

WORKING *with* COMMUNITIES
to overcome
HEALTH
DISPARITIES



PHOTO BY DR. PAMELA RAO

BY EMILY J. SMITH

Working with and within communities is an integral part of the UNC School of Public Health's efforts and long-term commitment to eliminate health disparities. Since our School's inception in 1940, our students and faculty have engaged with communities across North Carolina and around the world to achieve this mission.

The timeline on page 48 is a graphic example that illustrates just how long Carolina's School of Public Health has been engaged in an all-out effort to overcome health disparities. That work continues, as we illustrate here.

Mississippi project enlists community to examine social and environmental causes of health disparities

The idea for the Jackson, Mississippi Scientific Roadmap to Health Equity Project began at an American Public Health Association (APHA) meeting in 2000, says Dr. Vijaya Hogan, the project's principal investigator and a clinical associate professor of maternal and child health at the UNC School of Public Health.



Dr. Vijaya Hogan

"A group of scientists from NIH, CDC and academia were discussing the national process to address health disparities and agreed that there needed to be a more systematic approach," Hogan says. "So we decided to apply the 'road-map' process to map where we are now, develop an understanding of the state of the science, and map a course of action detailing how to get to a state of *health equity*."

"We also really wanted to work directly with a community to ensure that the process did not become just an academic exercise, but would directly benefit people right away," Hogan says.

Jackson was chosen because incidence rates of diabetes, obesity, hypertension and infant mortality (as well as other public health indicators) among the city's African-American residents exceed both the national averages and the rates for their white counterparts. The project was funded by the Kellogg Foundation with support from the Centers for Disease Control and Prevention.

"Our original goal was to engage various members of the community in an interdisciplinary dialogue about health disparities, but what we found out when we began working with the community was that most people had no clue what 'health disparities' meant or what the implications of health disparities were."

So the project conducted surveys and focus groups that included both academic professionals and people in blue-collar and white-collar positions in the Jackson community. ►►



PHOTO BY DR. FLETA JACKSON



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Dominica Sheriff (top photo) coordinates the registration table for the Jackson Roadmap to Health Equity Community Conference at Tougaloo College in May 2004. The conference was a collaborative event in which researchers and members of the Jackson, Miss., community worked together to develop a plan of action to eliminate health inequities in Jackson. Mary Cross (bottom photo), a Roadmap Community Steering Committee member for the Jackson, Mississippi Scientific Roadmap to Health Equity Project, speaks with a Jackson community member at the Jackson Roadmap to Health Equity Community Conference.

The groups were asked to complete the following phrase: ‘A specific thing that causes African-Americans to get sick and die sooner than other people is...’

“We found that for the most part, people believed health disparities were caused mostly by adverse health behaviors, lack of health care and to some extent genetics,” Hogan says. “Some, but not many, noted the underlying social and environmental things that affect health disparities, including the stress of living with institutional racism.”

Research has found that low-resource neighborhoods, where poorer people live, often have fewer grocery stores (where residents can buy fresh fruits and vegetables) than higher-resource neighborhoods. As one of our faculty members, Dr. Penny Gordon-Larsen, associate professor of nutrition, has shown, these neighborhoods have fewer exercise facilities.

“There are reasons why people don’t practice healthy behaviors,” Hogan says. “Lack of knowledge may be one part of the equation for some, but many people simply do not have the time, resources or the environmental supports needed to practice healthy behaviors.”

An outgrowth of this first phase of the project—which ran from December 2001 through March 2006—has been the development of a “Community Steering Committee” made up of local clergy, members of church health ministry programs, heads of neighborhood associations, environmental justice advocates, business owners, HIV activists, and even a police captain and a nurse.

Hogan and the steering committee identified four pilot projects they plan to implement in Jackson during a proposed second phase to the project. One of those pilots involves working with a Jackson school district to develop a “Healthy School Initiative Plan”—a new U.S. government requirement for all U.S. school districts. Jackson is unusual in that it includes an authentic community partnership in the development process.

