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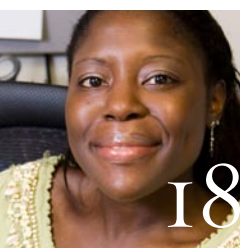
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**UNC**  
GILLINGS SCHOOL OF  
GLOBAL PUBLIC HEALTH





# New cancer hospital puts research into practice

## State-of-the-art facility combines best technology with human touch

**T**HE NORTH CAROLINA CANCER HOSPITAL WILL OPEN ON THE UNC CAMPUS IN THE FALL AS PART OF THE UNC HEALTH CARE SYSTEM. THE 315,000-SQUARE-FOOT STATE-OF-THE-ART FACILITY WILL TRIPLE THE CURRENT SPACE AND SIGNIFICANTLY INCREASE THE NUMBER OF PATIENTS WHO CAN BE SERVED. THE STATE OF NORTH CAROLINA AUTHORIZED \$180 MILLION FOR THE PROJECT IN AUGUST 2004.

“This new hospital will be our clinical home, where we put research findings into real-world practice,” says H. Shelton Earp, MD, director of the UNC Lineberger Comprehensive Cancer Center.

The new facility will create a healing atmosphere by providing natural light, indoor courtyards, gardens, public art and other amenities. The design was created with input from patients, families and health care providers.

“We are combining the best technology with an environment that emphasizes the human touch,” says Dr. Earp.

Other important features include:

- clinics designed to provide multidisciplinary, patient-centered care for which UNC is known across the nation
- a dedicated Phase I clinical trials unit
- a telemedicine conference center designed to enable real-time collaboration with doctors and oncologists across the state
- space for a comprehensive support program tailored to each individual’s needs, from initial diagnosis through survivorship

### PUBLIC INVITED to OPENING of NC CANCER HOSPITAL

The official ribbon-cutting and opening celebration for the N.C. Cancer Hospital is scheduled for Tuesday, Sept. 15, 2009. An open house will be held Saturday, Sept. 26, 2009. Both events are 1 to 3 p.m.

#### LEARN MORE

To learn more about what the North Carolina Cancer Hospital will mean for North Carolina, visit [www.unclineberger.org](http://www.unclineberger.org).

**M**ore than 35 years ago, when I started in this field, cancer was universally feared. We have come a long way – today, some cancers can be prevented, others can be found early, and some can be cured. Still, we have far to go.

While cancer is no longer a universal death sentence, too many people still get cancers that could be prevented and still die from cancers. My family, like most of your families, has been touched by cancer.

In North Carolina, people with low incomes are less likely to practice behaviors proven to help prevent cancer (like getting regular exercise and not smoking) and are less likely to get screened for cancer. African Americans continue to die from cancer in disproportionate numbers. We have the opportunity to reduce disparities in deaths from breast, prostate, colon, lung and other cancers. Our faculty members, staff and students are working on multiple angles to reduce disparities. These include understanding the biology and epidemiology of cancers and discovering subtypes that may be more common among some groups; intervening to reduce risky behaviors; changing policies that act as barriers to reducing the cancer burden, and disseminating proven interventions.

Many of the lessons about how to control cancer have come from people at the University of North Carolina at Chapel Hill, including faculty within the UNC Gillings School of Global Public Health, 43 of whom are members of UNC's Lineberger Comprehensive Cancer Center. These contributions have enhanced our knowledge about important questions, such as: why are Black women more likely to die from breast cancer than White women; what role does weight gain play in breast cancer occurrence; how can we reduce Black/White disparities in use of mammography; and how can we increase people's intake of fruits and vegetables?

Today, we grapple with new issues as well, such as motivating families to encourage their daughters to be vaccinated for the HPV virus (shown to prevent cervical cancer), changing our eating behaviors to reduce obesity (a major risk factor for multiple cancers) and increasing the proportion of people who are screened for colorectal cancer. Our faculty members conduct

intervention trials in many locations, such as schools and clinics, but also in more unusual venues, including beauty parlors and barbershops, churches and on the Internet.

