Child Health

A Qualitative Study of Oral Health Practices in Early Head Start Programs in North Carolina

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PRESENTER: Leslie P. Zeldin

By the time children enter kindergarten in North Carolina, 40% already have tooth decay.[1] Early Head Start (EHS) children are among some of the state's most at risk children for developing disease. A statewide EHS Oral Health Initiative was developed to ensure that children attending EHS centers have access to preventive and treatment dental services. The aim of this Initiative is to educate EHS staff about the preventive dental services offered through 400 medical offices providing dental screening and fluoride varnish applications, link EHS children and their families with these providers; and educate all EHS staff about oral health.

Qualitative data collection activities were undertaken in an effort to learn more about oral health activities in EHS programs. Nine focus group sessions were conducted with EHS program staff, parents, and pregnant women to solicit information on opinions and values placed on the oral health of young children and pregnant women, beliefs about the effects of poor dental health on children and pregnant women, current oral health practices in the centers and at home, and suggestions for potential training activities.

Eighteen telephone interviews also were conducted with the Health Coordinator from all EHS programs in North Carolina to better understand dental screening, referral and treatment practices and obstacles faced by staff in providing optimal oral health education and screening services for children.

The value placed on children's oral health varied among parents; some lacked an understanding of the importance of baby teeth and why it is necessary to keep them healthy. Parents expressed frustration in their attempts to care for their children's teeth and their own inability to keep sweets out of their children's diet. Some frustration was expressed over the criticism they feel they receive from EHS staff. Pregnant women generally did not understand the importance of dental care during pregnancy. Staff acknowledged the importance of oral health in young children, although it appears that the causes and consequences of dental disease are not well understood. Some awareness of the application of fluoride on children's teeth by medical and not dental professionals was demonstrated by staff and they enthusiastically embraced this as a possible option to lack of screening services available by dental professionals.

Health coordinator revealed that the programs screen approximately 72% of the EHS children within 90 days of enrollment; however this ranged from 0% screened in one program to 100% in three programs. Yet, many programs reported that their ability to get children screened is constantly changing with more and more providers refusing to accept public insurance and/or to

see young children. Often, previously established partnerships with area providers are severed when providers tire of being the only ones seeing EHS children.

Lack of dental services for many EHS children highlights the need for prevention both at home and at the centers. Training opportunities should focus on age appropriate dental care, and communication skills between parents and staff to foster better relationships and a shared understanding of how to prevent dental problems in young children.

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Early Childhood Caries (ECC): The Oral Health Status of Infants and Toddlers Enrolled in Three ABDC Early Head Start Programs in Boston

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PRESENTER: Kathy Marie Lituri

Early childhood caries (ECC) is a serious form of dental caries that affects the primary dentition of young children. ECC is preventable and despite advances in population based interventions, such as community water fluoridation, 20% of children aged 2-5 still have untreated dental caries (1) ECC still affects 5% of all U.S. children (2), and ECC disproportionately affects children from racial and ethnic minority groups (2, 3, 4, 5). An estimated 51 million school hours per year are lost because of dental related illness. (6) Left untreated, this infectious disease can lead to serious illness, including abscesses. The infection and pain caused by ECC can impair weight gain (7), speech, lead to learning and eating problems, and increase school absenteeism, thus negatively affecting children's quality of life (8). Treatment of ECC often requires costly interventions such as surgery under general anesthesia and hospitalization. The negative impact of ECC and the need to decrease its incidence and prevalence is well-recognized: the national public health agenda, as stated in Healthy People 2010, includes goal 21-1a, to reduce the proportion of children who have dental caries experience in their primary teeth to 11% or less.

The Northeast Center for Research to Evaluate and Eliminate Dental Disparities, housed at the Boston University School of Dental Medicine, assessed the oral health of children ages six weeks to three years, enrolled in three Early Head Start Programs in Boston.

