



**CHILDHOOD IN 21 ST CENTURY
WHAT'S CHANGED**



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American Academy of Pediatrics Chapter 2 President



American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN

**EDWARD CURRY M.D.
DISCLOSURES**

- I do not have any Financial Disclosures
- I do not intend to discuss an unapproved/investigative use of a commercial product/device in my presentation.




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LEARNING OBJECTIVES

- Recognize how the Media is impacting young minds
- Summarize how AAP can promote lifelong health
- Discuss how a child's Zip Code influences their health

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WHAT'S CHANGED

MEDIA

OBSESITY




ADVERSE CHILDHOOD EVENTS



EARLY CHILDHOOD DEVELOPMENT IS A SMART INVESTMENT


The nation's first comprehensive, long-range blueprint



Bright Futures American Academy of Pediatrics

Periodicity Schedule

Recommendations for Preventive Pediatric Health Care




Available at: <https://www.aap.org/en-us/professional-resources/practice-transformation/managing-patients/Pages/Periodicity-Schedule.aspx>

Bright Futures American Academy of Pediatrics

Bright Futures

FOURTH EDITION

Guidelines for Health Supervision of Infants, Children, and Adolescents



Bright Futures

American Academy of Pediatrics
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...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 the current and emerging health promotion needs at the family, clinical practice, community, health system and policy levels.

Bright Futures American Academy of Pediatrics

Overview of Changes & Important Topics


Bright Futures Guidelines, 4th Edition

Part 1: Health Promotion Themes

- 12 chapters highlighting key health promotion themes
- New themes in development: **Social determinants of health**; Media use, Children with Special Health Care Needs


Part 2: Health Supervision Visits

- Rationale and evidence for screening recommendations
- 32 age-specific visits (including prenatal visit)
- 5 health supervision priorities for each visit
 - Designed to focus visit on most important issues for child that age
 - Includes: **social determinants of health**, health risks, developmental issues, positive reinforcement



Bright Futures Guidelines, 4th Edition

- Child Healthy Development
- Family Support
- Mental Health and Emotional Well-Being
- Nutritional Health
- Physical Activity
- Healthy Weight
- Promoting Lifelong Health for Families and Communities
- Oral Health
- Healthy Sexuality
- Safety and Injury Prevention
- Promoting the Healthy and Safe Use of Social Media
- Children and Youth with Special Health Care Needs





**WHAT'S CHANGED
MEDIA AND YOUNG MINDS**


RESEARCH SHOWS INFANTS AND TODDLERS
DO NOT LEARN FROM SCREENS

The Bright Futures Guidelines, 4th Edition recommends that parents limit their young children's screen time, when watching, and applying the recommendations with them.




Media and Young Mind

- Researchers surveyed parents of children at an academic medical center in a low-income minority community in Philadelphia for a well or sick visit in late 2014. Almost all the 350 patients' households had
 - Televisions (97 percent)
 - Tablets (83 percent)
 - Smartphones (77 percent)
 - Video consoles (56 percent),
 - Computers (58 percent) and Internet access (59 percent).
- Overall, 97 percent of the children had used a mobile device.
 - By age 2, children's ownership of mobile devices surpassed that of television.
- At age 4, half of the children had their own television, while nearly three-quarters had their own mobile device.




Media and Young Mind




- **Nearly half (44 percent) of children under age 1 used a mobile device on a daily basis to play games, watch videos or use apps.**
 - The percentage increased to 77 percent in 2-year-olds and plateaued after that.

One-quarter (28 percent) of 2-year-olds did not need any help navigating a mobile media device, and 61 percent needed help sometimes.



