Bright Futures

FOURTH EDITION

Guidelines for Health Supervision of Infants, Children, and Adolescents

Bright Futures™

prevention and health promotion for infants, children, adolescents, and their families™

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN®

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FOURTH EDITION

Guidelines for Health Supervision of Infants, Children, and Adolescents

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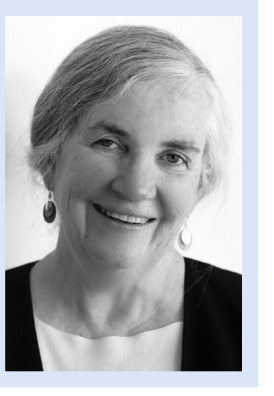
Dedication



This work honors our coeditor, Paula Duncan, MD, FAAP, without whose energy, insight, and spirit these *Guidelines* would not have achieved relevance for current pediatric practice.

A graduate of Manhattanville College, Dr Duncan received her medical degree from Women's Medical College in Philadelphia and completed her pediatric residency at Albany Medical Center and at Stanford University Medical Center, where she was also a Clinical Scholar in Adolescent Medicine.

In her early career in adolescent medicine, Dr Duncan committed to the primary and community-based care that she recognized as essential to her patients' healthy growth and development. She identified a mid-career opportunity to improve child and adolescent health in her community and left practice to serve as Medical Director of the Burlington (Vermont) School Department, where she was an early leader in the design of school-based health services. In addition, she created an innovative and nationally recognized curriculum for HIV/AIDS education for grades 4 through 12. From 1987–2001, she facilitated the Vermont public-private partnership of health care delivery at Vermont Department of Health, and served as state Maternal and Child Health Director from 1993–1998. Dr Duncan later became Youth Project Director for the Vermont Child Health Improvement Program at The Robert Larner, M.D. College of Medicine at the University of Vermont, where she is Clinical Professor in Pediatrics.

Dr Duncan's career has also been one of service in her community and on the national level. She was vice president of the American Academy of Pediatrics (AAP) Vermont Chapter (1990–1994) and later president of the Vermont Medical Society (2009). Her national work with the AAP includes serving as coeditor of the AAP's *Bright Futures Guidelines,* 3rd and 4th editions (2008 and 2017) and the *Bright Futures Tool and Resource Kit* (2009) as well as chairing the AAP Bright Futures Steering Committee.

Her contributions have been honored in national and AAP awards, including the Executive Committee Clifford Grulee Award, which recognizes long-term accomplishments and outstanding service to the AAP. She also received the AAP Section on Pediatric Dentistry Oral Health Services Award, and the AAP Council on Community Pediatrics Job Lewis Smith Award, which recognizes lifelong outstanding career achievement in community pediatrics.

The US Department of Health and Human Services, Health Resources and Service Administration (HRSA) Maternal Child Health Bureau (MCHB) Director's Award was presented to Dr Duncan in 2007 "in recognition of contributions made to the health of infants, mothers, children, adolescents, and children with special health needs in the Nation." In 2011, Dr Duncan was recipient of the Abraham Jacobi Award, which is presented to a pediatrician who is a member of both the AAP and the American Medical Association. This award recognizes long-term, notable national contributions to pediatrics in teaching, patient care, and/or clinical research.

Dr Duncan reminds us that "the heart of Bright Futures is establishing trust to build a therapeutic relationship." She has championed and devoted her career to the use of strength-based approaches. And this is who she is. Dr Duncan's warmth, joyfulness, and ability to see the best in people enable her to behold the innate strengths of families. It is her passion to teach all of us how to see families as she does and serve them better. This focus on strengths and protective factors in the clinical encounter of preventive services is her essential contribution to our *Bright Futures Guidelines,* 4th Edition.

We are in Paula's debt for her collegiality and great wisdom. And we cherish her friendship.

Joe Hagan

Judy Shaw

Mission Statement, Core Values, and Vision of the American Academy of Pediatrics

Mission

The mission of the American Academy of Pediatrics (AAP) is to attain optimal physical, mental, and social health and well-being for all infants, children, adolescents, and young adults. To accomplish this mission, the AAP shall support the professional needs of its members.

Core Values

We believe

- In the inherent worth of all children; they are our most enduring and vulnerable legacy.
- Children deserve optimal health and the highest quality health care.
- Pediatricians, Pediatric Subspecialists, and Pediatric Surgical Specialists are the best qualified to provide child health care.
- Multidisciplinary teams including patients and families are integral to delivering the highest quality health care.

The AAP is the organization to advance child health and well-being and the profession of pediatrics.

Vision

Children have optimal health and well-being and are valued by society. Academy members practice the highest quality health care and experience professional satisfaction and personal well-being.

Bright Futures Mission Statement

The mission of Bright Futures is to promote and improve the health, education, and well-being of infants, children, adolescents, families, and communities.

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Bright Futures: A Comprehensive Approach to Health Supervision

Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents describes a system of care that is unique in its attention to health promotion activities and psychosocial factors of health and its focus on youth and family strengths. It also is unique in recognizing that effective health promotion and disease prevention require coordinated efforts among medical and nonmedical professionals and agencies, including public health, social services, mental health, educational services, home health, parents, caregivers, families, and many other members of the broader community. The *Guidelines* address the care needs of **all** children and adolescents, including children and youth with special health care needs and children from families from diverse cultural and ethnic backgrounds.