One of the biggest challenges in cancer, as in other fields, is how to speed the process by which we get from discovery to delivery. Disseminating evidence-based interventions to those who may benefit from them is a fundamental challenge for 21<sup>st</sup>



PHOTO BY TOM FULDNER

Dr. H. Shelton Earp, left, director of the UNC Lineberger Comprehensive Cancer Center, and Dr. Barbara K. Rimer, dean of the UNC Gillings School of Global Public Health, are looking forward to the opening of the new N.C. Cancer Hospital. Both have spent much of their public health careers advancing cancer research.



century cancer control. Our faculty members are among the nation's leaders in this area as well.

With University Cancer Research Funds, we are partnering with people around campus and across North Carolina to defeat cancer in this state. The challenges are significant, but steadily, we are making progress. Progress will be slow at times and rapid at other times. We are fortunate to live and work in a state whose leaders are committed to supporting our quest.

*Barbara K. Rimer*

*Editor's note: Dean Rimer, a behavioral scientist, has advanced the field of cancer detection, prevention and treatment throughout her career. Her own research has focused on developing evidence-based interventions to encourage positive cancer prevention behaviors and to increase use of screening. Among other awards, she has received the American Cancer Society's Distinguished Service Award and NIH Health Director's Award. She is author of nearly 300 articles and books. A select list can be found at [www.sph.unc.edu/rimer/biosketch](http://www.sph.unc.edu/rimer/biosketch).*



## The UNC Lineberger Comprehensive Cancer Center and the N.C. Cancer Hospital are creating the new face of cancer research and treatment in North Carolina.

At UNC, an unprecedented effort to make strides against cancer and the suffering it causes is fueled by collaboration across the population, basic and clinical sciences. UNC Lineberger's 285 members hail from more than 25 departments across the University of North Carolina at Chapel Hill, including the Gillings School of Global Public Health, the Eshelman School of Pharmacy, the School of Medicine, the School of Dentistry and the College of Arts and Sciences.

UNC Lineberger and the Gillings School of Global Public Health have a history of highly productive, collaborative research partnerships that focus broadly on the intersection of cancer and population health. Creative research into community-based prevention and early detection, environmental and occupational epidemiology, health disparities and equity, cancer survivorship, methods for improving cancer-related health behaviors, understanding the role of nutrition in cancer and dissemination of public health practices have produced important findings. These successful joint efforts have helped UNC become recognized in the top echelon of public university cancer centers.

A superb faculty and their public health approaches have been given tremendous momentum by the University Cancer Research Fund (UCRF). This is an unprecedented investment by the North Carolina General Assembly to accelerate progress in cancer prevention, early detection, effective treatment and improved survivorship for the people of North Carolina.

UCRF is allowing UNC to recruit additional outstanding faculty from across the nation who work in fields ranging from health behavior and the study of health disparities to genetic epidemiology. Expanded programs in health outcomes, survivorship,

clinical cancer genetics, and pediatric, adult and geriatric oncology are becoming a reality. Basic approaches to cancer causation and treatment are growing in areas as diverse as computational genetics to nanotechnology and drug delivery. UCRF has served as a catalyst for programs that supported UNC's successful bid for a National Institutes of Health Clinical Translational Sciences Award and provided seed funding to produce data that has led to successful competition for external grants.

At the same time, excitement is building around the opening of the N.C. Cancer Hospital. The state-of-the-art facility is part of the UNC Health Care System. We look forward to welcoming all patients and visitors in coming months.

UCRF-funded research and the N.C. Cancer Hospital are visible symbols of what we are achieving through collaboration, creativity and innovation. These investments truly make a difference to everyone we serve here in North Carolina and, we hope, to patients and families around the world whom we never meet, but whose lives are improved in some way because of the work we do.

