NATIONAL CHAIR FOR THE SEARCH FOR DIABETES IN YOUTH STUDY, NUTRITION PROFESSOR ELIZABETH MAYER-DAVIS, PHD, LEADS THE FIRST LONG-TERM EVALUATION TO TRACK TRENDS AND INCIDENCE RATES FOR ALL TYPES OF DIABETES AMONG YOUNG PEOPLE FROM MAJOR RACIAL AND ETHNIC GROUPS IN THE U.S. The large, multicenter study collects information about who gets diabetes and what kind, what care they receive and how the disease and its complications affect their daily lives. Among the study questions: Why is type 2 diabetes rising so rapidly among adolescents, particularly minority adolescents? And does obesity – not previously linked with type 1 diabetes – accelerate that form of the disease?

MUSK OX, CARIBOU AND OTHER TRADITIONAL FOODS OF THE CANADIAN ARCTIC HAVE HIGH NUTRITIONAL VALUE, BUT AS THE INUVIALUIT OF NUNAVUT HAVE MOVED AWAY FROM PHYSICALLY ACTIVE ANCESTRAL WAYS AND STARTED EATING MORE PROCESSED, STORE-BOUGHT FOODS, THEIR RATES OF OBESITY AND OTHER ILLS HAVE CLIMBED. Sangita Sharma, PhD, former UNC nutrition associate professor, now at University of Alberta (Canada), worked with local groups to develop the Healthy Foods North intervention program. After collecting baseline health data, the team promoted vigorous traditional activities and nutritious foods that are both affordable and culturally acceptable.

HAVING LED TWO LARGE NATIONAL TRIALS EXAMINING OBESITY AND PHYSICAL ACTIVITY IN CHILDREN AND ADOLESCENTS, JUNE STEVENS, PHD, PROFESSOR AND CHAIR OF THE NUTRITION DEPARTMENT, CONTINUES HER RESEARCH ON OBESITY IN DIFFERENT POPULATIONS. She has found links between mental exhaustion, obesity and heart attacks among African-American and white men and women. Other studies showed that the effects of obesity on the risk of diabetes and hypertension in Chinese may be even greater than in blacks and whites. Recent work by Stevens and Kimberly Truesdale, PhD, nutritional research assistant professor, showed that after losing weight, previously obese individuals enjoy a lowered risk of heart disease similar to those who were never obese. Their innovative studies are the first to show that, similar to the lowered risk of lung cancer in people who quit smoking, the effects of obesity on heart disease appear to be reversed by weight loss and maintenance of a healthy weight. Adults who lose weight and become normal weight have about the same risk of heart disease as people who were never obese.

Stevens also conducts research comparing body mass index and rates of diabetes and other conditions among African-Americans, whites and Chinese. That project is supported by a supplement to the UNC Nutrition and Obesity Research Center, one of 12 national centers of research funded by the National Institutes of Health. Steven Zeisel, MD, PhD, Kenan Distinguished Professor of nutrition and director of the N.C. Nutrition Research Institute, is the Center's principal investigator.

SPURRED BY THE WORLD HEALTH ORGANIZATION, FOOD COMPANIES WORLDWIDE ARE PLACING A UNIVERSAL LOGO ON FOOD AND BEVERAGE PACKAGES TO HELP CONSUMERS MAKE HEALTHIER CHOICES. Barry Popkin, PhD, Carla Smith Chamblee Distinguished Professor of Global Nutrition, works with an international board of scientists to ensure the logo goes on products that really do promote health. The Choices International Foundation Programme aims to reduce diseases related to obesity by raising consumer awareness and by encouraging companies to market products that meet evidence-based benchmarks for trans fats, saturated fats, salt, sugar and – in most locations – fiber and energy intake.

