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ON BEHALF OF THE AMERICAN ACADEMY OF PEDIATRICS

"Innovations in Addressing Childhood Obesity"

ENERGY AND COMMERCE SUBCOMMITTEE ON HEALTH
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Good morning. I appreciate this opportunity to testify today before the Energy and Commerce Subcommittee on Health regarding childhood obesity. My name is Sandra G. Hassink, MD, FAAP, and I am proud to represent the American Academy of Pediatrics (AAP), a non-profit professional organization of more than 60,000 primary care pediatricians, pediatric medical sub-specialists, and pediatric surgical specialists dedicated to the health, safety, and well-being of infants, children, adolescents, and young adults. I currently chair the AAP's Obesity Leadership Workgroup and represent the mid-Atlantic states on the AAP's Board of Directors. I direct the Nemours Pediatric Obesity Initiative at AI duPont Hospital for Children in Wilmington, Delaware, where I also serve as the chair of the Hospital Ethics Committee. In addition, I am Assistant Professor of Pediatrics at Jefferson Medical College at Thomas Jefferson University in Philadelphia, Pennsylvania.

Childhood obesity is generally recognized as one of the most pressing pediatric medical issues of this generation. Experience is teaching us that obesity is a multi-factorial problem that requires an equally sophisticated and comprehensive solution.

Background on Childhood Obesity

The rapid increase in the prevalence of childhood obesity has alarmed public health agencies, health care clinicians, health care researchers, policymakers and the general public. In 2005-2006, 30.1 percent of children were overweight (defined as at or above 85 percent of body mass index (BMI) for age) and 15.5 percent were obese (at or above 95 percent of BMI for age).[1]

Childhood obesity continues to be a leading public health concern, as these children are more likely to be obese as adults and are therefore at a higher risk for a range of health problems throughout their lives. Obese adolescents have an 80 percent likelihood of becoming obese adults.[2] One landmark study found that 25 percent of obese adults were overweight as children, and that if overweight begins before 8 years of age, obesity in adulthood is likely to be more severe.[3]

During their youth, obese children and adolescents are more likely to have risk factors associated with cardiovascular disease (such as high blood pressure, high cholesterol, and Type 2 diabetes) than are other children and adolescents. In a population-based sample of 5 to 17 year olds, 70 percent of obese children had at least one cardiovascular disease risk factor while 39 percent of obese children had two or more cardiovascular disease risk factors.[4] Further, obese children are a higher risk for a number of other short and long term health outcomes. Specifically, obese children are more likely to experience acute metabolic and orthopedic emergencies, chronic illness such as Type 2 diabetes, liver disease, and obstructive sleep apnea as well as increased psychosocial morbidity. Obese children also experience decreased physical function and delayed or altered developmental trajectory due to the physical limitations of a significantly increased body mass. Severely obese children and adolescents have lower health-related quality of life than children and adolescents who have a normal BMI and similar quality of life as children diagnosed as having cancer.[5]

Overweight and obesity and their associated health problems also have a significant economic impact on the U.S. health care system. Medical costs associated with overweight and obesity may involve direct and indirect costs. Direct medical costs may include preventive, diagnostic, and treatment services related to obesity. Indirect costs relate to loss of income from decreased productivity, restricted activity, absenteeism, and income lost by premature death. According to a 2009 study of national costs attributed to overweight and obesity, medical expenses may have reached as high as $147 billion in 2008.[6] Approximately half of these costs were paid by Medicaid and Medicare. Obesity-associated annual hospital costs for children and youth more than tripled over two decades, rising from $35 million in 1979-1981 to $127 million in 1997-1999.[7]

Although there has been an overall increase in child obesity rates in the United States in recent years, significant disparities exist among races, sexes and income levels. According to the Centers for Disease Control and Prevention (CDC) National Health and Nutrition Examination Survey (1976–1980 and 2003–2006), the prevalence of obesity has significantly increased for years 2003-2006 compared to the initial study in years 1976-1980. For all children aged 2 to 5 years, obesity prevalence increased from 5 percent to 12.4 percent; for those aged 6 to 11 years, prevalence increased from 6.5 percent to 17 percent; and for those aged 12 to 19 years, prevalence increased from 5 percent to 17.6 percent. In 2007 alone, the CDC found that 19.2 percent of boys and 13.5 percent of girls age 10 to 17 were obese.[8]