*H. Shelton Earp, MD*

*Editor's note: Dr. Earp is a renowned cancer researcher. He is principal investigator of the UNC Breast Cancer SPORE and all Lineberger Center grants. His laboratory conducts translational breast and prostate cancer and childhood leukemia research as well as basic research on the regulation of cancer cell growth, differentiation and death. He has authored over 130 biomedical research papers. For details, see <http://cancer.med.unc.edu/research/faculty/displayMember.asp?ID=50>*

# CONQUERING CANCER

UNC tackles cancer as a public health issue, from research to prevention to treatment to survivorship

Every family has a cancer story. So does every neighbor, every friend or co-worker, every employer. That's why it's not just a statistic — it's a human issue. And that's why it's not just a disease — it's a significant public health issue.

Each year, nearly 1.8 million Americans are diagnosed with cancer — more than 42,000 in North Carolina. And an estimated 562,340 Americans — more than 1,500 people a day — will die of cancer, according to the American Cancer Society. The disease costs this country more than \$200 billion annually in direct medical costs and lost productivity.

"Cancer affects the public as broadly as the public can be affected by any type of condition," says Jesse Satia, PhD, who, as associate professor of epidemiology and nutrition in the UNC Gillings School of Global Public Health and the UNC School of Medicine, studies the impact of health behaviors on cancer survivorship. "That is why cancer is a public health issue!"

Cancer is the second leading cause of death in the U.S.; only heart disease kills more people. In North Carolina, cancer has

caught up with heart disease as the leading cause of death, which mirrors global trends.

The World Health Organization predicts that cancer will surpass heart disease as the world's top killer by 2010. WHO projects the number of cancer cases to increase 37% from 2007 to 2030 (from 11.3 million to 15.5 million) and the number of deaths to increase 45% (from 7.9 million to 11.5 million). The projected leaps are due to population increases and rising tobacco use in highly populated countries like India and China, coupled with better cancer diagnostic techniques and the downward trend in infectious diseases that once were the world's leading killers. Thus,

as the world becomes increasingly developed, cancer becomes a larger global problem.

"Just as it is in the United States, our international focus in public health is shifting from

a traditional infectious disease emphasis to an emphasis on chronic diseases like cancer, and the leading underlying causes of these diseases: tobacco use, physical inactivity and dietary practices," says Marcus Plescia, MD, MPH, director of the CDC's Division of Cancer Prevention and Control at the Centers for Disease Control and Prevention.

Meanwhile, he continues, "the tobacco industry has clearly responded to the success of tobacco control efforts in the United States by exporting this highly addictive product and their highly effective marketing strategies abroad. The results will be disastrous for public health on an international scale."

## Research and Outreach

There is good news. Like many other states, North Carolina is fighting back by promoting early detection of cancer and healthier lifestyles. UNC is a national leader in research, treatment and outreach. With the creation of the University Cancer Research Fund (UCRF), UNC is positioned as a transformative leader in progress against cancer.

In 2007, the N.C. General Assembly created the UCRF to accelerate cancer research across the state, especially at UNC's School of Medicine, Lineberger Comprehensive Cancer Center and the new North Carolina Cancer

**In the U.S., cancer  
accounts for  
nearly one of  
every four deaths.**





Hospital. UCRF's mission is to save lives and reduce suffering from cancer in North Carolina and beyond. The fund is being used to study the causes and course of cancer, to create new and better ways to prevent and treat cancer and to improve cancer care and screening, with a particular focus on eliminating racial and socio-economic disparities.

Several UNC researchers are tackling disparities among cancer patients, ranging from Andy Olshan's work with how head and neck cancer treatment affects quality of life, particularly among African Americans, to Geni Eng's leadership in exploring whether

says Laura Linnan, ScD, associate professor of health behavior and health education at the UNC Gillings School of Global Public Health. "We need to counter the fear and misunderstanding with strong public education. We need to help people know they can do something to reduce their risk, because when they learn they can take action, that is when they feel empowered."

Empowering people is particularly important, given that WHO and other health organizations estimate that about 40% of all cancer deaths can be prevented. Key risk factors for cancer that can be avoided include tobacco and

"One of the most powerful arguments for why cancer is a public health issue is that it is preventable," says Noel Brewer, PhD, assistant professor of health behavior and health education. "Even if we never find a 'cure' for cancer, we can still eliminate substantial morbidity and mortality through early detection and treatment."