Using a modified version of the Association of State and Territorial Dental Directors (ASTDD) Basic Screening Survey 83 children were screened between November 2004 and March 2005. The presence of Untreated Decay, Caries Experience, and signs of Early Childhood Caries, including the presence of white lesions or areas of decalcification on the upper anterior teeth, indicative of early signs of decay and Treatment Urgency was recorded. The children ranged in age from 8 months to three years and included 8 infants, 68 toddlers, and 7 pre-school children. None of the children screened were edentate. White lesions and Early Childhood Caries (ECC) were found in 25% and 5% of children, respectively. White lesions were more likely to be found in pre-school children and toddlers; however, only toddlers exhibited ECC. Twenty-one of the 83 children screened (25%) presented with white lesions, but did not meet the ASTDD definition of decay or Early Childhood Caries; thus, these children were documented as being at risk for the development of ECC. None of the children were considered to have urgent dental needs or a recommendation to be seen by a dentist within 24 hours; however, 25 (30%) of the children were in need of early dental care. Five percent of the children presented with caries experience, 5% with Untreated Decay and 5% with caries experience that met the criteria for Early Childhood Caries (ECC).

Dental screenings of Early HS children in urban settings reveal a large unmet oral health need that can benefit from prevention, early identification, and intervention of dental disease.

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Opinions of Early Head Start Staff about the Provision of Preventive Dental Services by Primary Medical Care Providers

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PRESENTER: Kavita R. Mathu-Muju

Objective: Service integration between programs designed to serve the health care needs of low income children in North Carolina has the potential to improve access to care for this population. The purpose of this study is to investigate the opinions of Early Head Start (EHS) staff on utilizing physicians and nurses in the North Carolina - *Into the Mouths of Babes* (NC-IMB) Program to provide preventive dental services for children enrolled in Early Head Start. Methods: A cross-sectional survey was undertaken of staff working in all 18 EHS programs in the state of North Carolina in order to assess their attitudes and knowledge about oral health for young children. Results: Staff were generally supportive of using the NC-IMB Program for the provision of preventive dental services for children enrolled in EHS. However, although 67% of staff were of the opinion that medical providers could identify dental disease in young children, only 52% believed that a physician or nurse could do anything to prevent the problems from occurring in the first place. Respondents who were familiar with NC- IMB Program services were more likely to both agree that physicians and nurses can provide preventive dental services (OR=2.39; 95% CI=1.10, 5.15) and identify dental problems (OR= 3.35 ; 95% CI= 1.19, 9.43) than those who were not aware of it. Conclusions: These findings suggest that staff opinions would not be a barrier to integrating services between EHS and IMB to improve access to preventive dental care for infants and toddlers. However, our results suggest a need to provide more information about the NC-IMB Program to EHS Programs and to plan an educational intervention on the oral health care needs of infants and toddlers for EHS staff.

A Collaborative Program to Provide Vision Care to Head Start Children

Bruce Dennis Moore, Karine Martirosyan

PRESENTERS: Bruce Dennis Moore, Karine Martirosyan

Content: For over 15 years, a strong partnership and collaboration has existed between the New England College of Optometry and Boston Head Start. The College has participated in the vision screening of most of the children in Head Start each year, with perhaps as many as 20,000 children in total having been screened over this time. Approximately 20-25% of all children screened have been found to require referral for a comprehensive eye examination in order to determine whether the child has a significant vision problem that might interfere with their ability to learn and participate in the day-to-day activities at Head Start. Not all children referred for a comprehensive eye exam turn out to have vision problems, and not all vision problems require treatment at the time of examination, but many children do have vision problems that require remediation. The relationship between the College and Head Start has been mutually beneficial; Head Start obtains valuable service for its children at no cost to Head Start, and the College obtains an exceptional learning environment for its student interns in the delivery of eyecare to a pediatric population with great need and a relative lack of access to care. The children benefit the most.

In addition to the provision of care, advancing our knowledge and understanding of vision problems affecting preschool age children is critically important. The Vision In Preschoolers Study (VIP) carried out by the College and four other institutions around the country and centered at Head Starts has produced a framework of answering fundamental questions regarding the vision of preschool age children and the methods of detecting vision problems in an efficient, effective, and cost effective manner. The study has worked directly with all of the Head Start sites in Boston over the past 5 years, and served thousands of children. Its primary aim is to design the most efficient and effective method of vision screening for preschool age children, to be carried out by lay screeners. Phases I and II have identified those procedures and the personnel who can carry them out. Phase III is currently under development. Data obtained from the study is proving essential in the development of local and national guidelines for providing vision care to preschool age children. Major changes in the system of preschool and school age vision screening are currently being implemented today in the state, based in significant part on the results of Phases I and II of the Study on the children of Head Start. The efforts expended on this research have proven valuable to the children. The next phase will address the important issue of the linkage between vision problems and their effects upon a child's ability to learn and to partake in the day-to-day activities of their Head Start program.

