such age-specific developmental issues as managing tantrums and time-out guidelines.

For more information about the North Carolina ABCD initiative contact: Sherry Hay, ABCD Project Coordinator at sherry.hay@ncmail.net, or Marian Earls, Medical Director, Guilford Child Health, Inc. at mearls@gchinc.com

[61]Earls M, "Child Development Services in the Practitioner's Office: A Quality Improvement Initiative." Presentation at the Agency for Healthcare Research and Quality User Liaison Program, January 2002.
[62]The North Carolina ABCD Project is one of four state projects (along with Utah, Vermont, and Washington) participating in the ABCD Consortium, an initiative sponsored and funded by The Commonwealth Fund's Assuring Better Child Health and Development (ABCD) Program. The National Academy for State Health Policy administers the initiative for the Fund.
[63]The Reach Out and Read Program consists of three linked interventions: 1. Anticipatory guidance about reading aloud provided as an integral part of health supervision visits, along with modeling and observation of parent-child book use. 2. Developmentally and culturally appropriate picture books given by the doctor at each health supervision visit, so that parents have both encouragement and the tools they need. 3. Community volunteers who read to the children in the waiting room, modeling developmentally appropriate techniques for the parents. Source: Needlman R, Klass P, Zuckerman B. "Reach Out and Read: A Practical, Proven Strategy to Promote Learning," submitted to Contemporary Pediatrics.

Community Level

Community agencies play an important role in child development services because they can serve as a bridge and conduit between state programs and policies and what occurs in primary care practices. Efforts at the community level to strengthen child development services in health care settings include:

- creating critical linkages with physicians, hospitals, and other providers, that can strengthen child development services and referral mechanisms;
- fostering partnerships by involving providers, community organizations, families and other caregivers, and schools in coalitions and networks designed to improve early childhood development outcomes;
- strengthening systems for tracking and assessing the provision of child development services in public programs;
- educating providers about available Early Intervention services and other resources in the community;
- becoming educated about real or perceived confidentiality barriers that can prohibit community agencies and providers from sharing critical information; and
- working to improve referral and feedback loops between agencies and providers.

The San Mateo County (California) Prenatal to Three Initiative[64]

The San Mateo County Prenatal to Three Initiative (Pre-to-Three) is a collaboration between the San Mateo County Health Services Agency, the Health Plan of San Mateo, the Peninsula Partnership for Children, Youth and Families, and other community organizations. Key program components include home visiting, parent support groups and education classes, linkages to community providers, provider training, literacy programs, and a central registration and referral system. Pre-to-Three serves Medicaid-eligible low-income families with pregnancies and newborn children.

Home visiting is a core component of the program. Home visitors are a multidisciplinary team from the county and community-based organizations that contract with the county. Home visitors address child development, nutrition, child safety, family planning, mental health issues, substance abuse, and special health needs.

Pre-to-Three partner organizations assist families with navigating managed care procedures, obtaining child care, and seeking transportation to and from appointments. Linkages with health care clinics and physicians offices are facilitated through the Program's central registry and referral system. The Initiative also collaborates with providers of family and mental health, nutrition, social services, libraries, education, and child care in order to improve service coordination. Three committees meet regularly to discuss program issues and inform policy making for the prenatal to age three population.

A recent evaluation of Pre-to-Three reveals, among other outcomes, that:

- Women in the program at high-risk of a mental health disorder received therapeutic services more often than their counterparts.
- Pre-to-Three children had on average one more well-child visit than children seen before the program began.
- Pre-to-Three parents showed picture books to their infants 45 percent more and visited the library 33 percent more than non-program families.
- Foster care placements in San Mateo County amongst children age birth to five years decreased from 46 percent to 33 percent after the Pre-to-Three Program.

For more information about the San Mateo County Prenatal to Three Initiative contact Mary Hansell, Prenatal to Three Initiative Director, at mhansell@co.sanmateo.ca.us

[64] Hansell M, "San Mateo County, California Prenatal to Three Initiative." Presentation at the Agency for Healthcare Research and Quality User Liaison Program, January 2002; "The San Mateo County Prenatal to Three Initiative Program Summary," January 2001.

State Level

Efforts to strengthen child development services at the state level often involve multiple and complex funding streams, competing priorities for child health and education among agencies, and different federal program requirements. States can strengthen child development services and support communities and primary care settings by:

- creating comprehensive and coordinated systems of care that integrate relevant federal and state programs for young children and their families;
- maximizing and using multiple federal financing streams, particularly Medicaid, SCHIP, Early Intervention, Title V, and TANF;
- building effective partnerships between state health, education, human service, mental health and substance abuse agencies; professional associations representing physicians, hospitals and other providers; child advocates; parent and family groups and others;
- using multiple public programs such as child care, WIC and Family Planning as key entry points for linkages and referrals to child development services;
- fostering and supporting innovative child development service practice models at the community level;
- conducting training and continuing education on early childhood development and child development services for providers, community agencies, and others;
- creating public awareness campaigns to educate parents and caregivers about the importance of early childhood development;
- developing model child health and development reporting forms for use in public programs and settings; and
- building and strengthening data systems that track the provision of child development services.