According to the CDC, obesity prevalence was highest among Mexican American adolescent boys at 22.1 percent and American Indian/Alaska Native children at 21.2 percent, growing at a rate of about half a percentage point each year from 2003 to 2008. African American boys had the next highest rate of obesity at 18.5 percent, followed by non-Hispanic white boys at 17.3 percent.[9] The most recent CDC data showed that for girls age 12 to 19 years, African-American girls had the highest prevalence of obesity at 27.7 percent, compared to that of Mexican American girls at 19.9 percent and non-Hispanic white girls at 14.5 percent.[10]

Overall, poverty has been associated with greater obesity prevalence among adolescents; however, subgroups have differed. In one report, for example, obesity prevalence among younger African American male adolescents was higher in middle- and hig- income families than in low-income families, but prevalence among older black male adolescents was higher in low-income families.[11] Among white teen girls, the prevalence of overweight and obesity decreases with increasing socioeconomic status. Among African American teen girls, however, the prevalence of overweight remains the same or increases with increasing socioeconomic status.[12] A CDC study showed that one of seven low-income, preschool-aged children is obese, but the obesity epidemic among this population may be stabilizing. The prevalence of obesity in low-income 2 to 4 year olds increased from 12.4 percent in 1998 to 14.5 percent in 2003 but rose to only 14.6 percent in 2008.[13]

Rates of childhood overweight and obesity also vary considerably based on geography. In 2008, statewide childhood rates of overweight and obesity ranged from a low of 23.1 percent in Utah and Minnesota to a high of 44.4 percent in Mississippi.[14]

Childhood Obesity: One Patient's Perspective

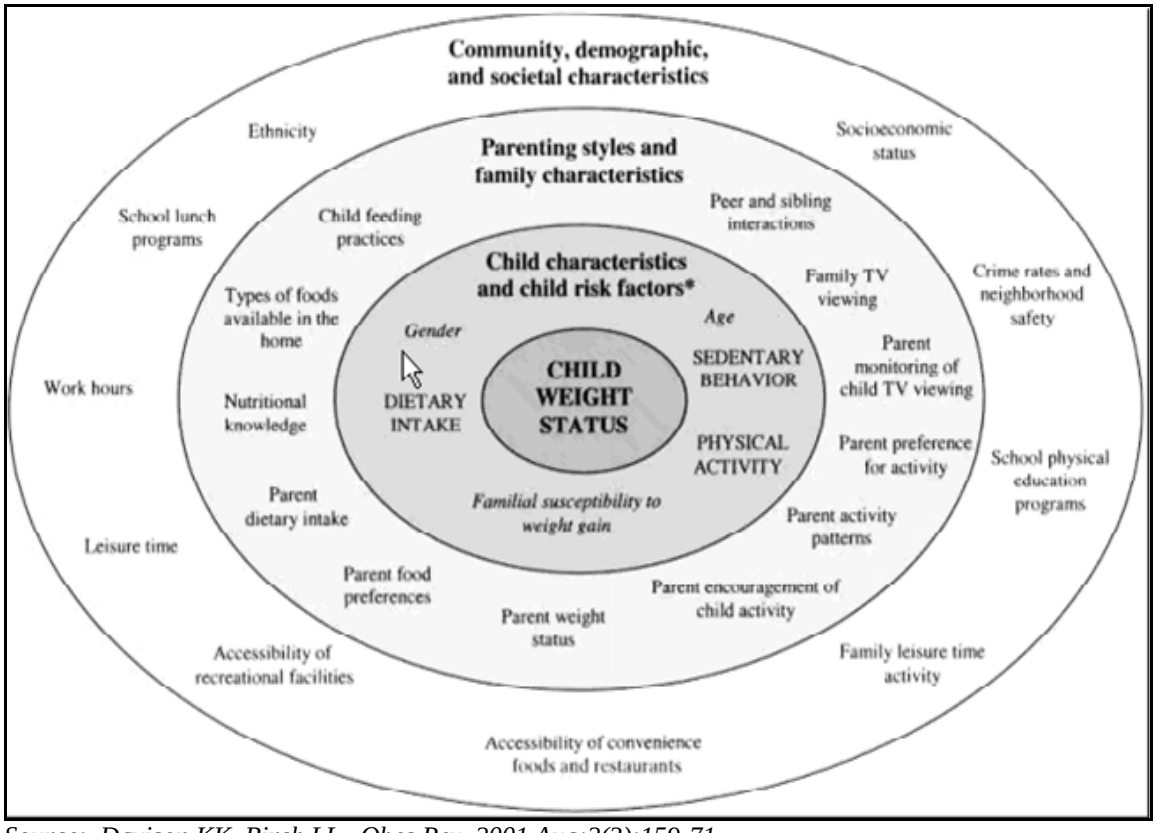
Allow me to share with you a story.