The steering committee also will work with an elementary, middle and high

school to help them develop and implement a plan to incorporate physical activity into the school-day and provide healthier food in the schools.

“Obesity in children is a huge problem in Mississippi,” Hogan says. “Kids are in school six hours a day and then they have homework in the evenings. All of these are sedentary activities. And recently, physical education was taken out of these schools

to create more academic time because the students were under-performing in reading, writing and arithmetic.

Ultimately, the steering committee plans for this school-based pilot to create a structure to make change in the schools. Hopefully, parents, students and teachers can use the structure to help tackle future issues affecting the health and well-being of community members. ■



Does childhood obesity start with babies? Mothers’ styles of feeding and playing could affect risk

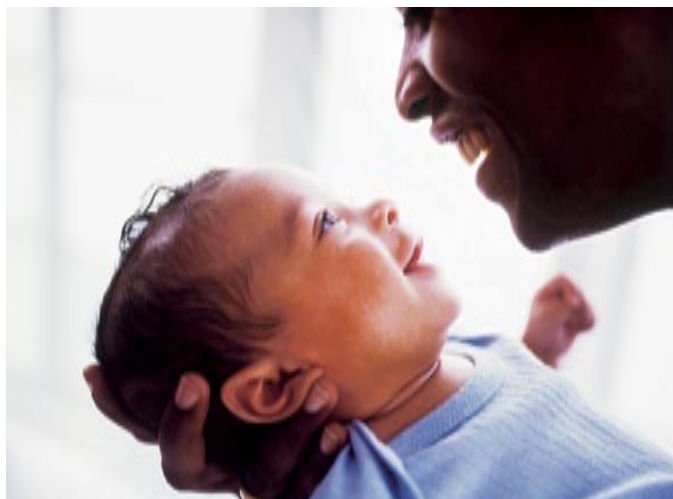
How and when does obesity in children begin? This is a question under exploration by Dr. Peggy Bentley, associate dean for global health and professor of nutrition at the UNC School of Public Health, along with Dr. Linda Adair, professor of nutrition, and other colleagues at UNC.



Dr. Peggy Bentley

Bentley and colleagues are working with 217 first-time African-American mothers in North Carolina’s Durham and Wake Counties and studying their feeding and parenting styles. They hope to gain an understanding of the environmental, family and parenting factors that lead to risk of pediatric obesity.

“Obesity in children is an epidemic problem in our country,” Bentley says, “and research has shown that minority populations are at greatest risk. However, children don’t just become fat at age seven. There’s something else going on before then. There’s a story to be told there. What’s the contri-



Obesity in children is epidemic in the United States, with minority populations being at greatest risk. UNC School of Public Health researchers are studying when obesity in children begins by looking at the ways that parents feed and interact with their infants.

bution of parenting and care? What's the contribution of feeding and diet? What's happening with the television set?"

In this five-year study funded by the National Institutes of Health (NIH), Bentley and colleagues visit each mother and infant pair in their homes five times throughout the course of the project. On each visit, researchers videotape the mother feeding the child and also the mother and child playing together. (In homes where grandmothers or fathers do 50 percent or more of the feeding of the infant, these family members also participate in the study.) They also have the mother or other caregiver fill out a questionnaire related to diet, activity, food shopping, meal patterns and other relevant issues.

"One of the things we are investigating is how many televisions are in each house and whether feeding is going on while the televisions are on," Bentley says. "We are also asking the mothers if their infant or toddler watches television. There's really very little data about the impact of television watching on obesity in children, but our preliminary data do suggest that it begins even in the first months of life."

Infants are followed from three months to 18 months. Detailed dietary intake and physical activity information is collected on both infants and mothers, as are body composition measurements. Researchers are also accessing maternal self-esteem and depression to see how they may influence care and feeding. Additionally, the study, which ends in 2007, is using tools

to assess infant developmental stage and temperament.