- Almost half (43 percent) of 4-year-olds never needed help, and half of them liked to use multiple media platforms at the same time.
- Parents reported letting their children play with mobile devices to do chores (70 percent), to keep the child calm in public places (65 percent) or run errands (58 percent),
- **28 percent used a mobile device to put their children to sleep.**



Pediatricians Set Limits on Screen Time

The American Academy of Pediatrics' New Guidelines on Children's Use of Internet




By ANDREA PETERSEN [CONNECT](#)

Oct. 28, 2013 7:33 p.m. ET



PEDIATRICIANS SET LIMITS ON SCREEN TIME



- FOR CHILDREN 2 TO 5 YEARS OF AGE
 - LIMIT SCREEN USE TO 1 HOUR PER DAY OF HIGH QUALITY PROGRAMMING
 - COVIEW WITH YOUR CHILDREN
 - HELP CHILDREN UNDERSTAND WHAT THEY ARE SEEING
- AVOID USING MEDIA AS THE ONLY WAY TO CALM A CHILD
 - WHEN USING MEDIA AS STRATEGY TO CALM CHILD COULD LEAD TO PROBLEM WITH LIMIT SETTING
 - INABILITY OF CHILDREN TO DEVELOP THEIR OWN EMOTIONAL REGULATION
- KEEP BEDROOM, MEALTIMES, AND PARENT-CHILD PLAYTIME SCREEN FREE FOR CHILDREN AND PARENTS
- NO SCREEN 1 HOUR BEFORE BEDTIME AND REMOVE DEVICES FROM BEDROOM BEFORE BED



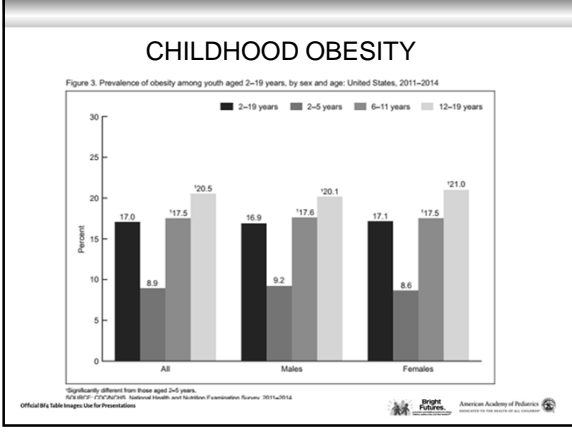
FAMILIES OFTEN STRUGGLE TO BALANCE THE NEEDS OF OTHER ACTIVITIES AGAINST TIME FOR MEDIA

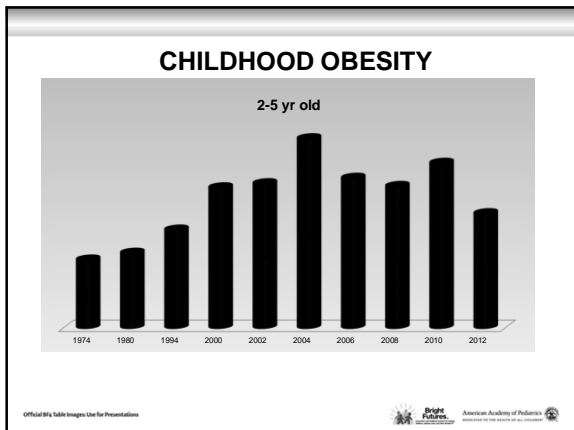
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CHILDHOOD OBESITY


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CHILDHOOD OBESITY

- There is no evidence for health benefits and some evidence for negative health effects of sweetened beverages (sodas, iced teas, sports drinks, juice drinks).
 - Health-promotion efforts should aim at removing all sweetened beverages from the diets of children.
- The ideal beverage for children at all meals and during the day is water.
 - Low-fat or fat-free, preferably unflavored, milk also has an important place in the diet of children beginning at 12 months of age.
 - One hundred percent fruit juice should not be used before 1 year of age and should be limited thereafter.
 - Fruits should be encouraged over fruit juice.



CHILDHOOD OBESITY

- Prevention of childhood obesity should start before 2 years of age by promoting healthy**
 - Maternal weight beginning in the prenatal period, smoking cessation before pregnancy,
 - Appropriate gestational weight gain and diet,
 - Breastfeeding and appropriate weight gain in infancy,
 - Transition to healthier foods with weaning,
 - Elimination of sedentary entertainment, active play for physical activity,
 - Parental role modeling of healthy dietary and physical activity behaviors.