Since 2001, the Maternal and Child Health Bureau (MCHB) of the US Department of Health and Human Services' Health Resources and Services Administration has awarded cooperative agreements to the American Academy of Pediatrics (AAP) to lead the Bright Futures initiative. With the encouragement and strong support of the MCHB, the AAP and its many collaborating partners developed the third and fourth editions of the *Bright Futures Guidelines.*

An Evolving Understanding of Health Supervision for Children

When the Bright Futures Project Advisory Committee convened for the third edition, the members began with key questions: What is Bright Futures? How can a new edition improve upon existing guidelines? Most important, how can a new edition improve the desired outcome of guidelines, which is child health? We turned to the previous editions of *Bright Futures Guidelines* for insight and direction.

The first edition of the *Bright Futures Guidelines,* published in 1994, emphasized the psychosocial aspects of health. Although other guidelines at the time, notably the AAP *Guidelines for Health Supervision,* considered psychosocial factors, Bright Futures emphasized the critical importance of child and family social and emotional functioning as a core component of the health supervision encounter. In the introduction to the first edition, Morris Green, MD, and his colleagues demonstrated this commitment by writing that Bright Futures represents "…'a new health supervision' [that] is urgently needed to confront the 'new morbidities' that challenge today's children and families."[1] This edition continues this emphasis.

The second edition of the *Bright Futures Guidelines,* published in 2000, further emphasized that care for children could be defined and taught to both health care professionals and families. In collaboration with Judith S. Palfrey, MD, and an expert advisory group, Dr Green retooled the initial description of Bright Futures to encompass this new dimension: "Bright Futures is a vision, a philosophy, a set of expert guidelines, and a practical developmental approach to providing health supervision to children of all ages from birth to adolescence."[2]

For the third edition of the *Bright Futures Guidelines,* the AAP's cooperative agreement with the MCHB created multidisciplinary Bright Futures expert panels working through the Bright Futures Education Center.[3] The panels, which first met in September 2003, further adapted the

Guidelines to clinical primary care by enumerating appropriate universal and selective screening and developing anticipatory guidance recommendations for each health supervision visit. Evidence was sought to ground these recommendations in science and a process was established to encourage needed study and to accumulate new evidence as it became available. The third edition expanded the definition of Bright Futures to be "a set of principles, strategies, and tools that are theory based, evidence driven, and systems oriented that can be used to improve the health and well-being of all children through culturally appropriate interventions that address their current and emerging health promotion needs at the family, clinical practice, community, health system, and policy levels."

Following publication in 2008, the Bright Futures Implementation Project demonstrated to practices that health supervision could be improved by using the *Bright Futures Guidelines.* Subsequent study demonstrated that practices and clinics could successfully implement the screening and guidance recommended.[4]

Developing the Fourth Edition

From its earliest conception and planning, the experts who have contributed to Bright Futures have viewed primary care health supervision as a service intended to promote health. Like our predecessors, we view health as not simply the absence of disease, but rather the presence of mental, physical, family, and social wellness. This wellness in infants, children, adolescents, and young adults is intended to prevent disease and promote health. It has always been the Bright Futures vision that the strength of families and communities is essential to child health.

We assert that health, broadly considered, requires a healthy family and a healthy community, and we now have the science to support our belief. New knowledge of early brain development and the importance of nurturance to avoid or lessen trauma and stress on the developing brain not only tells us that our long-held beliefs regarding health promotion might actually be true but also guides our contemporary work in this endeavor. The new science of epigenetics brings parents and caregivers to our care domain. If we cannot address the environmental and social determinants of health for parents—and alter their epigenetics—we will not change the developmental trajectory of their children or their grandchildren. In this fourth edition, clinicians will find emphasis on this uniquely pediatric endeavor. A new team of experts was convened to develop a new health promotion theme: *Promoting Lifelong Health for Families and Communities.* It provides a current review of the science of development and insight for how this science might be applied in our practices and clinics.

Since the last edition, new evidence has been developed regarding health supervision activities. We have actively sought this evidence since the previous edition and with MCHB support of young investigators, many contributions to this work have been made. Clinicians are directed to the *Evidence and Rationale chapter* so that they might understand how to apply this evidence to their work.

As was done for the previous edition, 4 multidisciplinary expert panels were convened for the age stages of infancy, early childhood, middle childhood, and adolescence. Each panel was cochaired by a pediatrician content expert and a panel member who represented family members or another health profession. The 39 members of the expert panels were individuals who represented a wide range of disciplines and areas of expertise. These representatives included mental health experts, nutritionists, oral health practitioners, family medicine providers, nurse practitioners, family and school representatives, and members of AAP national committees with relevant expertise (eg, AAP Committee on Psychosocial Aspects of Child and Family Health, AAP Committee on

Practice and Ambulatory Medicine, and AAP Committee on Adolescence).