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Comparison of Preschool Vision Screening Tests as Administered by Licensed Eyecare Professionals in Phase I of the Vision in Preschoolers Study

Bruce Dennis Moore

PRESENTER: Bruce Dennis Moore

Purpose: To compare the performance characteristics of 11 preschool vision screening tests administered by licensed eyecare professionals to 3- to 5- year-old children enrolled in Head Start.

Methods: Licensed eye care professionals completed training and certification procedures for administering commonly used and/or commercially available vision screening tests for preschool children. In the first year, 1,142 children were screened using non-cycloplegic retinoscopy, the Retinomax autorefractor, the Lea Symbols™ visual acuity test, the HOTV visual acuity test, the Random Dot E stereoacuity test, and the cover-uncover test. In the second year, 1,446 children were screened using the SureSight Vision Screener, the Retinomax autorefractor, the MTI Photoscreener, the iScreen Photoscreener, the Power Refractor II video/photoscreener, and the Stereo Smile II stereoacuity test. All children received a standardized, comprehensive eye examination by LEPs who were masked to the screening results. These results were used to classify children as normal or as having 1 or more of 4 targeted conditions: amblyopia, strabismus, significant refractive error, or unexplained reduced visual acuity.

Results: Screening test results could be obtained on ≥98% of children for each test except the Random Dot E (90%). When specificity was set at 90% for tests without pre-defined pass/fail criteria, sensitivity for detection of 1 or more targeted conditions varied widely among the tests. The sensitivity of non-cycloplegic retinoscopy (64%), the Retinomax autorefractor (63% in year 1 and 64% in year 2), the SureSight Vision Screener (63%), and Lea Symbols™ test (61%) were similar. Sensitivity of the Power Refractor II (54%) and HOTV visual acuity test (54%) were similar to each other. Sensitivity of the Random Dot E test (42%) and the Stereo Smile II (43%) test were similar to each other and significantly lower ($p<0.0001$) than the sensitivity of non-cycloplegic retinoscopy, the 2 autorefractors, and the Lea Symbols™ test. The cover-uncover test had very low sensitivity (16%) and very high specificity (98%); when considered in combination with non-cycloplegic retinoscopy, the sensitivity increased by 2% to 66% relative to use of non-cycloplegic retinoscopy alone. Sensitivity for a subset of conditions considered the most important to detect ranged from 90% for non-cycloplegic retinoscopy to 24% for the cover-uncover test. Sensitivity for amblyopia ranged from 89% for the SureSight Vision Screener to 27% for the cover-uncover test. Sensitivity for strabismus ranged from 69% for the Retinomax autorefractor to 53% for the Power Refractor II.

Conclusions: When administered by highly trained personnel in a controlled environment, currently used screening tests vary widely in their performance for detecting amblyopia, strabismus, significant refractive error and unexplained reduced visual acuity. When specificity was set at 90%, the best tests detected two-thirds of the children with 1 or more of the targeted conditions, but nearly 90% of the children with the most important conditions. The two tests that use static photorefractive technology were less accurate than 3 tests that assess refractive error in

other ways. The differences among screening tests have important implications with respect to choosing screening tests for the preschool-aged population.

Preschool Vision Screening Study: Results of Phase II

Bruce Dennis Moore

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Purpose: In the United States, pediatric vision screening is usually conducted by nurses and lay people. The purpose of the present study is to compare the performance of nurse screeners and lay screeners in administering preschool vision screening tests.

Design: A multicenter, cross-sectional study.

Participants: A sample (N=1,452) of 3- to 5-year-old children who were participants in Head Start programs in 5 communities was selected in each of 2 years. The study population was enriched with children who had failed the routine Head Start vision screening.