Janie is a nine-year-old patient of mine in our obesity clinic. When she first came to us, her BMI was 35 and she was not doing well in school. As we talked, I learned a number of things about this little girl's life and health habits. Janie told me that she did not eat breakfast. She had lunch at school but often shared food with friends. After school, she would have sugary snacks at grandma's house. In addition, she was drinking 6 cans of soda and several glasses of juice daily. Janie did her homework at grandma's house, but she did not go outside often because it is not safe. She was having five to six hours of screen time each day, and she went to bed around 11pm while watching TV in her room. She had physical education at school only once per week, and even then she had to use her asthma inhaler often, so exerting herself was uncomfortable. She was being teased and bullied by some of her peers, which made her unhappy and caused her schoolwork to suffer.

How do we help a child like Janie?

First and foremost, we must recognize that there is no single factor responsible for obesity in a case like this. Obesity is the end result of a complex interplay of different issues. Any solution must therefore be equally complex and multi-faceted.

Davidson and Birch described the "socio-ecologic" model of obesity, which illustrates the many factors that impact weight. The concentric circles of this model show the issues related to the individual, family, community, and larger social structure that either promote or inhibit good nutrition, physical activity, and overall health. Any meaningful attempt to stem the rising tide of obesity must address many of these issues simultaneously and over a prolonged period of time in order to produce sustainable change.



Source: Davison KK, Birch LL. Obes Rev. 2001 Aug;2(3):159-71.

Practice-Based Interventions

The health care community is currently engaged in a race to learn what types of interventions we can employ in medical practice to reduce pediatric overweight and obesity. Successful strategies will vary based on a range of factors, including the age of the child, the community in which they live, their race and other characteristics, economic circumstances, and much more. While the scientific evidence in this area remains less than robust, a number of common elements among successful interventions have begun to emerge.

Medical Home. Every child must have access to a medical home that will provide continuity of care and coordinate the services received from various sources. Without a medical home, the child and family receive fragmented and inconsistent advice and services.[15] Obesity is a disease that requires the multidisciplinary care of pediatricians, subspecialists and surgeons, nurses, dieticians, mental health professionals, exercise specialists, school or preschool staff, and social workers. Accurate interactive communication among professionals, patients and families is essential to achieving good health for obese children. Links to the community, schools, and child care help support the family and child in healthy lifestyles. Ultimately, this represents the ability to tailor individual solutions for families and children that take into account the unique genetic, environmental, family and community factors which operate in each child's life. In the case of obesity, where progress must be tracked methodically, a medical home is critical to the success of any health care intervention.

Levels of Care. The Expert Committee convened by the Department of Health and Human Services in 2007 recommended that patients have access to four levels, or "stages" of care:[16]

- Stage 1: A Prevention Plus protocol, where patients are counseled about weight loss strategies and monitored monthly for progress. If improvement does not occur in 3 to 6 months, patients should be moved to the next stage.
- Stage 2: A Structured Weight Management protocol, where the family and provider develop an explicit plan for weight loss following specific parameters on nutrition, physical activity, and other issues. If improvement does not occur in 3 to 6 months, patients should be moved to the next stage.
- Stage 3: A Comprehensive Multidisciplinary protocol, in which patients are served by a multidisciplinary team that addresses family-based behavior modification.
- Stage 4: Tertiary Care protocol, which involves a referral to pediatric tertiary weight management center with access to a multidisciplinary team with expertise in childhood obesity and which operates under a designed protocol.

