



## Health, Nutrition and Safety

*Head Start's Ninth National Research Conference, Creating Connections: Linking Policy, Practice, and Research across Early Childhood Development, Care, and Education occurred in June, 2008 in Washington, D.C. This biannual conference brings together practitioners, researchers, administrators and policy makers involved in Head Start, early childhood, childcare, and health care to share research that promotes positive development in young children. Through the conference's varied presentations, roundtable discussions, and posters, attendees learned about new research and how it can be effectively transformed into practical applications. Health, Nutrition and Safety was one key topic of the conference. All researchers who presented papers or posters related to this topic were invited to submit their presentations for inclusion in this summary sheet; all presentations received were included.*

Head Start children face a number of health and safety risks that can negatively affect their growth and development and impede their ability to learn. Key domains of health concern include weight, asthma, dental care, and other chronic issues (e.g., middle ear infections). The risks associated with childhood overweight and obesity are receiving increased attention.<sup>1</sup> Government statistics suggest that approximately one-third of U.S. children and teens are overweight, or at-risk for being overweight.<sup>2</sup> Excess weight in childhood is associated with many negative health consequences, including high cholesterol levels, high blood pressure, and other risk factors for cardiovascular disease, as well as with psychosocial stresses and social stigmatization which can hinder children's academic and social functioning.<sup>3,4</sup> Another key area of concern for young children's health is asthma, a chronic health condition that affects 9.6 percent of children in the United States (6.8 million children).<sup>5</sup> Asthma has a disproportionate impact on low-income children; in 2006, children in poor families were more likely to have been diagnosed with asthma or to still have asthma (18% and 14%) than children in families that were not poor (13% and 8%).<sup>6</sup> Asthma is the third-ranking cause of hospitalization among children, and hospitalizations are highest among children 0–4 years.<sup>7,8</sup> Children in Head Start programs are also affected by chronic health conditions such as tooth decay, the most common chronic disease of childhood.<sup>9</sup> Low-income children are affected by tooth decay much more than are the rest of the population, and dental decay can result in the inability to concentrate in school, delayed learning, speech and language dysfunction, and failure to thrive.<sup>10</sup> Other chronic health conditions affecting the lives of Head Start children and their families include otitis media (middle ear infections), tuberculosis, lead poisoning, and infection with human immunodeficiency virus (HIV) or other sexually transmitted diseases before birth.

Innovative interventions and evidence-based prevention models to address health and safety issues can improve outcomes for Head Start children and their families. As summarized in the conference session and poster descriptions below, researchers across the country are examining such issues as the impact of parent attitudes and behaviors on their infants' weight gain, the role that parents' literacy plays in their children's health, and the effectiveness of school-based obesity prevention and asthma health care interventions. Additionally, the National Children's Study is underway, involving 100,000 children from

before birth to age 21. This study will provide researchers, health care providers, educators, and others who work with children with a rich resource of data from which to develop prevention strategies, health and safety guidelines, and educational approaches, and will provide evidence for testing many theories of child health and development.

### **Highlights on Health: Key Points Presented at Head Start's Ninth National Research Conference**

- Most school-based health interventions focus on older children; they are typically developed for children in a K–12 environment. However, research presented by Dr. Anne Turner-Henson demonstrated that when teachers and parents use age-appropriate active learning strategies, preschool children can learn health behaviors, such as proper hand washing techniques, proper nutrition, and second-hand smoke avoidance early in life and thereby reduce their lifelong health risks. ([Promoting Health Behaviors among Head Start Children: Health Education through Active Learning](#))
- A study conducted by Dr. John Worobey and Harriet S. Worobey found that several maternal behaviors and attitudes may contribute to excess weight gain among low-income, minority infants, including mothers' controlling behaviors when feeding their infants, preference for fatter babies, and perceptions of their infants as fussy. These maternal behaviors and perceptions are associated with increased infant weight-for-length ratios. ([Maternal Behaviors that Predict Infant Weight Gain in the First Year](#))
- Dr. Belinda Wilburn Nelson and colleagues investigated efforts to identify Head Start children with asthma, provide training for Head Start staff in asthma management, and provide educational information for Head Start parents and caretakers led to significant positive health outcomes for young children with asthma, including fewer symptom days and visits to the doctor. Several important lessons were learned that may be useful for future research on effective program implementation – these lessons include identifying staff who are highly motivated, maintaining flexibility in scheduling, and understanding teachers' competing demands. ([The Detroit Head Start Asthma Project: An Intervention to Improve Asthma Morbidity and Health Care Use among Low Income Urban Preschool Children](#))
- Health literacy is the degree to which individuals have the capacity to obtain, process, and understand basic health information in order to make appropriate health decisions. A study by Dr. Shalini G. Forbis showed that parents' low health literacy is associated with worse asthma outcomes for their children. Early research suggests that tailored asthma education programs for parents with low health literacy can help improve their asthma knowledge and children's inhaler use and thus may lead to improved health outcomes for their children. ([Parental Health Literacy and Childhood Asthma](#))