Kentucky Invests in Developing Success (KIDS) Now[65]

Kentucky Invests in Developing Success (KIDS) Now is the state's early childhood initiative designed to assure maternal and child health, support families, enhance early care and education, and establish the state infrastructure to carry out these goals. The initiative began in 1998 with a gubernatorial creation of the Office of Early Childhood Development and the subsequent appointment of an Early Childhood Task Force, which presented a 20-year plan. The plan formed the basis for legislation which was passed in April 2000. Evidence from early brain research, recognition of the economic development potential to invest in children early for later substantial returns, and education reform all served as catalysts for the development and passage of the initiative.

KIDS Now is comprised of several work groups covering prenatal, early care and education, in-home supports, professional development, and public awareness. Several community forums have been held to elicit community and family input, and challenges and needs in early childhood care, education, and well-being. Among other activities, state conferences addressing infant/toddler health and development, early childhood care and education, and school-age issues have been held. Public awareness and education activities have also been conducted for such key stakeholders as legislators, families, and members of the media.

For more information about KIDS Now, contact Kim Townley, Executive Director, Governor's Office of Early Childhood Development, at kim.townley@mail.state.ky.us.

[65] Townley K, "Collaborative Partnerships to Improve Early Childhood." Presentation at the Agency for Healthcare Research and Quality, User Liaison Program, January 2002.

CONCLUSION

During early childhood, children develop at a rapid pace, forming the foundations for physical, cognitive, and social and emotional development that are predictors of school success, health, and overall well-being. While early childhood is a critical time for influencing and impacting children's life-long trajectory, all is not lost after children reach the age of five. Investments to support families in promoting their child's optimal health and development must also carry children through adolescence and into young adulthood.

Health systems have a clear role to play in promoting child development, educating parents and caregivers, screening and assessing children for potential developmental delays, and assuring that children and their families receive the necessary services and supports that they may require. States, communities, policy makers, health plans, pediatric providers, and others have an unprecedented opportunity to shape and strengthen child development services and numerous options and flexibility with which to do so. Promising practices at every level of health care service delivery provide important lessons for effecting change and assuring that all young children achieve their optimal healthy development.

Appendix A

Overview of Developmental Screening Tools

	ASQ[1]	BINS[2]	DDST[3]	PEDS[4]	CDI[5]	BRIGANCE[6]	PSC[7]	GAPS[8]
Type/Ages	Parent questionnaire (2 mos-5 yrs)	Direct elicitation (3-24 mos)	Direct elicitation	Parent questionnaire (0-8 yrs)	Parent questionnaire (3 mos-6 yrs)	Direct elicitation (21 mos-7.5 yrs)	Parent questionnaire	Child & parent questionnaires (11-21 yrs)
Staff required	Para-professional	MA or equivalent	3.5 hours of training	Para-professional	Para-professional	Professional	Para-professional	No Scoring
Time to score	5 minutes	10-15 minutes	20-30 minutes	5 minutes	10 minutes	10-15 minutes	7 minutes	20 minutes
Cost (per kit)	$190	$195	$91 kit $185 training materials	$39	$41	$249	Free down-load	Free download from AMA
Refills	OK to copy	Needed	$26-$100	$30-$50			OK to copy	OK to copy
Languages	English Spanish	English	English	English Spanish	English Spanish	English Spanish	English	English Spanish
Reading Level	4th - 6th Grade	NA	NA	5th Grade	NA	NA	NA	NA

[1] Ages and Stages Questionnaire. Paul Brooks Publishing Co., PO Box 10624, Baltimore, MD 21285-0624. 1-800-638-3775. www.pbrookes.com.

[2] Bayley Infant Neurodevelopmental Screen. The Psychological Corp., 555 Academic Court, San Antonio, TX 78204. 1-800-228-0752. www.psychcorp.com

[3] Denver Developmental Screening Test. Denver Developmental Materials, Inc., PO Box 371075, Denver, CO 80206-0919. 1-800-419-4729

[4] Parents Evaluation Developmental Status. Ellsworth & Vandermeer Press, PO Box 68164, Nashville, TN 37206. 1-888-729-1697. www.pedstest.com

[5] Child Development Inventory. Behavior Science Systems, Inc., PO Box 580274, Minneapolis, MN 55458.

[6] Brigance Diagnostic Inventory of Early Development. Curriculum Associates, Inc., 153 Rangeway Road, North Billerica, MA 01862. 1-800-225-0248. www.curricassoc.com

[7] Pediatric Symptom Checklist. Child Psychiatry, Bulfinch 351, Massachusetts General Hospital, Boston, MA 02114. 617-724-3163.

[8] Guidelines for Adolescent Preventive Services. American Medical Association. www.ama-assn.org/