Mothers in the study are categorized according to their feeding "style"—categories that include "pressuring," "restrictive," "laissez-faire" and "responsive."

"The 'laissez-faire' style seems to result in the introduction of unhealthy foods very early, like potato chips and soft drinks, while the 'restrictive' and 'pressuring' styles may interfere with the infant's ability to self-regulate," Bentley says. "Responsive feeding is the ideal. This is a mother who is very interactive with her child during feeding. She is paying attention to her child's hunger and satiation levels. She is providing physical help for the child to eat when the child is very young, but as the child begins to develop motor skills, she allows the child to explore his ability to feed himself and to try different tastes and textures of food." ■

Providing 'A New Leaf' to teach activity and nutrition skills

Counseling patients to be more active, eat better foods, quit smoking and maintain a healthy weight is no easy job, especially in disadvantaged communities where access to health care and health information often is limited. Health care providers, lay health advisors and nutritionists need effective tools, which UNC School of Public Health researchers are providing in parts of North Carolina and fourteen other states.

It's all part of "N.C. WISEWOMAN," a project funded by the Centers for Disease Control and Prevention and administered through the N.C. Department of Health and Human Services.

The tools were developed by Dr. Alice Ammerman, director of the UNC Center for Health Promotion and Disease Prevention along with Center staff. Ammerman is a nutrition professor at the UNC School of Public Health. Titled "A New Leaf—Choices for Healthy Living," the tools contain modules on the different health topics, tips for eating healthy and keeping active, and materials to help providers counsel ▶▶

UNC Nutrition Professor Dr. Carmen Samuel-Hodge (right) trains Juanita Madison (left) and Deborah Coulter (center) of Wilmington, N.C., to use resistance bands for strengthening arm muscles. The women were community health advisors for a 2002-2004 study of the effectiveness of the N.C. WISEWOMAN project in reducing the risk of heart disease among study participants in Wilmington.



PHOTO BY BEVERLY GARCIA

and set lifestyle goals with patients.

“The New Leaf intervention is an assessment and counseling tool that makes it easy for health care providers who don’t know much about nutrition or physical activity to work with patients to reduce their risk of chronic disease,” Ammerman says. “Both physicians and lay health advisors are highly respected in communities; however, they don’t always know a lot about nutrition or physical activity, or have the resources to talk to patients about these things.”

These materials are now being used by more than 40 North Carolina county health departments and community health centers serving disadvantaged populations. They’re also being used in WISEWOMAN programs in more than seven of the other 14 funded states.

WISEWOMAN — Well-Integrated Screening and Evaluation for Women Across the Nation—evolved from the National Breast and Cervical Cancer Early Detection Program, which provided a model for how preventive cancer care could be given to underserved populations through county health departments and other local clinics. WISEWOMAN uses this outreach method to deliver life-changing health messages to disadvantaged populations. ■

Larry Johnston, a social research associate at the UNC Center for Health Promotion and Disease Prevention, measures the height of a participant in a Wilmington, N.C.-based study of the effectiveness of the N.C. WISEWOMAN project in reducing the risk of heart disease. Study participants were coached by community health advisors to eat healthy and get regular exercise.



Women in a market in New Delhi, India, share a light moment together. India is one of more than 30 countries where the MEASURE Evaluation Project provides assistance for population, health and nutrition programs. This is done by strengthening each country’s ability to collect and use health data. MEASURE stands for Monitoring and Evaluation to Assess and Use Results.

MEASURE Evaluation Project uses data collection to raise awareness about pressing health issues in developing countries worldwide

The MEASURE (Monitoring and Evaluation to Assess and Use Results) Evaluation Project works with communities around the world to strengthen each country’s ability to collect and use health data. Such data are critical for many purposes, such as evaluating the program, and describing and assessing health disparities.