Also, as was done with the previous edition, the *Bright Futures Guidelines* were posted for public review before publication. External reviewers who represented AAP committees, councils, and sections; professional organizations; institutions; and individuals with expertise and interest in this project provided more than 3,500 comments and endorsements that were essential to the final revisions of the *Guidelines*.

Building on Strengths, Moving in New Directions

Recognizing that the science of health care for children continues to expand, the *Bright Futures Guidelines* developers have been consistently encouraged to consider which Bright Futures concepts from earlier editions could be used and further developed to drive positive change and improve clinical practice. As a result, the third edition, and now the fourth edition, build on the strengths of previous editions while also moving in new directions. The *Bright Futures Guidelines* serve as the recommended preventive services to be delivered to infants, children, adolescents, and their families.

An Emphasis on the Evidence Base

An ongoing theme in the evolution of Bright Futures involves exploration of the science of prevention and health promotion to document effectiveness, measure outcomes, and promote additional research and evidence-based practice. An evidence panel for the third edition composed of members of AAP Section on Epidemiology (known as SOEp) was convened to conduct systematic research on the Bright Futures recommendations. The Panel drew from expert sources, such as the Cochrane Collaboration,[5] the US Preventive Services Task Force,[6] the Centers for Disease Control and Prevention Community Guide,[7] professional organizations' policy and committee work, the National Guideline Clearinghouse,[8] and *Healthy People 2010*.[9]

In this fourth edition, evidence expert Alex Kemper, MD, FAAP, advised the Bright Futures Steering Committee and editors. Dr Kemper was especially helpful in areas where research and practice are changing rapidly or are investigational. Available evidence continues to guide our work. Our process of evidence discernment is discussed in the *Evidence and Rationale chapter* and new evidence is highlighted.

A Recognition that Health Supervision Must Keep Pace With Changes in Family, Community, and Society

In any health care arrangement, successful practices create a team composed of families, health care professionals, and community experts to learn about and obtain helpful resources. In so doing, they also identify gaps in services and supports for families. The team shares responsibility with, and provides support and training to, families and other caregivers, while also identifying and collaborating with community resources that can help meet family needs. New evidence, new community influences, and emerging societal changes dictate the form and content of necessary health care for children.[10] Bright Futures places special emphasis on several areas of vital importance to caring for children and families, including social determinants of health, care for children and youth with special health care needs, and cultural competence. Discussion of these issues is woven throughout the Bright Futures Health Promotion Themes and Bright Futures Health Supervision Visits.

A Pledge to Work Collaboratively With Families and Communities

Health supervision care is carried out in a variety of settings in collaboration with health care professionals from many disciplines and in concert with families, parents, and communities. Bright Futures health supervision involves families and parents

in family-centered medical homes, recognizes the strengths that families and parents bring to the practice of health care for children, and identifies resources and educational materials specific for individual families. All of us who care for children are challenged to construct new methodologies and systems for excellent care that embody this vision for health care that optimizes the health and well-being of all infants, children, adolescents, and young adults.

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The Bright Futures Steering Committee oversees the Bright Futures National Center (BFNC) efforts. The steering committee provides advice on activities and consultation to chairpersons and staff of the BFNC and the center's Project Implementation Advisory Committee (PIAC).

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The BFNC PIAC provides guidance on activities and consultation to chairpersons and staff of the BFNC on implementation of Bright Futures across disciplines. The PIAC members serve as representatives on the center's PIAC, reporting on Bright Futures activities to constituents and eliciting organizational interest and support. Members promote Bright Futures content and philosophy to other national, state, and local organizations; assist in increasing collaborative efforts among organizations; and promote center activities by offering presentations, and trainings, to colleagues within constituent organizations.

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The fourth edition of *Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents* could not have been created without the leadership, wise counsel, and unwavering efforts of many people. We are grateful for the valuable help we received from a wide variety of multidisciplinary organizations and individuals.

Under the leadership of Michael C. Lu, MD, MS, MPH, associate administrator for Maternal and Child Health (MCH), Health Resources and Services Administration, the project has benefited from the dedication and guidance of many MCH Bureau staff, especially Elizabeth Edgerton, MD, MPH, director for the Division of Child, Adolescent and Family, and Erin Reiney, MPH, CHES, the Bright Futures project officer. We also acknowledge the contributions of Chris DeGraw, MD, MPH, former Bright Futures project officer. His commitment to and guidance of the Bright Futures initiative were invaluable.

We are grateful to the American Academy of Pediatrics, in particular Fan Tait, MD; Darcy Steinberg-Hastings, MPH; and Jane Bassewitz, MA, for their vision, creativity, support, and leadership as we drafted the fourth edition. We also thank Alex Kemper, MD, for his leadership in guiding the evidence review process. We are thankful to Anne Rodgers, our excellent science writer, who was so effective in helping us to say clearly what we wished to communicate.

We appreciate Leslie Carroll, MUP; Edward S. Curry, MD; Mary Margaret Gottesman, PhD, RN, CPNP; Jack T. Swanson, MD; Frances E. Biagioli, MD; Deborah Campbell, MD; Barbara Deloian, PhD, RN, CPNP; Martin M. Fisher, MD; Edward Goldson, MD; Donald B. Middleton, MD; Cynthia S. Minkovitz, MD, MPP; and Bonnie A. Spear, PhD, RDN, who were always available to us as our core consultants. Their continual review helped ensure that our recommendations would be relevant to practice and applicable to the community setting.