WHILE THOSE IN THE U.S. WHO IDENTIFY THEMSELVES AS HISPANIC DIE LESS OFTEN FROM HEART DISEASE THAN NON-HISPANICS, THEY HAVE HIGHER RATES OF OBESITY AND DIABETES. LISA LAVANGE, PHD, BIOSTATISTICS PROFESSOR OF THE PRACTICE, LEADS THE HISPANIC COMMUNITY HEALTH STUDY, a comprehensive, nationwide assessment of how adapting to the U.S. environment and culture affects the health of 16,000 Hispanic adults with family roots in Mexico, Cuba, Puerto Rico, the Dominican Republic, Central America and South America.

NUTRITION PROFESSOR PEGGY BENTLEY, PHD, CONDUCTS RESEARCH ON INFANT AND YOUNG CHILD NUTRITION in a number of countries, including Honduras, Malawi and India.

PENNY GORDON-LARSEN, PHD, NUTRITION ASSOCIATE PROFESSOR, AND KARI NORTH, PHD, EPIDEMIOLOGY ASSOCIATE PROFESSOR, ARE WORKING TOGETHER TO UNDERSTAND HOW GENETIC AND ENVIRONMENTAL RISK FACTORS INTERACT TO INFLUENCE WEIGHT GAIN AS TEENS BECOME YOUNG ADULTS. They have shown that this developmental period is one of particular risk for weight gain. Understanding how genes and environment interact can better inform obesity prevention and treatment by tailoring such interventions to individuals who might benefit most.

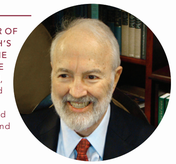
WOMEN WHO ARE OBESE WHEN THEY ARE DIAGNOSED WITH BREAST CANCER HAVE A GREATER RISK OF DYING FROM THE DISEASE, REBECCA CLEVELAND, PHD, NUTRITION RESEARCH ASSISTANT PROFESSOR, HAS FOUND. She has identified genes associated with breast cancer, obesity and diabetes and is now working to understand the connections among them. Her working hypotheses – that many of the genes associated with high levels of insulin also are associated with breast cancer and that breast cancer outcomes are worse for women with diabetes – drive her investigations of genes related to insulin resistance, estrogen and other factors. Cleveland's findings are based on data collected by epidemiology professor Marilie Gammon, PhD, through Gammon's Long Island Breast Cancer Study. (See *www.sph.unc.edu/cph/long_island_breast_cancer.*)

ALICE AMMERMAN, DRPH, RD, NUTRITION PROFESSOR AND DIRECTOR OF UNC'S CENTER FOR HEALTH PROMOTION AND DISEASE PREVENTION, DIRECTS A GILLINGS INNOVATION LAB INVESTIGATING – AMONG OTHER THINGS – WHETHER CHILDREN EAT MORE FRUITS AND VEGETABLES WHEN THEIR PARENTS BUY LOCALLY GROWN FOOD. Using data from the North Carolina Child Health Assessment and Monitoring Program, the team has found the answer may be *yes*. Teaching children where their food comes from and eating more meals at home also may affect how likely children are to eat healthy food. In North Carolina, it appears that families who are Hispanic and/or of lower socioeconomic status may be just as likely to buy local food as wealthier whites.

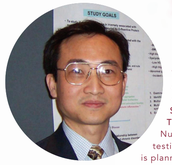
FOR MORE THAN 20 YEARS, THE CHINA HEALTH AND NUTRITION SURVEY HAS MONITORED THE DIET AND BODY COMPOSITION OF 19,000 PEOPLE IN NINE CHINESE PROVINCES. During that time, economic and social changes have altered what Chinese people eat and how much they move. Obesity in China has risen dramatically. Numerous School faculty researchers – among them Linda Adair, PhD; Margaret E. Bentley, PhD; **Shufa Du, MD, PhD**; Penny Gordon-Larsen, PhD, and study principal investigator Barry Popkin, PhD – track the changes. The information they gather helps Chinese officials identify and respond to the public health challenges that result.