“It’s tough to draw attention to a health problem and get funding for it if you can’t measure it,” says Dr. Sian Curtis, MEASURE project director and research associate professor of maternal and child health in the UNC School of Public Health. “The goal is to use information to make better, more informed health decisions, which will in turn lead to improved health outcomes.”

Dr. Gustavo Angeles, assistant professor of maternal and child health at the School, serves as MEASURE’s deputy director.

Funded by the United States Agency for International Development (USAID) and part of the Carolina Population Center, MEASURE facilitates training and capacity-building activities to enhance the development of monitoring and evaluation skills among health-sector professionals around the globe.

Data are used by international partners to raise awareness of health issues and to provide accountability for funding requests.

MEASURE assists about 30 countries in three primary locations—Asia, Africa and Latin America/Caribbean—and provides global assistance for population, health and nutrition programs in developing countries, including work in HIV/AIDS, reproductive health and malaria prevention. ♦

Investigating why a quarter of migrant farm workers get green tobacco sickness in North Carolina fields

Harvesting, or “priming,” tobacco can give seasonal farm workers more than a backache and sunburn—they can get something called green tobacco sickness.

Vomiting, nausea, headache, abdominal cramps, diarrhea, difficulty breathing, dizziness, insomnia, and occasionally even fluctuations in blood pressure or heart rate are the characteristics of this illness caused by nicotine poisoning following skin contact with mature tobacco plants. Although the illness usually resolves, it can lead to life-threatening dehydration. Doctors believe the number of cases seen is only a small proportion of the actual number that exist.

The illness—well-known to the predominantly Latino migrant population that helps harvest this crop in North Carolina—has not been extensively studied through the years, despite the fact that researchers and health care workers have known of its existence for decades.

A collaborative study involving researchers from Wake Forest University School of Medicine, the N.C. Farmworker Health Program and the UNC School of Public Health provides new insight into this illness.

Researchers worked with 182 seasonal workers in 37 migrant farm communities in North Carolina’s Wake and Granville Counties from June through September 1999 to gain understanding of the incidence of green tobacco sickness (known as “GTS”) and the risk factors for the illness. Study participants were interviewed five times over a 10-week period by bilingual interviewers. Saliva samples were collected at each contact to provide measures of “cotinine,” the active ingredient in nicotine.

“We found that nearly a quarter of the study participants got sick with GTS some time during the study,” says Dr. John Preisser, research associate professor of biostatistics at the UNC School of



PHOTO BY DR. PAMELA RAO

UNC School of Public Health researchers collaborated on a study of Green Tobacco Sickness (GTS) among seasonal farm workers in 37 migrant farm communities in North Carolina. The illness causes vomiting, nausea, headache, abdominal cramps, diarrhea, difficulty breathing, dizziness, insomnia and occasionally fluctuations in blood pressure or heart rate following skin contact with mature tobacco plants. Researchers found that nearly a quarter of the study participants got sick with GTS some time during the study.

Public Health, who helped conceptualize, design and analyze the three-year study funded by the National Institute for Occupational Safety and Health (NIOSH) housed within the Centers for Disease Control and Prevention.

Wet conditions increased the rate of dermal absorption.

“If the tobacco leaves were wet or if the workers’ clothing or skin was wet, that increased the rate at which nicotine was absorbed in the body,” Preisser says.

The study of migrant farm workers and other highly mobile populations poses particular challenges, according to Preisser. “Some workers left the study area due to their sickness or otherwise could not be followed to the end of the study. Studying difficult-to-follow populations such as migrant farm workers underscores the vital role that biostatistical planning and analysis have in epidemiological studies of underserved populations.” ■

UNC School of Public Health one of 12 institutions chosen for Kellogg-funded initiative to eliminate health disparities

Carolina’s School of Public Health is one of 12 U.S. schools and graduate programs of public health selected in 2005 to participate in the Engaged Institutions Initiative funded by the W.K. Kellogg Foundation. The initiative supports and promotes sustained efforts of institutions of higher education working in partnership with communities to eliminate racial and ethnic health disparities. The UNC School of Public Health was chosen from among 26 schools and graduate programs that applied. Schools were selected based on their track record of engagement with communities and concrete efforts to eliminate racial and ethnic health disparities.