PROMOTING LIFELONG HEALTH



 **Bright Futures**
American Academy of Pediatrics

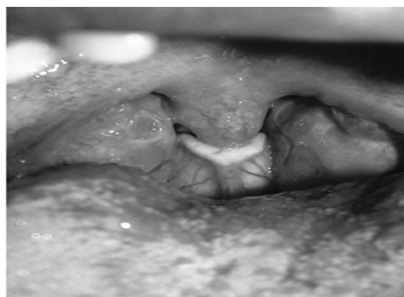
WHAT'S CHANGED



MEASLES

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WHAT'S CHANGED



EPIGLOTTIS

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WHAT'S CHANGED



CHICKENPOX




Table 1.1. Comparison of 20th Century Annual Morbidity and Current Morbidity: Vaccine-Preventable Diseases*

Disease	20th Century Annual Morbidity ^b	2010 Reported Cases ^c	Percent Decrease
Smallpox	29 005	0	100
Diphtheria	21 053	0	100
Measles	530 217	63	>99
Mumps	162 344	2612	98
Pertussis	200 752	27 550	86
Polio (paralytic)	16 316	0	100
Rubella	47 745	5	>99
Congenital rubella syndrome	152	0	100
Tetanus	580	26	96
<i>Haemophilus influenzae</i>	20 000	246 ^d	99

%


*National Center for Immunization and Respiratory Diseases. Historical Comparisons of Vaccine-Preventable Disease Morbidity in the US. Atlanta, GA: Centers for Disease Control and Prevention.
^bRozah SW, Murphy TV. Vaccine-Preventable Disease Table Working Group. Historical comparisons of morbidity and mortality for vaccine-preventable diseases in the United States. *JAMA*. 2007;298:18:2155-2163
^cCenters for Disease Control and Prevention. Notice to readers: final 2010 reports of nationally notifiable infectious diseases. *MMWR Morbidity and Mortality Weekly Report*. 2011;60(2):1088-1101
^d23 type b and 223 unknown serotype (<5 years of age).

PROMOTING LIFELONG HEALTH



New science tells us what we always knew:


- the environment in which children develop - family, extended family, neighborhood, community and culture - impact brain development, health and even genetics
- the frontal lobe volume is measurably less in children raised in adverse conditions including lower SES



PROMOTING LIFELONG HEALTH

ADVERSE CHILDHOOD EXPERIENCES STUDY (ACES)


- The CDC-Kaiser Permanente Adverse Childhood Experiences (ACE) Study is one of the largest investigations of childhood abuse and neglect and later-life health and well-being.
- The original ACE Study was conducted at Kaiser Permanente from 1995 to 1997 with two waves of data collection.
- Over 17,000 Health Maintenance Organization members from Southern California receiving physical exams completed confidential surveys regarding their childhood experiences and current health status and behaviors.



PROMOTING LIFELONG HEALTH

ADVERSE CHILDHOOD EXPERIENCES STUDY QUESTIONS

1. Did a parent or other adult in the household often or very often...Swear at you, insult you, put you down, or humiliate you? or Act in a way that made you afraid that you might be physically hurt? If yes enter 1 _____
2. Did a parent or other adult in the household often or very often...Push, grab, slap, or throw something at you? or Ever hit you so hard that you had marks or were injured? If yes enter 1 _____
3. Did an adult person at least 5 years older than you ever...Touch or fondle you or have you touch their body in a sexual way? or Attempt or actually have oral, anal, or vaginal intercourse with you? If yes enter 1 _____
4. Did you often or very often feel that ...No one in your family loved you or thought you were important or special? or Your family didn't look out for each other, feel close to each other, or support each other? If yes enter 1 _____
5. Did you often or very often feel that ... You didn't have enough to eat, had to wear dirty clothes, and had no one to protect you? or Your parents were too drunk or high to take care of you or take you to the doctor if you needed it? If yes enter 1 _____




PROMOTING LIFELONG HEALTH

ADVERSE CHILDHOOD EXPERIENCES STUDY QUESTIONS

6. Were your parents ever separated or divorced? If yes enter 1 _____
7. Was your mother or stepmother: Often or very often pushed, grabbed, slapped, or had something thrown at her? or Sometimes, often, or very often kicked, bitten, hit with a fist, or hit with something hard? or Ever repeatedly hit at least a few minutes or threatened with a gun or knife? If yes enter 1 _____
8. Did you live with anyone who was a problem drinker or alcoholic or who used street drugs? If yes enter 1 _____
9. Was a household member depressed or mentally ill, or did a household member attempt suicide? If yes enter 1 _____
10. Did a household member go to prison? If yes enter 1 _____

Now add up your "Yes" answers: _____ This is your ACE Score.