## Special Sessions

*This section includes poster symposia and paper symposia related to the topic of health, nutrition and safety.*

### PAPER SYMPOSIUM: Childhood Chronic Health Conditions and Family Literacy

*Discussant: Mary Capello*

#### PAPER One: Parental Health Literacy and Childhood Asthma

*Author and Presenter: Shalini G. Forbis, The Children's Medical Center of Dayton*

Health literacy is the degree to which individuals have the capacity to obtain, process, and understand basic health information in order to make appropriate health decisions (Healthy People 2010). Parents' low health literacy is associated with worse asthma outcomes for their children, such as missed school days and increased emergency room visits. One primary mechanism through which high child asthma outcomes occurs is through decreased asthma knowledge. Another mechanism may be through health system barriers (e.g. written-only materials, lack of verbal information, difficulty navigating the system, etc.) Early research suggests that tailored asthma education programs for parents with low health literacy can help improve their asthma knowledge and children's inhaler use and thus may lead to improved health outcomes for their children.

#### PAPER Two: Promoting Health Behaviors among Head Start Children: Health Education through Active Learning

*Author and Presenter: Anne Turner-Henson, University of Alabama at Birmingham*

Health behaviors that are initiated early in childhood prevent the formation of detrimental and refractory adult habits. However, little attention has been paid to health education for preschool children as most school-based health interventions focus on older children. Those that target preschoolers typically focus on parents and teachers. Early childhood programs, such as Head Start provide an excellent forum for the introduction of health promotion and disease prevention efforts because of their potential to reach large numbers of children. Authors presented details of their study wherein preschool children learned new health behaviors such as hand washing, proper nutrition, and second-hand smoke avoidance. Results showed a reduction in 2nd hand smoke exposure that was not retained long-term.

## PAPER SYMPOSIUM: Overweight in At-Risk Youngsters: Where Are We and Where Are We Going?

*Discussant: Hiram E. Fitzgerald*

PAPER One: Maternal Behaviors that Predict Infant Weight Gain in the First Year

*Presenter: John Worobey, Rutgers University*

*Authors: John Worobey and Harriet S. Worobey*

National Health and Nutrition Examination Survey (NHANES) data for infants 6-23 months indicates that 1 in 4 babies may be at risk of being overweight, with 1 and 9 already overweight. Researchers are investigating the causes behind this alarming trend. A study of low-income, African American and Hispanic formula-feeding mothers and their newborns found that several maternal behaviors and attitudes may contribute to excess weight gain among low-income, minority infants. These include mothers' controlling behaviors when feeding their infants, preference for fatter babies, and perceptions of their infants as fussy. Higher perceived fussiness at recruitment predicted higher number of feedings at 3- and 6-months; higher number of feedings at 3-months predicted higher weight-for-length ratios at 6-months; higher number of feedings at 6-months and lower maternal sensitivity to infant satiety signals predicted higher weight-for-length at 12-months; and higher perceived fussiness at 6-months correlated with higher weight-for-length at six months.

## PAPER SYMPOSIUM: Evaluation of Head Start Health Interventions: Studies of Program Enhancements Focused on Obesity Prevention, Oral Health, and Asthma

*Discussants: Kim McLeish Mitchell, Chris A. Sciarrino, Rachel F. Schiffman*

PAPER One: The Detroit Head Start Asthma Project: An Intervention to Improve Asthma Morbidity and Health Care Use among Low Income Urban Preschool Children

*Authors and Presenters: Belinda Wilburn Nelson, Dan Awad, and Noreen Clark, University of Michigan*

The Detroit Head Start Asthma Project is designed to engage Head Start personnel and families in efforts to improve the management of young children's asthma symptoms by identifying Head Start children with active asthma symptoms, providing training for Head Start staff in asthma management, and providing educational information for Head Start parents and caretakers. In the present study, children in the intervention group experienced significant improvement on two measures of asthma morbidity: symptom days and visits to the doctor. Intervention caretakers showed an increase in help-seeking behavior by asking doctors about asthma and demonstrated significant improvement discussing their child's asthma with Head Start personnel. Intervention caretakers were also more likely than those in the control group to identify Head Start as a source of knowledge and support for asthma management. Several important lessons learned from this project that appear to support more effective program implementation include

identifying staff who are highly motivated, maintaining flexibility in scheduling, and understanding teachers' competing demands.