Methods: Trained nurse and lay screeners administered the Retinomax Autorefractor, SureSight Vision Screener, crowded Linear Lea Symbols visual acuity (VA) test at 10 ft, and Stereo Smile II test to 3- to 5-year-old Head Start participants in real-world screening environments at Head Start program sites. Lay screeners also administered a crowded Single Lea Symbols VA test at 5 ft. Screening results were compared to a classification of children with respect to 4 conditions (amblyopia, strabismus, significant refractive error, and unexplained reduced VA) based on the results of a "gold standard" eye examination by study-certified optometrists and ophthalmologists. The primary outcome measure was sensitivity for detecting children with ≥ 1 targeted conditions at 0.90 specificity.

Main Outcome Measures: The percentage of children for whom results could be obtained was calculated for each screening test/tester combination. Comparison of sensitivity between nurse and lay screeners was determined after setting the specificity first at 90%. To further compare the performance between nurse and lay screeners, sensitivities for conditions stratified into 3 levels of importance of detection and for each of the 4 targeted conditions were calculated.

Results: Nurse screeners achieved slightly higher sensitivity values with the Retinomax, SureSight, and Stereo Smile II test than lay screeners; however, most differences were small and not statistically significant. Nurse screeners achieved significantly higher sensitivity values with the Linear Lea Symbols VA test than did lay screeners. Lay screeners achieved strikingly higher values of sensitivity with the Single Lea Symbols VA test than did nurse or lay screeners using the Linear Lea Symbols VA test. Combining the Stereo Smile II test with each of the other tests did not result in improved sensitivities for detecting ≥ 1 targeted conditions.

Conclusions: Nurse and lay screeners can achieve similar sensitivity, when specificity is set at 90%, for detecting preschool children in need of a comprehensive eye examination.

Purpose: To compare the performance characteristics of 11 preschool vision screening tests administered by licensed eyecare professionals to 3- to 5- year-old children enrolled in Head Start.

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Enhancing Access to Quality Asthma Care and Family-Physician Communication to Improve Asthma Health Outcomes for Children in Head Start: A Description of the Intervention and the Preliminary Findings

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PRESENTER: Kejuana Walton

A+ asthma is a randomized controlled trial designed to compare the effectiveness of four types of interventions in reducing asthma morbidity and improving asthma management among HS families: (a) the Breathmobile, a mobile medical clinic that provides asthma care to children in high-risk communities, (b) the Facilitated Asthma Communication Intervention (FACI), a home and clinic-based education intervention designed to teach and model effective communication skills for parents to use when communicating with the child's PCP about their child's asthma care, (c) the combination of Breathmobile and FACI, and (d) a standard care condition. We predict that the intervention combining the Breathmobile and FACI will be more effective than the Breathmobile or FACI interventions alone in improving asthma outcomes: (a) the intervention designed to increase access to quality asthma care and families' communication with the child's primary care provider and (b) our preliminary findings.

Findings not provided.

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Asthma Education Needs of Urban Head Start Parents and Teachers

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Investigators have found high prevalence rates of asthma (ranging from 13.9% to 35%) among preschoolers enrolled in urban and non-inner city Head Start [HS] programs in the United States. Controlling asthma symptoms is critical for preschoolers to be able to learn and attend Head Start consistently. Furthermore, HS staff must know how to prevent and manage asthma episodes. The purpose of the needs assessment phase of this participatory action research project was to identify the asthma education needs of parents and teachers who work with preschoolers (ages 3 to 5) in the Community Action Partnership of Ramsey and Washington Counties Head Start program. This report addresses the following research question: What are the similarities and differences between what parents from ethnically diverse backgrounds and HS teachers who care for preschoolers with asthma think that HS parents and teachers need to know about asthma? Separate focus groups with parents and HS teachers were conducted to determine their asthma information needs. Six focus groups were conducted with 28 parents of preschoolers with asthma from diverse cultural backgrounds. Four of the parent focus groups were conducted in English, one in Hmong, and one in Spanish. Three focus groups with 14 HS teachers were conducted. Focus group sessions were audio taped and lasted about an hour and a half. Focus group sessions were transcribed verbatim. Content analytic techniques were used to identify and categorize participants' responses to the interview questions. The primary investigator developed a coding scheme based on parent and teacher responses, and two members of the research team independently coded the focus group data by topic areas identified in the coding scheme. Participants in the parent and teacher focus groups commonly emphasized the need for information to address the following questions: What is asthma? What causes asthma? Is asthma contagious? Can a child outgrow asthma? What are the signs, symptoms, and triggers of asthma? How can I recognize an asthma attack? What should I do? When do I call 911? How do I teach children about asthma? How do I calm a child who is having difficulty breathing? How can I prevent asthma attacks and reduce triggers? What are common asthma medications and how do I administer them? Parents wanted easy-to-understand information about asthma and wanted all HS staff to know how to care for children with asthma both on site and on field trips. Participants stressed that all HS staff who have contact with a child with asthma need to be educated about asthma. HS teachers also had concerns about how to use a nebulizer, administer medications, clean nebulizer tubing, and avoid over-medicating children. Both parents and teachers identified gaps in knowledge about asthma and stressed the need for relevant asthma information and resources. Health literacy, language and cultural barriers must be addressed when developing asthma education for HS parents, staff, and children. Teachers also need asthma information readily available in order to prevent and manage asthma episodes. Web-based resources are being developed to address these needs.