PROMOTING LIFELONG HEALTH

ADVERSE CHILDHOOD EXPERIENCES STUDY

- The ACE Study uses the ACE Score, which is a total count of the number of ACEs reported by respondents.
- The ACE Score is used to assess the total amount of stress during childhood
 - Score 4 or more indicated high level of TOXIC STRESS
- As the number of ACEs increases, the risk for health problems increases **in a strong and graded fashion!**

MILLIONS OF CHILDREN WITNESS VIOLENCE BETWEEN PARENTS

American Academy of Pediatrics logo

Promoting Lifelong Health

ADVERSE CHILDHOOD EXPERIENCES STUDY

Death

Life Quality

Disease, Disability, and Social Problems

Adoption of Health-risk Behaviors

Social, Emotional, and Cognitive Impairment

Disrupted Neurodevelopment

Adverse Childhood Experiences

Conception

Mechanisms by Which Adverse Childhood Experiences Influence Health and Well-being Throughout the Lifespan

What We Know

Life Course Concepts:

- Health trajectories are largely shaped by events during critical periods of early development
- Cumulative effect of experiences and exposures influences adult health
- Biological, physical, and social environments influence the capacity to be healthy by creating risk factors and strengths and protective factors for children/families.

www.hrsa.gov/ourstories/mchb75th/images/rethinkingmch.pdf

Social Determinants of Health

Health is also determined in part by access to social and economic opportunities; the resources and supports available in our homes, neighborhoods, and communities; the quality of our schooling; the safety of our workplaces; the cleanliness of our water, food, and air; and the nature of our social interactions and relationships.

- Healthy People 2020, US HHS, HealthyPeople.gov.

"the conditions in which people are born, grow, live, work and age and the wider set of forces and conditions shaping the conditions of daily life."

- [WHO](http://www.who.int)



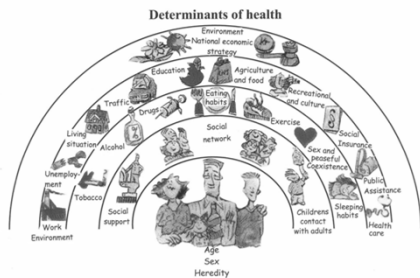
WHO: Social Determinants of Health

- Social gradients
- Stress
- Early childhood development
- Social exclusion (*racism, discrimination*)
- Unemployment (*opportunities for education and jobs*)
- Social support networks
- Availability of healthy food (*air, housing and water*)
- Availability of health transportation
- Addiction

www.who.int/social_determinants/en/



Determinants of Health



www.ihl.org/communities/blogs/PublishingImages/DeterminantsofHealth.JPG



Promoting Lifelong Health

THE ROBERT WOODS JOHNSON FOUNDATION
COLLABORATION TO BUILD HEALTHIER COMMUNITIES

Collaboration between the health sector and other sectors might generate new opportunities to improve health, but we need to understand the degree to which such cross-sector collaboration occurs, whether it has positive effects, and if so, the factors that underlie successful cross-sector, health-improving initiatives.

- RWJ
- Wilder Research
- The Federal Reserve Bank of Minneapolis

<http://www.rwjf.org/en/library/research/2013/06/collaboration-to-build-healthier-communities.html>



Promoting Lifelong Health

THE ROBERT WOODS JOHNSON FOUNDATION
TIME TO ACT:
INVESTING IN THE HEALTH OF OUR CHILDREN
AND COMMUNITIES

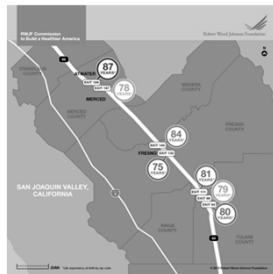
**Your ZIP Code is More Important to
Your Health Than Your Genetic Code**

<http://www.rwjf.org/en/library/research/2014/01/recommendations-from-the-rwjf-commission-to-build-a-healthier-am.html>