These stages of care allow health care practitioners to tailor approaches to the child and family based upon their current health status, readiness to change, and other special needs. Public and private health insurers must provide appropriate payment based upon the complexity of the child's case and the level of services required.

Family-Centered Care. Successful interventions cannot focus upon the child to the

exclusion of the rest of the family. Children have limited control over the foods they eat or are served, the amount of physical activity in which they engage, and other key factors that determine their health. Studies have shown that children gain more weight during the summer months than during the school year.[17] The engagement of the entire family in behavior change is critical to the success of a practice-based intervention.[18,19]

Parents and families need information and skills to manage healthy lifestyle change and obesity treatment. Literacy (especially health literacy) and cultural factors are key issues and may be barriers to overcome in addressing obesity. Families can be unaware of the impact of the media on children's food choices, and unsure how to manage that impact effectively. Parenting around nutrition and activity requires basic and sometimes advanced parenting skills which families need support to develop.

Much more research is needed to identify the models that are most effective in promoting healthy weight and overall good health among children of all ages and backgrounds. The AAP commends the National Institutes of Health for its work in this area, including the recent announcement of $37 million in grants that use findings from basic research on human behavior to develop more effective interventions to reduce obesity.[20,21] Only through such efforts can we continue to build the knowledge base in order to better serve children and their families.

Community-Based and Policy Interventions

While practice-based interventions are a vital tool, we must also recognize that health is

profoundly affected by the community in which a child lives. Without equal attention to community-based and policy interventions, practice-based approaches have a much reduced likelihood of success. Federal laws such as transportation reauthorization, the Elementary and Secondary Education Act, and the Farm Bill have a significant impact on the health and wellbeing of children across our nation. The American Academy of Pediatrics recommends a wide range of community-based and federal, state, and local policy actions that address the full scope of factors that impact childhood overweight and obesity.

Child Nutrition Programs. The National School Lunch Program, School Breakfast Program, Child and Adult Care Food Program, and other federal child nutrition programs should require all participating schools, child care providers, and other institutions to follow the Dietary Guidelines in serving meals and snacks to children.[22,23,24] The Secretary of Agriculture should have the authority to regulate so-called "competitive foods," which are sold in schools outside the official school lunch, breakfast or snack programs. The AAP strongly supports the recent updates to the Special Supplemental Nutrition Program for Women, Infants and Children (WIC) food packages, which brought those packages into line with the Dietary Guidelines. Breastfeeding promotion is also an important component of establishing good nutrition and appropriate feeding habits at the beginning of life, along with the proven health benefits breastfeeding confers upon both mother and child.[25]

Promotion of Physical Activity. The federal government can play a crucial role in

promoting physical activity through a host of programs. Programs like CDC's "Bam! Body and Mind" and the Department of Education's Carol M. White Physical Education Program directly encourage children to engage in vigorous exercise, while Interior Department agencies have established programs to welcome families to outdoor activities in our national parks, forests, and wildlife refuges. Federal resources are critical to promoting a new social norm in which physical activity is expected, supported, and enjoyed by all, regardless of age.[26]

The AAP recommends a wide range of policies for government at all levels to encourage physical activity for children. The reinstatement of compulsory, daily, quality physical education classes is vital to children's health and can also impact their ability to learn in the classroom. AAP also supports comprehensive community sport and recreation programs that allow for community and school facilities to be open after hours and make physical activities available to all children and youth at reasonable costs, and access to recreation facilities should be equally available to both sexes. Federal programs can promote the reduction of environmental barriers to an active lifestyle through the construction of safe recreational facilities, parks, playgrounds, bicycle paths, sidewalks, and crosswalks.[27] Screen time for children should be limited to no more than one to two hours of quality programming daily, which should take into account activities at school, at home, and in other settings such as after-school programs.[28]

Built Environment. Our physical environment determines to a large extent how children travel, move, and play. As communities have been designed primarily for

convenient automobile travel, opportunities for non-motorized commuting, walking and outdoor recreation have often inadvertently been reduced or eliminated. The AAP has issued recommendations for the design of communities to promote healthy, active living.[29]

Sugar-Sweetened Beverages. Sugar-sweetened beverages are a significant source of empty calories in many children's diets. The AAP recommends eliminating sweetened drinks in schools[30] and strictly limiting soft drinks and fruit juice in children's diets.[31] The AAP also supports taxation of sugar-sweetened beverages as a method of both reducing consumption and raising revenue for other child health priorities.