The CDC's Dr. Plescia agrees, praising actions by the N.C. General Assembly to invest in cancer research in North Carolina and to ban smoking in restaurants and bars.

"The choices we make are shaped by the choices we have and this is why public policy has emerged as the driving force for cancer control," says Dr. Plescia, who until recently was chief of the Chronic Disease and Injury Section in the N.C. Division of Public Health. "The General Assembly's investment in cancer research is profound, as are its actions in the 2009 legislative session to ban smoking in North Carolina restaurants and bars. Studies show that nonsmokers who are exposed to secondhand smoke at home or work increase their heart disease risk by 25 to 30 percent and their lung cancer risk by 20 to 30 percent. This legislation will save lives and reduce health care costs to the state." ►►

When people know they can do something to reduce their risk... that is when they feel empowered.

— UNC Professor Laura Linnan

the burden of cancer is greater among African Americans than whites. (See stories, pages 12 and 20).

"Cancer touches everyone and is still feared the most in terms of health issues,"

harmful alcohol use, obesity, inactivity, some environmental and occupational carcinogens and some infections, such as the sexually transmitted human papilloma virus. In all these areas, public education is crucial.



## Access to Data a Key to Success

Another key to successful research and outreach is having access to data. Again, UNC is taking the lead by creating a comprehensive healthy registry that will serve as a treasure trove of information for researchers. Beginning this fall, UNC plans to enroll 10,000 English and Spanish speaking adult North Carolinians, in the UNC Health Registry. (See story, page XX). The registry will be a tremendous resource for research into cancer and other diseases and, as a hospital-based cohort, will complement the rich history of UNC's excellent population-based research conducted by the public health, medical and other schools.

"Clearly, good science drives good policy decisions," he says. "Health reform, information technology and systems change in the medical care setting all provide us with new and important opportunities for cancer prevention and control. A comprehensive health registry, such as the UNC Health Registry, will provide data essential to helping to drive these changes."

## Survivorship and Advocacy: New Ways of Looking at Things

More people than ever are becoming better educated about their disease and, with advances in early diagnosis and treatment, are surviving longer. The American Cancer Society

another area in which UNC stands out – is to focus on cancer survivors and study how they can live fuller and richer lives. A priority of the UCRF is to stimulate research about factors that affect the growing population of cancer survivors. The Lance Armstrong Foundation also is committed to better quality of life among survivors and has named Lineberger as a "Survivorship Center of Excellence." (See story page XX)

When it comes to cancer, UNC plays a leading role on the local, state, national and global stages. Whether conducting studies in the laboratory, clinic or community, using cutting edge technologies to diagnose and treat patients, or helping them piece their lives back together when the chemotherapy ends, UNC is transforming the way the world thinks about cancer.

"What we're proud of is a translational line of work that goes from the laboratory and a small set of clinical hospital patients to the population at large," says Robert Millikan, PhD, Barbara Sorenson Hulka Distinguished Professor of epidemiology and member of the UNC Breast Cancer SPORE at Lineberger. "That is how UNC is making a difference all the way from the individual level by helping patients and their families, to the global level by being a leader in research. We cover it all." ■

– By Kim Gazella and Ramona Dubose

The choices we make are shaped by the choices we have and this is why public policy has emerged as the driving force for cancer control.

– Dr. Marcus Plescia, CDC Cancer Prevention & Control

Why does all of this research have public health implications? Because while the UNC faculty do not make public policy – that is left to the elected and appointed health officials at the state and national levels – they are able to provide the data that drive policy. Even more, the collective actions sparked by UNC's research, treatment and outreach lead to improved outcomes for patients.

Last year, UNC was selected as one of two cancer research sites by the U.S. Agency for Healthcare Research and Quality (AHRQ), an arm of the U.S. Department of Health and Human Services. (See story page XX)

"We don't do policy, but we create the science under which people make policy," says Jean Slutsky, director for the Center for Outcomes and Evidence at AHRQ. That policy, she says, can range from a patient and doctor agreeing on a treatment to decisions made by Medicare or the head of a large medical insurance company.