Short Distances to Large Disparities

RWJF COMMISSION TO BUILD A HEALTHIER AMERICA




<http://www.rwjf.org/en/library/publications/Commission/resources/city-maps.html>




ZIP CODE 93701

- Children in Fresno Zip Code 93701
 - 14% Tested Children have a lead level > 5 mg %
 - Which is three times more than Flint Water Crisis
- Flint Water Crisis
 - Change of water supply for cost saving result in water with high lead level
 - 5% of Flint children tested high for lead during its drinking water crisis
- San Bernardino
 - 5% Tested Children have a lead level > 5 mg %



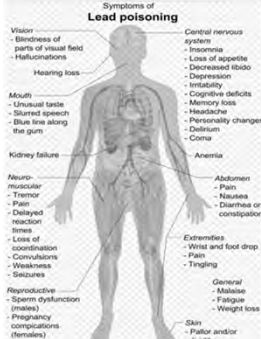
LEAD LEVEL

- Until 2012, children were identified as having a blood lead "level of concern" if the test result is **10 or more micrograms per deciliter of lead in blood.**
 - CDC is no longer using the term "level of concern" and is instead using the reference value to identify children who have been exposed to lead and who require case management.
- Currently, the Centers for Disease Control and Prevention (CDC) **blood level of concern is 5 micrograms per deciliter of lead in blood for children.**
 - INDICATES LEAD EXPOSURE



LEAD POISONING EFFECTS

Symptoms of Lead poisoning



Visual

- Blindness of parts of visual field
- Halos/circles

Hearing loss

Mouth

- Unusual taste
- Slurred speech
- Blue line along the gum

Kidney failure

Neuro-

- Ataxia
- Tremor
- Pain
- Delayed reaction times
- Loss of coordination
- Convulsions
- Weakness
- Seizures

Reproductive

- Sperm dysfunction (males)
- Pregnancy complications (females)

Central nervous system

- Insomnia
- Loss of appetite
- Decreased libido
- Depression
- Irritability
- Cognitive deficits
- Memory loss
- Headache
- Personality changes
- Delirium
- Coma

Anemia

Abdomen

- Pain
- Nausea
- Diarrhea or constipation

Extremities

- Wrist and foot drop
- Pain
- Tingling

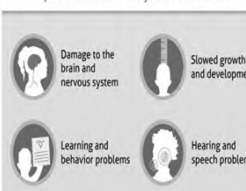
General

- Malaise
- Fatigue
- Weight loss

Skin


- Patek and/or lividity

Exposure to lead can seriously harm a child's health.



This can cause:

- Lower IQ
- Decreased ability to pay attention
- Underperformance in school



Life Trajectories are NOT Set in Stone

- **Interactive processes**
 - The development of health over a lifetime is an interactive process, combining genes, environment and behaviors
 - *Patients/families have varying abilities and strengths that can be developed to increase their protective factors*
- **Lifelong development/lifelong intervention**
 - At all stages of life, even for those whose trajectories seem limited, risk factors can be reduced and protective factors enhanced, to improve current and subsequent health and well-being



Serve and Return

Serve and return interactions shape brain architecture:

- Infant – babbling, crying, gesturing
- Adult – eye contact, words, imitation, touch
- Neural connections that support communication and social skills development
- Emotional development occurs in the context of a relationship (bonding, attachment, reading cues)



Promoting Lifelong Health



If we really want to achieve breakthrough outcomes for children experiencing toxic stress, then we have to transform the lives of the adults who care for them.

Center on the Developing Child HARVARD UNIVERSITY

developingchild.harvard.edu/resources/building-adult-capabilities-to-improve-child-outcomes-a-theory-of-change/



Social Determinants That Protect Health

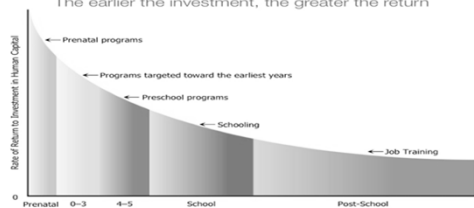
- Parental knowledge and skills about child development and caretaking
- Good parental or caregiver physical and mental health
- Positive father involvement
- Strong emotional bond or attachment between infant/child and parent/caregiver
- Social supports (ie, friends, neighbors, relatives, faith-based groups, and other agencies)
- *Early Childhood Education*
- Safe and good housing
- Stable/secure home life
- High school education level or higher for parents/caregivers
- Opportunities for stable income/employment for household
- Food security for household
- Safe neighborhood with no violence
- Community resources for fresh produce, exercise, social interactions