“Over the past few months, a team we created for this initiative, made up of School faculty and students, university officials, state and local representatives and community members, has been developing a concrete strategic plan for our School becoming increasingly engaged in community activities and research to eliminate health disparities,” says Dr. Geni Eng, ►►

professor of health behavior and health education at the School, who is helping oversee the initiative.

Developing a strategic plan has involved defining the concept of “health disparity”

in a concrete way, Eng says.



Dr. Eugenia Eng

“Dr. LaVerne Reid, chair of the Department of Health Education at North Carolina Central University, led our team in a concept-mapping exercise,” Eng says.

“We looked at ways the National Institutes of Health, the Centers for Disease Control and others define health disparities to see the differences and commonalities among the definitions. The definition we developed evolved from the more conventional definitions that simply address morbidity and mortality among minority groups to one that addresses racism and inequities in environment and income. When we speak of the health effects of inequities, it really does need to move beyond diseases and death and focus on these larger issues that cause disparities.

“We define health disparities as inequities in disease and well-being that come from discrimination and unequal access to society’s benefits, such as quality education, good jobs, decent and affordable housing, safe neighborhoods and environments, nutritious foods, and healthcare. These inequities result in disproportionately higher rates of death, disease, and disability, and have adverse consequences on the physical, mental, spiritual and social well-being of population groups who, historically and currently, do not experience equivalent social advantage. These groups include, for example, African-Americans, American Indians, Hispanics/Latinos, Asian Americans, Hawaiians and Pacific Islanders, people with disabilities, Lesbian/Gay/Bisexual/Transgender/Queer individuals, and people with lower incomes.” ■

UNC to coordinate nation’s largest health study of Hispanics in U.S.

Hispanic populations in the United States have lower mortality rates from heart disease compared to non-Hispanics but have increased prevalence of obesity and diabetes, according to the National Heart, Lung, and Blood Institute (NHLBI), part of the National Institutes of Health. Compared to non-Hispanic whites, Hispanics also have a lower incidence of all types of cancers combined, a lower incidence of the most common cancers (prostate, female breast, colon and rectum, and lung), and are less likely to die of cancer (see page 37).

But will lifestyle changes associated with U.S. culture—such as nutrition, smoking, role of family and community—affect these patterns?

The multi-center, multi-year Hispanic Community Health Study, sponsored by NHLBI, will seek to identify the cultural and behavioral factors that influence disease development in the Hispanic population.

The Collaborative Studies Coordinating Center at the University of North Carolina at Chapel Hill received a six-year, \$22 million federal contract to coordinate the study, which will examine the impact of acculturation—adapting to life in a new environment and culture—on the health of the U.S. Hispanic population. The study will identify the prevalence and risk factors (protective or harmful) for a broad range of diseases, disorders and conditions—everything from heart disease to dental cavities. The researchers plan to recruit 16,000 Hispanic adults from groups of origin, including Mexican-American, Cuban, Puerto Rican and Central/South American.

“This study will be the most comprehensive assessment of health ever done in this rapidly growing segment of the U.S. popula-

tion,” says Dr. Lisa LaVange, UNC professor of biostatistics and one of the principal investigators from UNC’s Collaborative Studies Coordinating Center. “We are thrilled that UNC will be at the forefront of this research.”

The center, which is part of the UNC School of Public Health’s biostatistics department, was selected as the study coordinating center by the NHLBI. The UNC project team will be responsible for study design and monitoring, data management, quality and analysis and coordination of a central laboratory and reading center.

Study participants will be recruited through four field centers located at San Diego State University in California, Northwestern University in Chicago, Einstein College of Medicine in New York and the University of Miami in Florida. Initially, each person will receive an extensive clinic exam and health assessment, and then will be interviewed each year for up to four years to see how their health changes in specific areas that the study is designed to assess.