Food Labeling and Marketing. Studies have demonstrated that unhealthy foods are marketed to children much more often than healthy ones.[32] The American Academy of Pediatrics strongly supports additional regulation of food marketing to children. AAP supports a ban on junk-food advertising during programming that is viewed predominantly by young children; supports limiting commercial advertising on children's programming to no more than 5 to 6 minutes per hour, which would decrease the current amount by 50 percent; and calls upon Congress and the Federal Communications Commission to prohibit interactive advertising to children in digital TV and online platforms.[33]

In conclusion, the American Academy of Pediatrics commends you, Mr. Chairman, for convening this hearing on the important and timely issue of promising models to address

childhood obesity. The Academy is grateful for the Committee's commitment to child health, and we hope you will consider us a partner and supporter in your efforts to reduce the health and economic burdens which obesity inflicts upon our children and our nation. I appreciate this opportunity to testify, and I look forward to your questions.

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[1] Ogden CL, Carroll MD, Flegal, KM. High body mass index for age among US children and adolescents, 2003-2006. *JAMA.* 2008; 299(20):2401-2405.
[2] Whitaker RC, Wright JA, Pepe MS, Seidel KD, Dietz WH. Predicting obesity in young adulthood from childhood and parental obesity. *N Engl J Med* 1997; 37(13):869–873.
[3] Freedman DS, Khan LK, Dietz WH, Srinivasan SR, Berenson GS. Relationship of childhood overweight to coronary heart disease risk factors in adulthood: The Bogalusa Heart Study. *Pediatrics* 2001;108:712–718.
[4] Freedman DS, Mei Z, Srinivasan SR, Berenson GS, Dietz WH. Cardiovascular risk factors and excess adiposity among overweight children and adolescents: the Bogalusa Heart Study. *Pediatrics*, 2007 Jan;150(1):12–17.e2.
[5] Schwimmer JB, Burwinkle TM, Varni JW. Health-related quality of life of severely obese children and adolescents. *JAMA* 2003; 289:1813-1819.
[6] Finkelstein EA, Trogdon J, Cohen J, Dietz W. Annual medical spending attributable to obesity: payer- and service-specific estimates. *Health Affairs* 28, No. 5, 2009, pp. w822-831.
[7] Koplan JP, Liverman CT, Kraak VI. Preventing Childhood Obesity: Health in the Balance. *Institute of Medicine* report 2005: 73.
[8] Child and Adolescent Health Measurement Initiative. *2007 National Survey of Children's Health*, Data Resource Center for Child and Adolescent Health website. Accessed online 12/9/09 at www.nschdata.org
[9] Centers for Disease Control and Prevention, *National Health and Nutrition Examination Survey*, 2003-2006. Accessed online 12/9/09 at http://www.cdc.gov/obesity/childhood/prevalence.html.
[10] Centers for Disease Control and Prevention, *National Health and Nutrition Examination Survey*, 2003-2006. Accessed online 12/9/09 at http://www.cdc.gov/obesity/childhood/prevalence.html.
[11] Miech RA, Kumanyika SK, Stettler N, Link BG, Phelan JC, Thang VW. Trends in the association of poverty with overweight among US adolescents, 1971–2004. *JAMA.* 2006; 295:2385–2393
[12] Gordon-Larsen P. The relationship of ethnicity, socioeconomic factors, and overweight in U.S. adolescents. *Obesity Research*, 2003; 11:121-129.
[13] Obesity Prevalence Among Low-Income, Preschool-Aged Children, United States, 1998—2008. Centers for Disease Control and Prevention, *Morbidity and Mortality Weekly Report*, 2009; 58(28): 769-773.
[14] Trust for America's Health. F as in Fat 2009. July 2009. Accessed online 12/11/09 at http://healthyamericans.org/reports/obesity2009/.
[15] Medical Home Initiatives for Children With Special Needs Project Advisory Committee. The Medical Home. *Pediatrics* Vol. 110 No. 1 July 2002, pp. 184-186.
[16] Barlow S and the Expert Committee. Expert Committee Recommendations on the Assessment, Prevention, and Treatment of Child and Adolescent Overweight and Obesity. *Pediatrics* Vol. 120 December 2007, pp S164-S192.
[17] Von Hippel P, Powell B, Downey D, Rowland N. The effect of school on overweight in Childhood: Gain in Body Mass Index During the School Year and During Summer Vacation. *Am J Public Health* Vol. 97, April 2007, pp. 696-702.