Dr. Plescia calls an evidence based-policy agenda "essential" to the public health profession's credibility with the public and with policy makers.

notes that the 5-year relative survival rate for all cancers diagnosed between 1996 and 2004 is 66%, up from 50% in 1975-1977. Nationwide, an estimated 12 million patients are cancer survivors; North Carolina's share is 300,000.

Another emerging area of study – and

## Quick Global Cancer Facts

- Cancer is a leading cause of death worldwide: it accounted for 7.9 million deaths (around 13% of all deaths) in 2007.
- Lung, stomach, liver, colon and breast cancer cause the most cancer deaths each year globally.
- The most frequent types of cancer differ between men and women.
- About 30% of cancer deaths can be prevented.
- Tobacco use is the single most important risk factor for cancer.
- Cancer arises from a change in one single cell. The change may be started by external agents and inherited genetic factors.
- About 72% of all cancer deaths in 2007 occurred in low- and middle-income countries.

Source: World Health Organization

# UNC sweeps state *in* wide-ranging study to find causes of breast cancer *in* black women



PHOTO COURTESY OF N.C. GENERAL ASSEMBLY

## CAROLINA BREAST CANCER STUDY

Jeanne Hopkins Lucas was the first African-American woman to serve in the North Carolina State Senate, where she was a strong advocate for higher education. Sen. Lucas died of breast cancer in March 2007 at age 71. She is pictured at left, along with her sister, Bernadette David-Yerumo, at right. Gov. Bev Perdue (then Lieutenant Governor), shown in the middle, calls Sen. Lucas “a strong woman who turned her personal fight with breast cancer into a mission for all breast cancer patients and their families, both now and in the future. This study’s objective of identifying causes of breast cancer is exactly what Jeanne would want to happen. She always knew that once the why and how of breast cancer was defined, the cure would follow. And so the work of Sen. Jeanne Lucas goes on – her passion lives on through this study, bolstered by UNC’s reputation.”

Each year in North Carolina, about 8,100 women are diagnosed with breast cancer. And each year, about 1,300 women in North Carolina die from breast cancer.

Overall, more white women get breast cancer than do black women, yet black women under age 50 die of the disease almost twice as often as younger white women.

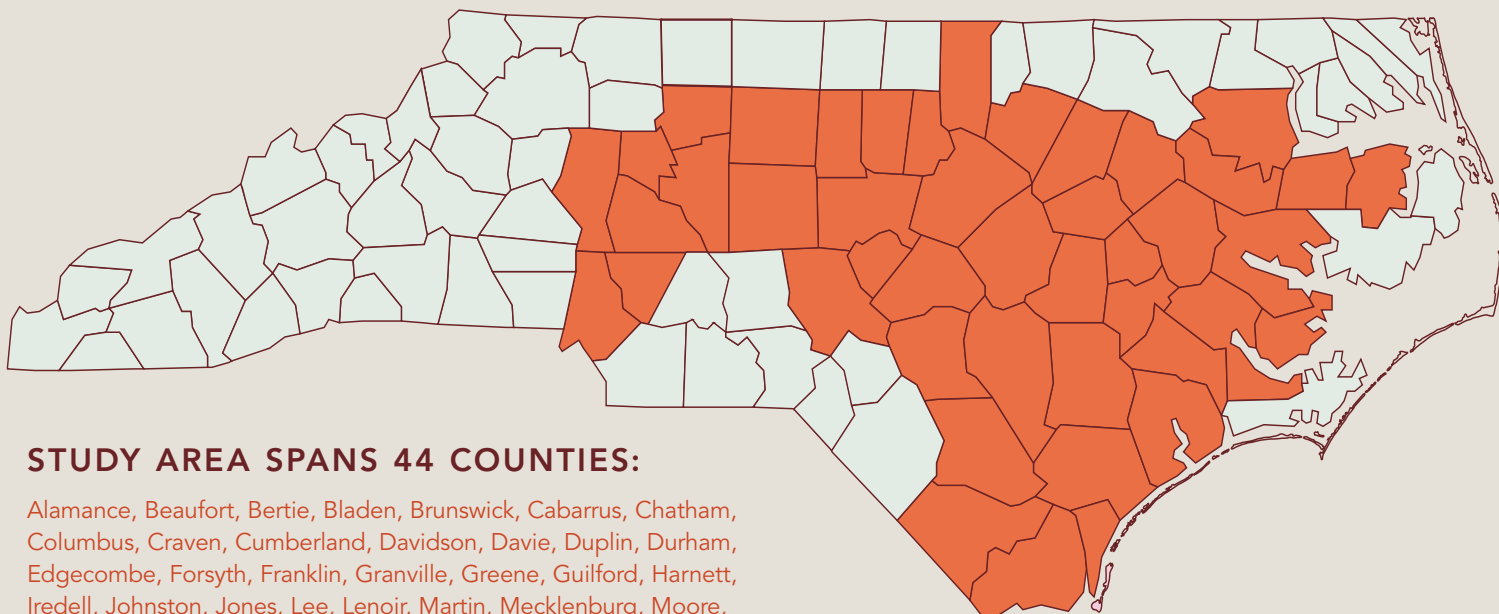
Scientists at the UNC Lineberger Comprehensive Cancer Center want to know why. Led by Robert Millikan, DVM, PhD, they have launched a study of 2,000 women from 44 counties in North Carolina, making it the largest geographical study of its kind.