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Promoting School Readiness through Innovative Collaborations Based in Pediatric Primary Care: Past, Present and Future

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PRESENTERS: Alan Mendelsohn, Samantha Brooke Berkule, Harris Solomon Huberman

Over the last two decades, a consensus has developed that pediatric primary care represents an important and underutilized opportunity for preventive intervention. There are two reasons for this: First, pediatric well-child visits happen frequently, with 10-12 visits in the first three years. Second, participation in well child care happens almost universally, because all children require vaccinations beginning in early infancy. Recent studies have demonstrated that interventions based in pediatric well child care, such as Reach Out and Read and Healthy Steps, can be effective in promoting parent-child relationships and early childhood development.

A program called the Video Interaction Project (VIP) is under study by the Department of Pediatrics at New York University School of Medicine - Bellevue Hospital Center. VIP involves use of videotaped interactions by child development specialists as parents wait to see pediatric providers for well-child visits; it applies the work of Bernstein and McDonough, Erickson, and Kubicek to the pediatric primary care setting. At each well child visit, a videotape is made of the parent and child engaging in activities together. The tape is viewed together by the parent and specialist, as an opportunity to identify and promote strengths in the interaction. In addition, families receive parenting pamphlets and developmentally-appropriate toys and books.

Another intervention with similar goals but lower intensity and cost is called Building Blocks (BB). BB employs a public health approach to promote positive parenting practices through increased awareness of the child's development and increased engagement in child's primary care. Families are mailed monthly newsletters which provide easy-to-read information about child development, infant cues and parenting. Included is a developmentally stimulating learning material. Also, families periodically receive Ages and Stages Questionnaires, which consist of questions that screen for delay while increasing parents' awareness of their child's development.

Recently, the National Institute of Child Health and Human Development funded a more definitive randomized controlled trial of what works in pediatric primary care (R01 HD047740-01A1). A large birth cohort is presently being enrolled, with study participants randomly assigned to one of three groups, including two intervention groups (VIP and BB) and a control group. Follow-up will take place through preschool, and the impact on language, cognitive and social-emotional development and ultimately school readiness will be assessed. The size and diversity of the sample will allow us to comprehensively examine a range of primary care based parenting interventions, as well as to address the question of which intervention intensity level is most effective for which families.

At baseline during the postpartum period, 114 Latina mother-infant dyads were assessed regarding plans for reading aloud. 20.2% reported not planning to read aloud until 12 months or later. 44.7% reported no baby books in the home. 19.3% reported barriers to reading aloud; the

most common were household chores, work, and childcare. In multiple logistic regression analyses, independent significant predictors of not planning to read aloud before 12 months were lower maternal education and female baby. Independent significant predictors of not having baby books were firstborn baby and reading difficulties.

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Child Health in Child Care: A Multi-State Survey of Head Start and Non-Head Start Child Care Directors

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PRESENTER: John M. Pascoe

The objective of this study was to understand the perception of licensed child care center directors concerning: 1) the health of the children and families they serve and 2) the child health activities within each child care center. Child health perceptions and activities were examined within the context of Head Start (National Head Start Association, 2005) compared to non-Head Start centers. Directors of licensed centers from the states of Florida, Mississippi, New Mexico, Ohio and Vermont (N=2753) were randomly queried from February 2004-January 2005. Almost 10% of the sample (9.7%) were Head Start Directors.