Study results will be shared with communities involved in the study to help improve public health at the local level.

Dr. Lloyd Chambless, UNC research professor of biostatistics, is principal investigator for the coordinating center. Co-principal investigators are LaVange and Dr. Gerardo Heiss, UNC professor of epidemiology. ■

UNC School of Public Health researchers are studying the impact of acculturation—adapting to life in a new environment and culture—on the health of the U.S. Hispanic population. The six-year study is recruiting 16,000 Hispanic adults from groups of origin, including Mexican-American, Cuban, Puerto Rican and Central/South American.





Older African-American women become 'natural helpers' in their rural communities as part of N.C. Breast Cancer Screening Program

The North Carolina Breast Cancer Screening Program, a program of the UNC School of Public Health and the UNC Lineberger Comprehensive Cancer Center, has been successful in increasing mammography rates among the most vulnerable and hardest to reach groups of women—low-income women and those with the least education.

The program, which ran from 1992 through 2002, worked with communities in five counties—Beaufort, Bertie, Martin, Tyrrell and Washington—with the goal of reducing late-stage diagnosis of breast cancer and cervical cancer in older African-American women living in these counties. In these and other rural North Carolina counties, African-American women are more likely than white women to be diagnosed with late-stage cervical cancer and breast cancers. This is tragic. When these cancers are detected early, they have cure rates that exceed 90 percent.

The program pursued its goals through three avenues: an “Outreach” strategy which used a network of approximately 160 “natural helpers,” all older African-American women trained as lay health advisors who worked within their local communities to encourage others to have regular mammograms and Pap smears; an “Access” strategy which worked to overcome barriers to regular screening, including cost, transportation and inconsistent screening referral patterns; and, finally, an “Inreach” strategy which developed and disseminated training programs for radiologic technologists, primary care physicians, family nurse practitioners, and physician’s assistants to ensure there were sufficient health care resources to satisfy the increased demand for mammography and Pap test screenings generated by the program.

“The ‘natural helper’ lay health advisor intervention has been an effective public health approach to increasing screening mammography in low-income, rural populations,” says Dr. Jo Anne Earp, the program’s director and professor of health behavior and health education in the UNC School of Public Health. “These women are connected with communities in key ways and, once trained, work to lead a variety of breast and cervical cancer education campaigns at local churches, businesses and community events. In fact, although the intervention has formally ended, they have adopted the program and continue to educate their friends, families and community members regarding these important health issues.”

The N.C. Breast Cancer Screening Program, a program of the UNC School of Public Health, was successful in increasing mammography rates among the most vulnerable and hardest to reach groups of women in the country—those with low income and the least education.

The program’s success has been unequivocal. In an evaluation of the intervention published in 2002, Earp and colleagues found that mammography use among older African-American women in the intervention counties rose by seven percent above that of a comparison group of randomly-selected women in five counties who did not receive the intervention. Among lower-income women in the intervention counties, mammography screening increased by 11 percent above that of the comparison group.

The evaluation also found an increase in positive attitudes toward mammography screening among women in the intervention counties. These changes in attitude were greatest among women who had reported the lowest mammography use and the least positive attitudes toward screening during a baseline study conducted four years earlier.

The evaluation also underscored the profound influence of the lay health advisors in getting the word out about screening. Twenty-four percent of randomly-selected women in the intervention counties reported getting advice about mammography screening from someone in the community, while just seven percent of women in the comparison group reported getting such advice. And 14 percent of women in the intervention counties received mammography advice from a lay health advisor (LHA), while less than one percent of the women in the comparison group named an LHA as her information source.

Study results were published in the *American Journal of Public Health* in January 2001 and April 2002 and in *Cancer Epidemiology, Biomarkers & Prevention* in May 2004, as well as in several health education journals. ■