### The National Children's Study in 2008: An Update

*Discussant: John M. Pascoe*

The National Children's Study in 2008: An Update

*Study Director and Presenter: Peter Scheidt, National Children's Study*

The National Children's Study is the largest long-term study of children's health and development ever conducted in the United States. The study will examine the effects of environmental influences on the health and development of more than 100,000 children across the United States, following them from before birth until age 21. The goal of the study is to improve the health and well-being of children. Ultimately, it will form the basis of child health guidance, interventions, and policy for generations to come.

### Conference Posters

*This section includes posters related to the topics of health, nutrition and safety that were presented during the poster sessions at the conference.*

#### Assessing Risk Patterns in Home and Car Safety across Three Cultural Groups

*Presenters: Danya Johnson, Leanne Whiteside-Mansell, and LaTunja Sockwell, University of Arkansas for Medical Sciences*

*Authors: Danya Johnson, Leanne Whiteside-Mansell, Nicola A. Conners-Burrow, Robert H. Bradley, Patti Ann Bokony, Carol Amundson Lee, Davette M. Mclemore, and LaTunja Sockwell*

Injury and accidents are leading causes of morbidity and mortality in young children but the risk is not equal across income status or cultural groups in the United States. The Family Map is an assessment tool for measuring the safety of a Head Start child's home environment, patterns of risk at home and in the car, and differences and similarities across cultural groups. A small sample of families completed the Map twice, once with researchers and once with teachers; the preliminary results indicate adequate reliability. In initial implementation, the Family Map was completed with over 1000 families from urban and rural Head Start centers. The Family Map appears to be useful in identifying families at risk. For validity purposes, rates of families at risk were consistent with national statistics. It appears that patterns of risk differ by cultural group, with White families more at risk for second-hand smoke and in the car safety domains than Hispanic or African American families; Hispanic families more at risk regarding home fire safety than the other two cultural groups; and both Hispanic and White families more at risk for toxins or items that cause injury and accident than African American families.

## The Impact of a Family Based Intervention on Child Health Outcomes

*Presenter: Ruby Ann Natale, University of Miami*

*Authors: Ruby Ann Natale, Sarah Messiah, Jennifer Barth, Gabriela Lopez-Mitnik, Lee Sanders*

Few obesity prevention interventions that target 3- to 5-year-olds in the childcare setting have been tested for efficacy or effectiveness. This project is a community-based, randomized trial to assess the efficacy of an intervention designed to reduce modifiable risk factors for childhood obesity (i.e., television viewing, consumption of high carbohydrate snacks and sweetened beverages, etc.) in the childcare setting. The study population included 307 3- to 5-year-olds who attended eight childcare centers serving children from ethnically diverse, low-income neighborhoods in Miami-Dade County, Florida. Six of the eight centers received the intervention, which included center-based modifications to change classroom menus; a child-centered curriculum for healthy eating and activities; and a parent-centered curriculum for healthy eating and activity at home. Two control centers received an injury-prevention intervention. Only results related to the parent-centered curriculum were presented. Primary Intervention was group 'parent dinners' (N=550 attending at least one); 50 parents also were presented with home-based activities. As parents completed intervention projects at home, BMI significantly decreased among the target population. Decrease in BMI was also significantly correlated with parents who found the intervention newsletters and project dinners helpful. In addition, the more the family participated in at-home intervention projects, the less they reported their children consuming unhealthy foods (e.g., French fries, macaroni, etc.). The authors were encouraged by the potential effects of the intervention and by the high participation rate of the parents across centers.

## Dental Caries in American Indian Preschool Children: Parental Beliefs and Behaviors

*Author and Presenter: Valerie A. Orlando, University of Colorado Denver School of Dental Medicine*

Recent scientific advances improved oral health in the general population, but these improvements are not ubiquitous. Among children ages 2-5 years, particularly young children of low socioeconomic and ethnic minority households, the incidence of dental caries has increased. The author designed a 42-item questionnaire according to the Theory of Planned Behavior in order to determine parents' beliefs and behaviors relevant to child oral hygiene and dental disease prevention. The survey was pilot tested with 220 parents and caregivers whose young children were enrolled in Region XI Tribal Head Start programs during the 2007-2008 program year (20% response rate). Findings indicated some dental issues about which parents were confused or unaware. 60% of parents reported that a child could be considered healthy even with a dental cavity. A majority of parents reported inspecting their children's teeth (60%), yet only 40% reported being sure that they would spot a problem. Findings suggest that understanding parents' oral health knowledge, attitudes, and beliefs could improve interventions and supports for families with low socio-economic risk factors. Developing measures from a careful theoretical

standpoint with an open-attitude towards cultural variations is a strong approach for improving this understanding.