[18] Flodmark CE, Ohlsson T, Ryden O, Sveger T. Prevention of progression to severe obesity in a group of obese schoolchildren treated with family therapy. *Pediatrics*, 1993; 91:880-884.
[19] Epstein L, Wing R, Woodall K, Penner B, Kress M, Koeske R. Effects of family-based behavioral treatment of obese 5- to 8-year-old children. *Behav Ther*. 1985;16:205-212.
[20] National Institutes of Health. About NIH Obesity Research. Accessed online 12/10/09 at http://www.obesityresearch.nih.gov/About/about.htm.
[21] Press release, "NIH launches program to develop innovative approaches to combat obesity." December 10, 2009. Accessed online 12/10/09 at http://public.nhlbi.nih.gov/newsroom/home/GetPressRelease.aspx?id=2678.
[22] American Heart Association et.al. Dietary Recommendations for Children and Adolescents: A Guide for Practitioners. *Pediatrics*, Vol. 117 No. 2 February 2007, pp. 544-559.
[23] American Academy of President Renee Jenkins letter to USDA Food and Nutrition Service Acting Administrator Eric Steiner. Comments on 2009 Reauthorization of the Child Nutrition Programs and the Special Supplemental Nutrition Program for Women, Infants and Children (WIC), as published in the *Federal Register* on May 20, 2008. October 9, 2008.
[24] Daniels S, Greer F, and the Committee on Nutrition. Lipid Screening and Cardiovascular Health in Childhood. *Pediatrics*, Vol. 122 No. 1 July 2008, pp. 198-208.
[25] Section on Breastfeeding. Breastfeeding and the Use of Human Milk. *Pediatrics*, Vol. 115 No. 2 February 2005, pp. 496-506.
[26] Committee on Nutrition. Prevention of Pediatric Overweight and Obesity. *Pediatrics*, Vol. 112 No. 2 August 2003, pp. 424-430.
[27] Council on Sports Medicine and Fitness and Council on School Health. Active Healthy Living: Prevention of Childhood Obesity Through Increased Physical Activity. *Pediatrics*, Vol. 117 No. 5 May 2006, pp. 1834-1842.
[28] Committee on Public Education. Children, Adolescents, and Television. *Pediatrics*, Vol. 107 No. 2 February 2001, pp. 423-426.
[29] Committee on Environmental Health. The Built Environment: Designing Communities to Promote Physical Activity in Children. *Pediatrics*, Vol. 123 No. 6 June 2009, pp. 1591-1598.
[30] Committee on School Health. Soft Drinks in Schools. *Pediatrics*, Vol. 113 No. 1 January 2004, pp. 152-154.
[31] Committee on Nutrition. The Use and Misuse of Fruit Juice in Pediatrics. *Pediatrics*, Vol. 107 No. 5 May 2001, pp. 1210-1213.
[32] Center for Science in the Public Interest. "Better for Who? Revisiting company promises on food marketing to children." November 2009. Online at http://cspinet.org/new/pdf/pledgereport.pdf.
[33] Committee on Communications. Children, Adolescents, and Advertising. *Pediatrics*, Vol. 118 No. 6 December 2006, pp. 2563-69.