Head Start Centers were more likely than non-Head Start centers to consult health professionals, especially dieticians (50.6% vs 15.5%, $p<0.0001$) and mental health consultants (60.2% vs 16.3%, $p<0.0001$). Over 90% (90.4%) of Head Start centers screened for children's health problems compared to 65.0% of non-Head Start Centers ($p<0.0001$). Almost all Head Start centers (98.4%) provided parents with child health information compared to 91.6% ($p<0.0001$) of non-Head Start centers. Less than 3% (2.8%) of Head Start directors reported that children at their centers watched television for more than an hour during a "typical day" compared to 11.3% of the directors of non-Head Start centers ($p<0.0002$). Even after adjusting for race and public assistance children who attended Head Start centers were at higher risk for dental problems (adjusted odds ratio=2.6 (95% Confidence Interval,2.0-3.5).

Since its inception in the summer of 1965, children's health has always been one of Head Start's four key program components (education, social services, parent involvement, health)(Zigler, Piotrkowski & Collins, 1994) and health services continue to be included in Head Start Performance Standards (Administration for Children & Families, 2006). The comprehensive approach to health awareness employed by Head Start centers has contributed to the positive cognitive gains documented in Head Start graduates (National Head Start Association, 2005). This study provides additional evidence that Head Start programs may serve as a model to develop more comprehensive child health practices at all child care centers.

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Integrating Pediatric Obesity Treatment into Clinical Practice

Barry Panzer

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During the past few years, there has been intense media and professional attention concerning the dramatic increase in childhood obesity. With a recent survey of New York City Head Start children categorizing more than 40% of their samples as either overweight or obese (New York City Department of Health 2006), the problem is now regarded as a global epidemic (Center for Disease Control and Prevention 2002). Moreover, epidemiologic surveys consistently indicate that poor and minority children, especially those living in single parent families, are overrepresented among the overweight and obese. For many of these children, excess weight is the beginning of a lifelong disability, often resulting in serious health, mental health, social and occupational consequences. The cause of this epidemic has been attributed to broad economic and cultural focus which have created a "toxic food environment" (Brownell and Horgen 2004). Accordingly, preventive, educational and legislative solutions have been proposed, though these have had only limited success. In contrast, the direct treatment of the estimated 9 million obese American children has attracted much less interest, despite empirical support for its effectiveness. This presentation outlines a preliminary practice model for the family-based treatment of childhood obesity. In contrast to the limited number of hospital-based pediatric obesity clinics, the model was designed to be deployed in a variety of social service, mental health and private practice settings. It is hoped that this will not only dramatically improve accessibility for the most at-risk, underserved populations, but will also increase the number of professionals and families interested in supporting this movement (It is, perhaps this lack of large scale involvement which has compromised the macrosystem efforts). The key dimensions of this model include: 1) cultural sensitivity to the variety of dietary and activity patterns found among socially and ethnically diverse groups; 2) a target population of overweight or obese pre-pubertal children, reflecting the correlation between early intervention and improved outcomes, as well as an effort to prevent the progression of the condition (Barlow and Dietz 1998, Kedesdy and Budd 1998); 3) interdisciplinary collaboration with the mental health professional serving as primary clinician due to the following reasons: (First, obesity treatment involves the use of cognitive-behavioral therapy methods and familiarity with family dynamics making mental health professionals clearly the most appropriate practitioners. Second, only mental health professionals are capable of addressing the needs of "dual diagnosis" children - obesity with concurrent psychosocial difficulties.); and 4) a format, which provides guidelines for assessment and counseling interviews, structured measures, and diet and exercise prescriptions. The model proposes an innovative diagnostic and treatment typology and includes suggested self-help books, programs and websites. Childhood obesity has become one of the public health crises of our age. We may indeed be witnessing the first generation of American children to live a shorter life span than those preceding. It is hoped that the mental health professions will recognize their potential for leadership in responding to this challenge.

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