Promoting Lifelong Health

EARLY CHILDHOOD DEVELOPMENT IS A SMART INVESTMENT

The earlier the investment, the greater the return



Source: James Heckman, Nobel Laureate in Economics



THE SEEDS WE SOW ARE THE SEEDS THAT GROW

Social Determinants: Protective factors

NURTURING AND RESPONSIVE ADULTS HELP PROTECT CHILDREN FROM RISKS TO THEIR HEALTH

The Bright Futures Guidelines, 4th Edition emphasize on identifying and addressing family strengths promotes child health and well-being.



AMAZING TRANSFORMATION CAN OCCUR FROM YOUR TEACHING CHILD TEACHES THEIR PARENTS ABOUT HEALTHY LIFESTYLE

Official BFA Table Images Use for Presentations



Questions & Answers

THANK YOU



References

- Hagan JF, Shaw JS, Duncan PM, eds. *Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents*. 4th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2017.
- American Academy of Pediatrics. Bright Futures Tool and Resource Kit [CD-ROM]. Duncan PM, Shaw JS, Gottesman MM, Swanson J, Hagan JF, Pirretti AE, eds. Elk Grove Village, IL: American Academy of Pediatrics; 2010.
- Duncan PM, Pirretti M, Earls MF, Stratbucker W, Shaw JS, Kairys S. Improving delivery of Bright Futures preventive services at the 9- and 24-month well child visit. *Pediatrics*. 2015 Jan;135(1):e178-86.
- <http://www.cdc.gov/violenceprevention/acestudy/>



Web Site Resources

- Head Start Early Childhood Health & Wellness
- <https://eclkc.ohs.acf.hhs.gov/hslc/tta-system/health>
 - https://eclkc.ohs.acf.hhs.gov/hslc/tta-system/health/health-services-management/comm-engagement/famcom_fis_00130_081905.html
 - https://eclkc.ohs.acf.hhs.gov/hslc/tta-system/health/physical-health/ongoing-source/health_lea_00757_110905.html
- Bright Futures
- <https://brightfutures.aap.org/Pages/default.aspx>
- Books Build Connections
- <https://littoolkit.aap.org/forfamilies/Pages/home.aspx>
- Well-Visit Planner
- <http://wellvisitplanner.org/>



Professional Resources

Helpful Resources

The collage features several Bright Futures materials: a 'Bright Futures Nutrition' booklet (3rd Edition), a 'Bright Futures Parental Guidance' booklet (4th Edition), a 'Bright Futures Preventive Services' booklet, and a 'Bright Futures Tool and Resource Kit'. Logos for the American Academy of Pediatrics and the American Academy of Family Physicians are visible at the bottom.

Family Resources

The screenshot shows the 'Family Resources' page with a navigation menu on the left and a main content area. The navigation menu includes: 'Child Care Health Planning From Birth to 2 Months', 'Bright Futures Parental Guidance 4th Edition', 'Bright Futures Preventive Services', 'Bright Futures Nutrition 3rd Edition', 'Bright Futures Tool and Resource Kit', 'Bright Futures Parental Guidance 4th Edition', 'Bright Futures Preventive Services', 'Bright Futures Nutrition 3rd Edition', 'Bright Futures Tool and Resource Kit', 'Bright Futures Parental Guidance 4th Edition', 'Bright Futures Preventive Services', 'Bright Futures Nutrition 3rd Edition', 'Bright Futures Tool and Resource Kit'. The main content area features a 'Welcome to Group Care!' section and a 'Bright Futures Parental Guidance 4th Edition' section. Logos for the American Academy of Pediatrics and the American Academy of Family Physicians are visible at the bottom.

healthychildcare.org/bfutures.html

brightfutures.aap.org/materials-and-tools/tool-and-resource-kit/Pages/default.aspx

ecfkc.ohs.acf.hhs.gov/hcltts-system/health-literacy-family-engagement/family-education/vp-sheets-cards.html