We are extremely grateful to the 4 multidisciplinary expert panels for their tremendous commitment and contributions in developing the fourth edition of the *Guidelines,* as well as to the expert group that worked to develop the new *Promoting Lifelong Health for Families and Communities theme.*

We also acknowledge the help and expertise of Paul H. Lipkin, MD, and Michelle M. Macias, MD, who updated and revised the infancy and early childhood developmental milestones; Jamie Meringer, MD, who assisted in developing content on e-cigarettes; and Claire McCarthy, MD; Jenny Radesky, MD; and Megan A. Moreno, MD, MSEd, MPH, who assisted in developing content related to social media.

We also wish to acknowledge the significant contributions of American Academy of Pediatrics staff, especially Kathryn Janies, Jonathan Faletti, and Bonnie Kozial, who have worked diligently to ensure the success of Bright Futures.

Throughout the process of developing and revising this edition of the *Guidelines,* we relied on numerous experts who reviewed sections of the document, often multiple times. Their careful review and thoughtful suggestions improved the *Guidelines* immeasurably. In summer 2015, the entire document was posted on the Bright Futures Web site for external review. During this time, we received more than 3,500 comments from across all disciplines (ie, health care, public health professionals, child care professionals, educators),

parents, and other child health advocates throughout the United States. We are most grateful to those who took the time to ensure that the *Guidelines* are as complete and scientifically sound as possible.

The passion and commitment of all of these individuals and partners have significantly advanced the field of health care for all infants, children, and adolescents.

—*Joseph F. Hagan, Jr, MD, FAAP; Judith S. Shaw, EdD, MPH, RN, FAAP; and Paula M. Duncan, MD, FAAP, editors*

In Memoriam

The Bright Futures experts, consultants, staff, and editors wish to acknowledge the loss of dear friends and colleagues since the publication of the last edition. We are forever grateful for their contributions to children and their families.

Morris Green, MD, FAAP, a leader in the field of child behavior and emotional health and an early proponent of family-centered care, was editor of the *Bright Futures Guidelines,* 1st Edition, and coeditor of the second edition. Dr Green practiced pediatrics in Indiana for more than 45 years; for 20 years he was physician-in-chief of the James Whitcomb Riley Hospital for Children and chairman of the Indiana University School of Medicine Department of Pediatrics. He died in August of 2013 at the age of 91. Morris was an important consultant and role model in the development of the third edition.

Polly Arango was a cofounder of Family Voices, a national family organization dedicated to family-centered care for children and youth with special health care needs or disabilities, and of Parents Reaching Out, an organization educating and advocating for New Mexico parents of disabled children. She died in June of 2010 at the age of 68. Polly Arango served on the expert panels for the *Bright Futures Guidelines,* 3rd and 4th editions. We are indebted to Polly for centering our work on the families in which children grow and develop.

Thomas Tonniges, MD, FAAP, served as director of community pediatrics at the American Academy of Pediatrics (AAP) and helped to bring the Bright Futures projects to the AAP. He died in October of 2015 at the age of 66. While in private practice before coming to the AAP, Dr Tonniges was instrumental in developing the national model for the medical home. Tom's leadership in the Bright Futures Pediatric Implementation Project has fostered an improving standard for pediatric and adolescent health supervision care.

Vaughn Rickert, PsyD, was a scholar and professor of adolescent medicine and was a past president of the Society for Adolescent Medicine. Dr Rickert was professor of pediatrics and the Donald P. Orr Chair in Adolescent Medicine at Indiana University School of Medicine and Riley Hospital for Children where he was the director of the Section of Adolescent Medicine. He died in June of 2015 at the age of 62. Vaughn's contributions to the Bright Futures Adolescent Expert Panel were essential to the behavioral care components of health supervision care.

May they rest in peace.

What Is Bright Futures?

AN INTRODUCTION TO THE FOURTH EDITION OF

Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents

Bright Futures is a set of principles, strategies, and tools that are theory based, evidence driven, and systems oriented that can be used to improve the health and well-being of all children through culturally appropriate interventions that address their current and emerging health promotion needs at the family, clinical practice, community, health system, and policy levels.

Bright Futures is . . .

. . . a set of principles, strategies, and tools . . .

The Bright Futures principles acknowledge the value of each child, the importance of family, the connection to community, and that children and youth with special health care needs are children first. These principles assist the health care professional in delivering, and the practice in supporting, the highest quality health care for children and their families.

Strategies drive practices and health care professionals to succeed in achieving professional excellence. Bright Futures can assist pediatric health care professionals in raising the bar of quality health care for all of our children, through a thoughtfully derived process that will allow them to do their jobs well.

This book is the core of the Bright Futures tools for practice. It is not intended to be a textbook, but a compendium of guidelines, expert opinion, and recommendations for health supervision visits. Other available Bright Futures resources can be found at **https://brightfutures.aap.org.** The *Bright Futures Tool and Resource Kit* that accompanies this book is designed to assist health care professionals in planning and carrying out health supervision visits. It contains numerous charts, forms, screening instruments, and other tools that increase practice efficiency and efficacy.