### **Obesity, Asthma, and Secondhand Smoke Exposure in Head Start Children**

*Presenter: Anne Turner-Henson, University of Alabama at Birmingham*

*Authors: Anne Turner-Henson, Cynthia Irwin Joiner, Marquita Davis, and Yoland Reese*

Pediatric population studies have established the relationship between obesity and asthma, as well as asthma and childhood exposure to secondhand smoke. The present study used secondary data analyses to examine the relationship between children's body mass index (BMI), asthma, and secondhand smoke exposure in a Head Start population. Data sets included a secondhand smoke exposure study (Turner-Henson, et al., 2005) and the relevant Head Start agency database. Secondhand smoke exposure, obesity, and asthma prevalence were high in this Head Start population. The results did not indicate consistent relationships between the three health factors. 215 families provided data. 59% of the children demonstrated evidence of second-hand exposure smoke (urine cotinine test); normal weight children were more likely to be exposed than obese children. Children with a formal asthma diagnosis were more likely to be normal weight than obese children, yet children who were obese were more likely to have asthma symptoms than normal weight children. This suggests that preschool children who are obese are more likely to have under-diagnosed asthma and a greater risk for asthma morbidity.

### **Nutritional and Physical Activity Practices in Childcare and at Home and Their Relation to Overweight in Young Children**

*Presenters: Jennifer Anh-Thu Vu and Allison Sidle Fuligni, University of California, Los Angeles*

*Authors: Jennifer Anh-Thu Vu, Allison Sidle Fuligni, and Suzanne Mitchell*

Using a sample of low-income and primarily non-English speaking children in an urban area, the authors compared the nutrition promotion and physical activity practices for children who are cared for at home versus those who attend out-of-home childcare environments. Sample included private and public child cares (N=150), family child care (N=27), and children not in out-of-home care (N=51). 58% of the children were first generation immigrants to the U.S., and 22% were second generation. Physical practices differed between home and school. Parents of children cared for at home reported children watching significantly more TV/videos than reported by teachers of children enrolled in childcare. Children cared for at home were exposed to fewer servings of nutritional foods (e.g. dark green vegetables and fruit) than children in childcare, while they received the same number of less healthy foods (e.g. fruit juice, high-calorie snacks). No significant differences in BMI were found by type of childcare.

## For Further Information

For more details on any of the selected presentations and posters, please contact the presenters listed directly. Presenter contact information can be found in the index of the conference program. ([Creating Connections: Head Start's Ninth National Research Conference 2008 Program Book](#))

- 
- 1 U.S. Department of Health and Human Services. (2001). *The Surgeon General's call to action to prevent and decrease overweight and obesity*. Rockville, MD: Public Health Service, Office of the Surgeon General.
  - 2 Ogden, C.L., Carroll, M.D., & Flegal, K.M. (2008). High body mass index for age among U.S. children and adolescents, 2003–2006. *Journal of the American Medical Association*, 299(20), 2401–2405..
  - 3 Freedman, D.S., Dietz, W.H., Srinivasan, S.R., & Berenson, G.S. (1999). The relation of overweight to cardiovascular risk factors among children and adolescents: The Bogalusa Heart Study. *Pediatrics*, 103, 1175–1182.
  - 4 Swartz, M.B. & Puhl, R. (2003). Childhood obesity: A societal problem to solve. *Obesity Reviews*, 4(1), 57–71...
  - 5 Bloom, B. & Cohen, R.A. (2007). Summary health statistics for U.S. children: National Health Interview Survey, 2006. *Vital and Health Statistics Series, 10* (234).
  - 6 Ibid.
  - 7 National Center for Health Statistics. *Hospitalization by first-listed diagnosis, all ages: U.S., 2002-2004* [Data file]. Health Data for All Ages. Retrieved August 29, 2008, from [http://www.cdc.gov/nchs/health\\_data\\_for\\_all\\_ages.htm](http://www.cdc.gov/nchs/health_data_for_all_ages.htm).
  - 8 Akinbami, L. (2006). Asthma prevalence, health care use and mortality, 2003-2005. Retrieved January 5, 2009, from <http://www.cdc.gov/nchs/products/pubs/pubd/hestats/asthma03-05/asthma03-05.htm>
  - 9 Dye, B.A., Tan, S., Smith, V., Lewis, B.G., Barker, L.K., Thornton-Evans, G., et al. (2007). Trends in oral health status: United States, 1988–1994 and 1999–2004. *Vital and Health Statistics Series, 11* (248)..
  - 10 U.S. Department of Health and Human Services. (2000). *Oral health in America: A report of the Surgeon General*. Rockville, MD: National Institute of Dental and Craniofacial Research, National Institutes of Health.