BARRY POPKIN, PHD, CARLA SMITH CHAMBLEE DISTINGUISHED PROFESSOR OF GLOBAL NUTRITION, HAS SERVED ON THE MEXICAN MINISTRY OF HEALTH'S NATIONAL BEVERAGE PANEL AND HAS WRITTEN THREE PAPERS WITH THE INSTITUTO NACIONAL DE SALUD PUBLICO RELATED TO BEVERAGE INTAKE AMONG MEXICAN CHILDREN. He conducts studies in China, Russia, Brazil, Mexico and the United Arab Emirates to examine factors underlying dietary and physical activity patterns and their effects on health.

In Egypt, Iran, Mexico, Brazil, South Africa, Thailand, China, Chile, India and Indonesia, Popkin studies the relationship of massive shifts in diet, activity and obesity to noncommunicable diseases.



THE HEALTHY WEIGHT COMMITMENT IS A VOLUNTARY FOOD INDUSTRY EFFORT, LINKED WITH FIRST LADY MICHELLE OBAMA'S CHILDHOOD OBESITY INITIATIVE, TO REDUCE OBESITY BY CHANGING WHAT AMERICANS EAT. NUTRITION PROFESSOR BARRY POPKIN, PHD, LEADS A UNC-BASED TEAM EVALUATING THE IMPACT OF THE COMMITMENT'S ATTEMPT TO REMOVE 1.5 TRILLION CALORIES A YEAR FROM THE U.S. MARKETPLACE BY 2015. The independent team will track whether the calorie reductions result in American children and adolescents taking in significantly fewer calories each day. The evaluators will look particularly closely at whether the overall diet of 2- to 18-year-olds improves and at whether they take in less solid fats and added sugars.



A 40-YEAR-OLD JOURNAL ARTICLE ON CHINESE RESTAURANT SYNDROME GRABBED THE ATTENTION OF NUTRITION ASSOCIATE PROFESSOR KA HE, MD, SCD, WHEN HE READ THAT STUDY ANIMALS GIVEN MONOSODIUM GLUTAMATE (MSG) WEIGHED MORE THAN THE CONTROL GROUP. Intrigued, He examined data from both a small study and the large China Health and Nutrition Survey and discovered that humans' MSG intake also is related to weight gain. Now, he is testing his theory that MSG causes resistance to leptin, the hormone that regulates energy balance. He is planning an intervention study to determine whether MSG intake can cause obesity.

IN MEXICO, MIROSLAV STYBLO, PHD, NUTRITION ASSOCIATE PROFESSOR, STUDIES MECHANISMS BY WHICH ARSENIC EXPOSURE MAY INDUCE DIABETES AND EXAMINES EFFECTS OF DIET AND OBESITY ON THE METABOLISM OF ARSENIC. Research for his National Institutes of Health-funded work also has been conducted in Bangladesh and Taiwan.

SINCE 1983, THE CEBU (PHILIPPINES) LONGITUDINAL HEALTH AND NUTRITION SURVEY HAS FOLLOWED A COHORT OF 3,000 WOMEN AND THEIR CHILDREN. ORIGINALLY FOCUSED ON MATERNAL AND INFANT HEALTH, THE STUDY – NOW LED BY NUTRITION PROFESSOR LINDA ADAIR, PHD – TRACKS A RANGE OF MATERNAL AND CHILD HEALTH ISSUES, INCLUDING A SIGNIFICANT RISE IN OBESITY THAT PARALLELS CEBU'S RAPID GROWTH AND ECONOMIC DEVELOPMENT. "There's a clear trend from underweight to overweight and to hypertension and diabetes," says Adair. Unlike in the United States, women from Cebu's wealthier families tend to gain more weight. Poorer women and those with physically demanding jobs gain less.

For a more comprehensive look at where in the world we are making a difference, see our interactive map at *www.sph.unc.edu/globalhealth.*