. . . that are theory based, evidence driven . . .

The rationale for a clinical decision can balance evidence from research, clinical practice guidelines, professional recommendations, or decision support systems with expert opinion, experience, habit, intuition, preferences, or values. Clinical or counseling decisions and recommendations also can be based on legislation (eg, seat belts), common sense not likely to be studied experimentally (eg, sunburn prevention), or relational evidence

(eg, television watching and violent behavior). Most important, clinical and counseling decisions are responsive to family needs and desires expressed in the context of patient-centered decision making. It follows that much of the content of a health supervision visit is the theoretical application of scientific principles in the service of child and family health.

Strong evidence for the effectiveness of a clinical intervention is one of the most persuasive arguments for making it a part of child health supervision. On the other hand, if careful studies have shown an intervention to be ineffective or even harmful, few would argue for its inclusion. Identifying and assessing evidence for effectiveness was a central element of the work involved in developing this edition's health supervision recommendations. The multifaceted approach we used is described in greater detail in the *Evidence and Rationale chapter.*

. . . and systems oriented . . .

In the footsteps of Green and Palfrey[1] (the developers of earlier editions of the *Bright Futures Guidelines*), we created principles, strategies, and tools as part of a Bright Futures system of care. That system goes beyond the schema of individual health supervision visits and encompasses an approach that includes continuous improvements in the delivery system that result in better outcomes for children and families. Experience since the release of the third edition demonstrates the ability of practices to effect these changes.[2] Knowing what to do is important; knowing how to do it is essential.

A systems-oriented approach in a Bright Futures practice means moving beyond the status quo to become a practice where redesign and positive change are embodied every day. Methods for disseminating and applying Bright Futures knowledge in the practice environment must be accomplished with an understanding of the health care system and environment.

. . . that can be used to improve the health and well-being of all children . . .

The care described by Bright Futures contributes to positive health outcomes through health promotion and anticipatory guidance, disease prevention, and early detection of disease. Preventive services address these child health outcomes and provide guidance to parents and children, including children and youth with special health care needs.

These health outcomes,[3] which represent physical and emotional well-being and optimal functioning at home, in school, and in the community, include

- Attaining a healthy weight and body mass index, and normal blood pressure, vision, and hearing
- Pursuing healthy behaviors related to nutrition, physical activity, safety, sexuality, and substance use
- Accomplishing the developmental tasks of childhood and adolescence related to social connections, competence, autonomy, empathy, and coping skills
- Having a loving, responsible family who is supported by a safe community
- For children with special health care needs or chronic health problems, achieving self-management skills and the freedom from real or perceived barriers to reaching their potential

. . . through culturally appropriate interventions . . .

Culture is a system of shared values and beliefs and learned patterns of behavior that are not defined simply by ethnicity or race. A culture may form around sexual orientation, religion, language, gender, disability, or socioeconomic status. Cultural values are beliefs, behaviors, and ideas that a group of people share and expect to be observed in their dealings with others. These values inform interpersonal interactions and communication, influencing such critical aspects

of the provider-patient relationship as body language, touch, communication style and eye contact, modesty, responses to pain, and a willingness to disclose mental or emotional distress.

Cultural competence (knowledge and awareness of values, behaviors, attitudes, and practices within a system, organization, and program or among individuals that enables them to work effectively cross-culturally) is intricately linked to the concept and practice of family-centered care. Family-centered care in Bright Futures honors the strengths, cultures, traditions, and expertise that everyone brings to a respectful family-professional partnership. With this approach to care, families feel they can make decisions, with providers at different levels, in the care of their own children and as advocates for systems and policies that support children and youth with special health care needs. Cultural competence requires building relationships with community cultural brokers who can provide an understanding of community norms and links to other families and organizations, such as churches or social clubs.

. . . that address their current and emerging health promotion needs . . .

The third edition identified 2 health issues in current child health practice, as major concerns for families, health care professionals, health planners, and the community—promoting healthy weight and promoting mental health. They were highlighted as "Significant Challenges to Child and Adolescent Health" throughout that edition of the *Bright Futures Guidelines* and the *Bright Futures Tool and Resource Kit.* These remain important issues of focus in child and youth health supervision care.

Lifestyle choices strongly influence weight status and effective interventions are family based and begin in infancy. The choice to breastfeed, the appropriate introduction of solid foods, and family meal planning and participation lay the groundwork for a child's lifelong healthy eating habits. Parents also influence lifelong habits of physical activity and physical inactivity. Through Bright Futures' guidance on careful monitoring, interventions, and anticipatory guidance about nutrition, activity level, and other family lifestyle choices, health care professionals can play an important role in promoting healthy weight for all children and adolescents.

A 1999 surgeon general's report described mental health in childhood and adolescence as the achievement of expected developmental, cognitive, social, and emotional milestones and of secure attachments, satisfying social relationships, and effective coping skills.[4] This remains an appropriate definition and its achievement is a goal of health supervision. As many as 1 in 5 children and adolescents has diagnosable mental or addictive disorder that is associated with at least minimum impairment.