Named after Jeanne Hopkins Lucas, a highly-regarded North Carolina state senator who died of breast cancer in 2007, the study is supported by the state’s University Cancer Research Fund and by the National Cancer Institute’s Specialized Program of Research Excellence (SPORE) in breast cancer.

“The Jeanne Lucas Study will provide a comprehensive look at treatment decisions, access to care, and how financial or geographic barriers impact breast cancer outcomes among African-American breast cancer patients in low-income and rural areas,” says Millikan, the Barbara Sorensen Hulka Distinguished Professor of epidemiology in the UNC Gillings School of Global Public Health. “Our study also uses molecular subtype information to provide the ►►

Based on 16 years of work, we now have a much better understanding of how and why breast cancer occurs in women in North Carolina.

– UNC Professor Robert Millikan



## STUDY AREA SPANS 44 COUNTIES:

Alamance, Beaufort, Bertie, Bladen, Brunswick, Cabarrus, Chatham, Columbus, Craven, Cumberland, Davidson, Davie, Duplin, Durham, Edgecombe, Forsyth, Franklin, Granville, Greene, Guilford, Harnett, Iredell, Johnston, Jones, Lee, Lenoir, Martin, Mecklenburg, Moore, Nash, New Hanover, Onslow, Orange, Pamlico, Pender, Pitt, Randolph, Rowan, Sampson, Tyrrell, Wake, Washington, Wayne and Wilson.

most systematic evaluation to date of breast cancer among African-American women.”

The Lucas study is an extension of the Carolina Breast Cancer Study (CBCS) started by Millikan in 1993, which provides one of the largest breast cancer databases in the United States.

“The Carolina Breast Cancer Study is one of the first research studies to combine state-

of-the-art molecular biology with the tools of public health,” Millikan says. “Based on 16 years of work, we now have a much better understanding of how and why breast cancer occurs in women in North Carolina, particularly younger African American women.”

That study enrolled more than 2,300 women with breast cancer and 2,000 controls between 1993-2001. The data were key to a

2006 published report by a Lineberger team that included Millikan, molecular biologist Charles Perou, PhD, and breast cancer specialist Lisa Carey, MD, that found a subtype of breast cancer called “basal-like” has the highest prevalence among premenopausal black breast cancer patients.

The Lucas study – the third phase of CBCS – also will be used to analyze survival rates

## COMMUNITY ADVISORS AN INTEGRAL PART OF STUDY

Community advisors are key to the success of the third phase of the Carolina Breast Cancer Study, often referred to as the “Lucas study.” A 10-member advisory board includes breast cancer advocates, an assistant professor at NC State University, a registered nurse and representatives of the Sisters Network Triangle NC, the local affiliate of Sisters Network® Inc., a national African American breast cancer survivorship organization.