This edition broadens our attention to health and mental health in addressing the new sciences of early brain development and epigenetics and the impact of social determinants of health on child and family health and well-being. *(For more on this issue, see the Promoting Lifelong Health for Families and Communities theme.)* Child health care professionals champion a strength-based approach, helping families identify their assets that enhance their ability to care for their child and guide their child's development. Bright Futures provides multiple opportunities for promoting lifelong health in the health supervision visits.

. . . at the family level . . .

The composition and context of the typical or traditional family have changed significantly over the past 3 decades. Fewer children now reside in a household with their biological mother and father and with only one parent working outside the home. Today, the term *family* is used to describe a unit that may comprise a married nuclear family; cohabiting family; single-parent, blended, or stepfamily; grandparent-headed household; single-gender parents; commuter or long-distance family; foster family; or a larger community family with several

individuals who share the caregiving and parenting responsibilities. Each of these family constellations presents unique challenges to child-rearing for parents as well as children.

Families are critical partners in the care of children. A successful system of care for children is family centered and embraces the medical home and the dental home concepts. In a Bright Futures partnership, health care professionals expect that families come to the partnership with strengths. They acknowledge and reinforce those strengths and help build others. They also recognize that all (health care professionals, families, and children) grow, learn, and develop over time and with experience, information, training, and support. This approach also includes encouraging opportunities for children and youth that have been demonstrated to correlate with positive health behavior choices. For some families, these assets are strongly ingrained and reinforced by cultural or faith-based beliefs. They are equally important in all socioeconomic groups. Most families can maximize these assets if they are aware of their importance. *(For more on this issue, see the Promoting Family Support theme.)*

Collaboration with families in a clinical practice is a series of communications, agreements, and negotiations to ensure the best possible health care for the child. In the Bright Futures vision of family-centered care, families must be empowered as care participants. Their unique ability to choose what is best for their children must be recognized.

. . . the clinical practice level . . .

To further define the diversity of practice in the care of children, it is important to consider the community of care that is available to the family. The clinical practice is central to providing health supervision. Practices may be small or large, private or public sector, or affiliated with a hospital. A rural solo practice, suburban private practice of one or several physicians and nurse practitioners, children's service within a multidisciplinary clinic, school-based health center, dental office, community health center, and public health clinic are all examples of practices that provide preventive services to children. Each model consists of health care professionals with committed and experienced office or clinic staff to provide care for children and their families.

To adequately address the health needs, including oral health and emotional and social needs, of a child and family, child health care professionals always will serve as care coordinators. Health care professionals, working closely with the family, will develop a centralized patient care plan and seek consultations from medical, nursing, or dental colleagues, mental health professionals, nutritionists, and others in the community, on behalf of their patients, and will facilitate appropriate referrals when necessary. Care coordination also involves a knowledge of community services and support systems that might be recommended to families. At the heart of the Bright Futures approach to practice is the notion that every child deserves a medical and dental home.

A medical home is defined as primary care that is accessible, continuous, comprehensive, family centered, coordinated, compassionate, and culturally effective.[5] In a medical home, a child health care professional works in partnership with the family and patient to ensure that all the medical and non-medical needs of the patient are met. Through this partnership, the child health care professional can help the family and patient access and coordinate specialty care, educational services, out-of-home care, family support, and other public and private community services that are important to the overall health of the child and family.

Nowhere is the medical home concept more important than in the care of children and youth with special health care needs. For families and

health care professionals alike, the implications of caring for a child or youth with special health care needs can be profound. *(For more on this issue, see the Promoting Health for Children and Youth With Special Health Care Needs theme.)*

The dental home[6] provides risk assessment and an individualized preventive dental health program, anticipatory guidance, a plan for emergency dental trauma, comprehensive dental care, and referrals to other specialists. *(For more on this issue, see the Promoting Oral Health theme.)*

. . . and the community, health system, and policy levels.

One of the unique and core values of Bright Futures is the commitment to advocacy and action in promoting health and preventing disease, not only within the medical home but also in partnership with other health and education professionals and others in the community. This core value rests on a clear understanding of the important role that the community plays in influencing children's health, both positively and negatively. Communities in which children, youth, and families feel safe and valued, and have access to positive activities and relationships, provide the essential base on which the health care professional can build to support healthy behaviors for families at the health supervision visits. Understanding the community in which the practice or clinic is located can help the health care professional learn the strengths of that community and use and build on those strengths. Data on community threats and assets provide an important tool that providers can use to prioritize action on specific health concerns.

The Bright Futures comprehensive approach to health care also encompasses continuous improvements in the overall health care delivery system that result in enhanced prevention services, improved outcomes for children and families, and the potential for cost savings.

Bright Futures embodies the concept of synergy between health care professionals, who provide health promotion and preventive services to individual children and families, and public health care professionals, who develop policies and implement programs to address the health of populations of children at the community, state, and national levels. Bright Futures has the opportunity to serve as a critical link between the health of individual children and families and public policy health goals. *Healthy People 2020*,[7] for example, is a comprehensive set of disease prevention and health promotion objectives for the nation over the current decade of this century. Its major goals are to increase the quality and number of years of healthy life and to eliminate health disparities. In its leading health indicators, *Healthy People 2020* enumerates the 12 most important health issues for the nation.

- Access to health services
- Clinical preventive services
- Environmental quality
- Injury and violence
- Maternal, infant, and child health
- Mental health
- Nutrition, physical activity, and obesity
- Oral health
- Reproductive and sexual health
- Social determinants
- Substance abuse
- Tobacco

Many of the themes for the Bright Futures Health Supervision Visits were chosen from these leading health indicators to synchronize the efforts of office-based or clinic-based health supervision and public health efforts. This partnership role is explicitly mentioned in the American Academy of Pediatrics (AAP) policy statement on the pediatrician's role in community pediatrics, which recommends that pediatricians "…should work collaboratively with public health departments and colleagues in related professions to identify and mitigate hindrances to the health and well-being of children in the communities they serve. In many cases, vitally needed services already exist in the community.

Pediatricians can play an extremely important role in coordinating and focusing services to realize maximum benefit for all children."[8] This is true for all health care professionals who provide clinical primary care for infants, children, and adolescents. The *Bright Futures Tool and Resource Kit* includes templates and Web sites to aid these efforts.

Who Can Use Bright Futures?

The themes and visits described in Bright Futures are designed to be readily applied to the work of child health care professionals and practice staff who directly provide primary care, and the parents and children who participate in these visits. One of the greatest strengths of Bright Futures is that its content and approach resonate with, and are found useful by, a wide variety of professionals and families who work to promote child health. Evaluations of Bright Futures have found that although the *Guidelines* themselves are written in a format to be particularly useful for health care professionals who work in clinical settings, they have been adopted and adapted by public health care professionals as the basis for population-based programs and policies, by policy makers as a standard for child health care, by parent groups, and by educators who train the next generation of health care professionals in a variety of fields.[9]

The health care of well or sick children is practiced by a broad range of professionals who take responsibility for a child's health care in a clinical encounter. These health care professionals can be family medicine physicians, pediatric and family nurse practitioners, pediatricians, dentists, nutritionists, nurses, physical and occupational therapists, social workers, mental health professionals, physician assistants, and others. Bright Futures does not stop there, however. These principles and recommendations have been designed with many partners in mind because these professionals do not practice in a vacuum. They work collaboratively with other health care professionals and support personnel as part of the overall health care system.

A review of the key themes that provide cross-cutting perspectives on all the content of Bright Futures will reveal how collaborative work contributes to the goals. The discussions for each age group will be helpful to all health care professionals and families who support and care for children and youth. The *Bright Futures Tool and Resource Kit* has materials and strategies to enhance the ability of the medical home and community agencies to efficiently identify mutual resources, communicate well with families and each other, and partner in designing service delivery systems.

How Is Bright Futures Organized?

The richness of this fourth edition of the *Bright Futures Guidelines* reflects the combined wisdom of the child and adolescent health care professionals and families on the Bright Futures infancy, early childhood, middle childhood, and adolescence expert panels. Each panel and many expert reviewers carefully considered the health supervision needs of an age group and developmental stage. Their work is represented in several formats in the *Guidelines.*

- The first major part of the *Guidelines* is the **health promotion themes.** These thematic discussions highlight issues that are important to families and health care professionals across all the developmental stages. The health promotion themes are designed for the practitioner or student who desires an in-depth, state-of-the-art discussion of a certain child health topic with evidence regarding effectiveness. These comprehensive discussions also can help families understand the context of their child's health and support their child's and family's health. Information from the 4 expert panels about these themes as they relate to specific developmental stages from birth to early adulthood was blended into each health promotion theme discussion.

- The second major part of the *Guidelines* is the **visits.** In this part, practitioners will find the core of child health supervision activities, described as Bright Futures Visits (Box 1).

Bright Futures Visits, from the Prenatal Visit to the Late Adolescent Visit, are presented in accordance with the *Bright Futures/AAP Recommendations for Preventive Pediatric Health Care (Periodicity Schedule),*[10] which is the standard for preventive care for infants, children, and adolescents and is used by professional organizations, federal programs, and third party payers.

Each visit within the 4 ages and stages of development begins with an introductory section that highlights key concepts of each age. This information is followed by detailed, evidence-based guidance for conducting the visit.

The visits sections are designed to be implemented as state-of-the-art practice in the care of children and youth. The visits describe the essential content of the child and family visit and interaction with the provider of pediatric health care and the health care system in which the service is provided.

This clinical approach and content can be readily adapted for use in other situations where the health and development of children at various ages and stages is addressed. This might include home visiting programs or helping the parents of children in Head Start or other child care or early education programs understand their children's health and developmental needs. Colleagues in public health or health policy will find the community- and family-based approach embedded in the child and adolescent health supervision guidance. Educators and students of medicine, nursing, dentistry, public health, and others will find the *Bright Futures Guidelines* and the supporting sample questions, anticipatory guidance, and *Bright Futures Tool and Resource Kit* materials especially useful in understanding the complexity and context of health supervision visits and in appreciating the warmth of the patient contact that the Bright Futures approach ensures.