Researchers are relying on the advisors to review all study protocols and materials to make sure they are culturally sensitive. Sisters Network Triangle President Valarie Worthy, RN, says her group also provides insight into “the unique challenges faced by African American breast cancer survivors.”

She commends researchers for their innovative approach of assessing newly diagnosed breast cancer survivors, and said the Lucas Study would help identify potential risk factors and/or barriers that women face as they battle cancer. She also says that early detection is key.

“The mortality rate is much higher for African American women diagnosed with breast cancer partly due to diagnosis

at a later stage, younger age, and presenting with aggressive tumors,” she says. “Sisters Network Triangle’s message is that breast cancer does not have to be a death sentence. We are living proof that one can survive and thrive after breast cancer.”

The study’s principal investigator, Robert Millikan, DVM, PhD, credits the advocates with “helping us improve response rates” by revising outreach materials and developing informed consent for patients. They also helped develop the web site (<http://cbcs.med.unc.edu>) and created a statewide, comprehensive resource directory – funded in part by the UNC Lineberger Comprehensive Cancer Center – for women who need information about breast cancer diagnosis, treatment and support in North Carolina.

“Both the study Web site and the Resource Directory demonstrate the important role that advocates can play in making epidemiologic research more responsive to the needs of the communities in which research studies are carried out,” Millikan says. “Advocates have been with us at every step of the way.” ■





Dr. Robert Millikan

among the cancer subtypes, with information from the National Death Index.

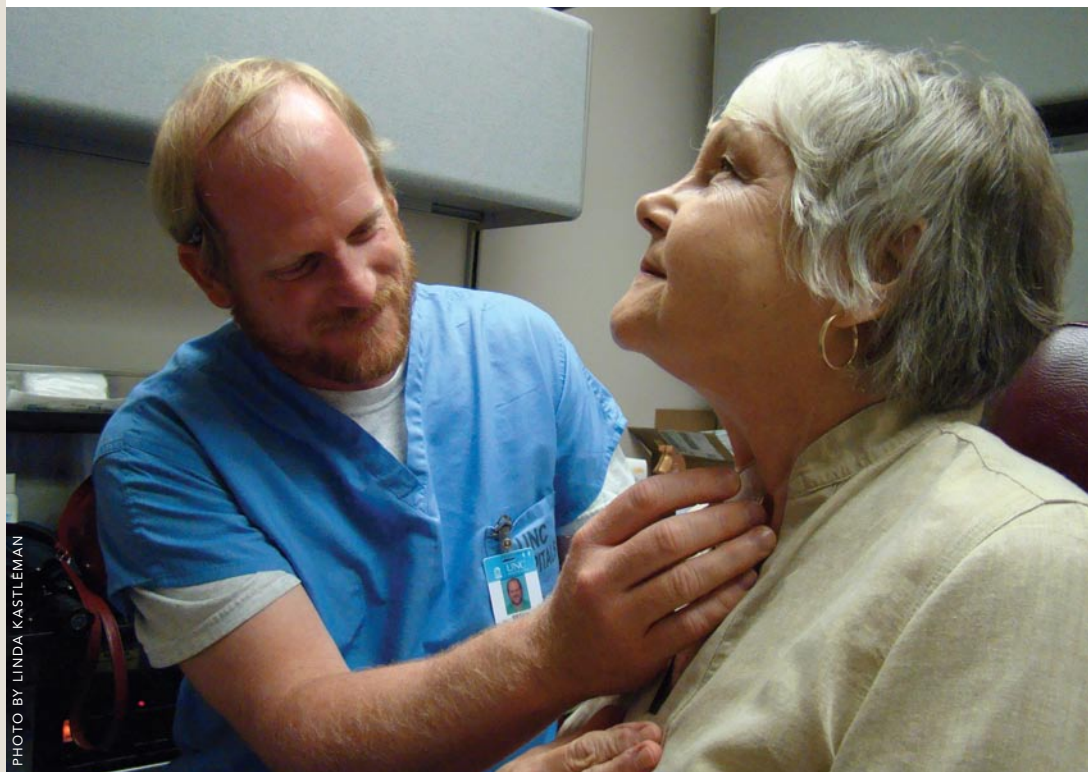
Researchers will follow the women for two years after diagnosis, which Mary Beth Bell, MPH, project manager for the Lucas study, says “will give us a really good picture of their treatments and how they are doing.”