Box 1

A Bright Futures Health Supervision Visit

A Bright Futures Visit is an age-specific health supervision visit that uses techniques described in this edition of the *Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents,* although modifications to fit the specific needs and circumstances of communities and practices are encouraged. The Bright Futures Visit is family driven and is designed for practitioners to improve their desired standard of care. This family-centered emphasis is demonstrated through several features.

- Solicitation of parental and child concerns.
- Surveillance and screening.
- Assessment of strengths.
- Discussion of certain visit priorities for improved child and adolescent health and family function over time. Sample questions and anticipatory guidance for each priority are provided as starting points for discussion. These questions and anticipatory guidance points can be modified or enhanced by each health care professional using Bright Futures.
- Use of the *Bright Futures Tool and Resource Kit* content and processes.

Implementing Bright Futures

Carrying out Bright Futures means making full use of all the Bright Futures materials. For child health care professionals who wish to improve their skills, Bright Futures has developed a range of resources and materials that complement the *Guidelines,* and can be found on the Bright Futures Web site.

Finally, the *Bright Futures Tool and Resource Kit* allows health care professionals who wish to improve their practice or services to efficiently and comprehensively carry out new practices and practice change strategies. The Bright Futures tools also are compatible with suggested templates for the electronic health record (EHR), although using the *Bright Futures Tool and Resource Kit* does not require an EHR. These tools include

- A **Bright Futures Previsit Questionnaire,** which a parent or patient completes before the practitioner begins the visit. Clinicians who had experience with the American Medical Association's *Guidelines for Adolescent Preventive Services* (known as *GAPS)* approach will note that this questionnaire functions similarly to the Trigger Questionnaire in the "gathering information" phase. When the questionnaire is completed, the family's agenda, and many of the child's strengths, screening requirements, and intervention needs, is highlighted. The questionnaire helps parents understand the goals for the visit, introduces topics that will be covered, and encourages parents to list the questions and concerns that they wish to discuss. It also helps the health care professional sort the many appropriate clinical topics for the day's visit into topics that are essential to the child and family at this visit. It includes interval history (ie, changes that have occurred to the child and family since the last visit) and history that is necessary for the disease detection, disease prevention, and health promotion activities of the visit. It also is a useful tool for surveillance, as it helps bring the health care professional up-to-date with the child's health.
- **Screening tools,** such as standardized developmental assessment tests and screening questionnaires that allow health care professionals to screen children and youth for certain conditions at specific visits.
- The **Bright Futures Visit Chart Documentation Form,** which corresponds to the *Bright Futures Guidelines* tasks for that visit and the information that is gleaned from the parent questionnaire. It reduces repetitive charting and frees the clinician for more face-to-face time with the child or youth. This form allows for replication of significant positive findings from the parent questionnaire without duplication of charting. Topics are organized so that positive findings detected in the parent questionnaire easily flow to the chart instrument to document how the health care professional has addressed the need that has been identified. The chart visit documentation form also records the physical examination findings, the assessments, and the interventions that are agreed upon with the family.
- The **Bright Futures Preventive Services Prompting Sheet,** which affords an at-a-glance compilation of work that is done over multiple visits to ensure completeness and increase efficiency.
- **Parent/Child Anticipatory Guidance Materials,** which reinforce and supplement the information discussed at the visit. These materials guide the health care professional in that they contain general principles and instructions for how the health care professional can communicate information with families.

Bright Futures Tool and Resource Kit elements improve the health care professional's efficiency in identifying the correct interventions and ensure that the valuable visit time will be sufficient to address the family's questions and agenda, the child's needs, and the prioritized anticipatory guidance recommended by the Bright Futures expert panels.

Using Bright Futures to Improve the Quality of Care

The *Bright Futures Guidelines* present an expanded implementation approach that builds on change strategies for office systems. This approach allows child health care professionals who deliver care consistent with Bright Futures to engage their office staff, families, public health colleagues, and even community agencies in quality improvement activities that will result in better care.

In an effort to examine the feasibility of implementing the *Bright Futures Guidelines,* the AAP supported a 9-month learning collaborative that examined implementation strategies for health supervision visits for children at the 9 Month and 2 Year Visits.[2] Twenty-one practices from across the country improved their health care processes to support the new *Bright Futures Guidelines.* To accomplish this, practices made measurable changes in the following areas:

- Delivery of preventive services
- Use of structured developmental screening
- Use of strength-based approaches and a mechanism to elicit and address parental concerns
- Establishment of community linkages that facilitate effective referrals and access to needed community services for families and collaboration with other child advocates
- Use of a recall and reminder system
- Use of a practice mechanism to identify children with special health care needs and ensure that they receive preventive services

The study found that using the Bright Futures approach involved all the office staff in improvements that were important to patient care and demonstrable on chart audit. Many of the changes did not involve additional work but rather a more coordinated approach. Practices learned actionable changes from one other as they progressed.

In addition to the focus on systematic improvement, using Bright Futures has other potential benefits as well. Health care professionals may use the data they gather to satisfy future recertification requirements. Many of the public health national performance measures will be met through implementing of Bright Futures, such as safe sleep position, developmental screening, and adolescent well-child visit.[11,12] In addition, as health insurers link reimbursement to documentation of the delivery of quality preventive services, child health care professionals will have ready access to the data that demonstrate the high caliber of their work.

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