Using newly diagnosed cancer cases reported to the North Carolina Central Cancer Registry as a starting point, the four-year enrollment period began on May 1, 2008, and continues through April 30, 2012. The goal is to enroll 1,000 black women with newly diagnosed cases of invasive breast cancer – half under the age of 50 and half aged 50 and older – and a similar number and distribution of white women with breast cancer.

Initially, the women will be interviewed by a nurse about breast cancer risk factors, such as family history, medical history and physical and emotional well-being, and asked for a DNA blood sample. Then, every six months for the next two years, researchers will touch base with the women, updating records and gathering information about their treatment and general health.

“In other studies, we weren’t really able to go back and reconstruct their medical treatment histories, so this will allow us to examine any disparities in treatment and access to care,” Bell says. ■

– By Kim Gazella



Brian Kanapkey, PhD, speech pathologist at UNC Health Care, works with cancer survivor Joyce Mangum.

## Seeking a quality life after head or neck cancer

Throughout his two decades of studying head and neck cancers, Andrew Olshan, PhD, has uncovered information that has helped physicians treat and possibly prevent the disease.

Treatments for these cancers are necessarily aggressive, often involving surgery, radiation and chemotherapy – all of which can dramatically affect function and put patients in the distressing and awkward position of learning to talk, eat, swallow or even breathe in new ways. In addition to the physical struggle, many patients also must navigate a swath of psychological, social, emotional and employment challenges.

That, says Olshan, is why understanding cause and prevention is critical.

Olshan leads the Carolina Head and Neck Cancer Study (CHANCE), funded by the National Cancer Institute. The study, being conducted in 46 counties in central and eastern North Carolina, has accrued data from nearly 1,400 cases of head and neck cancer to date, making it the largest study of head and neck cancer ever conducted in the U.S. ►►

So far, it has confirmed that people who smoke tobacco and/or drink alcohol are more likely than others to develop head and neck cancer. The risk from smoking and drinking appears to be higher for African-Americans. These are critical links to understanding ways to prevent the disease.

Olshan's team also is analyzing a large panel of genetic markers to assess which genes may predict the risk of head and neck cancer and which may interact with treatment and ultimately affect survival.

Now, with a grant from the Lance Armstrong Foundation (LAF), Olshan and his team already are building on the CHANCE study and discovering more about how treatments might affect patients' overall quality of life.

"By studying the experiences of head and neck cancer survivors, we hope to help health professionals effectively manage the impact of treatment on a patient's social, family and work roles," says Olshan,



Dr. Andrew Olshan

Riddle Distinguished Professor of Otolaryngology-Head and Neck Surgery at UNC, who collaborates with Olshan.

"In this era of evidence-based medicine and comparative effectiveness research, studies such as this are necessary to ferret out

By studying the experiences of head and neck cancer survivors, we hope to help health professionals effectively manage the impact of treatment on a patient's social, family and work roles.

– UNC Professor Andrew Olshan

chair of the Department of Epidemiology in the UNC Gillings School of Global Public Health and research professor, Department of Otolaryngology/Head and Neck Surgery, UNC School of Medicine.

This new quality-of-life study – in its fourth and final year of enrolling patients – zeroes in on the experiences of African-American survivors, to see whether factors influencing their quality of life are different from those of white survivors.

"This study focuses on an under-investigated aspect of health disparities in North Carolina," Olshan says. "Do African Americans surviving with this cancer have a different experience than white patients? If so, what are the reasons?"

The information can be valuable to surgeons, including Mark C. Weissler, MD, J.P.

what are really the best treatment strategies," Dr. Weissler says. "Strategies may differ between different patient populations, and that is important to know."

Head and neck cancer includes oral, pharyngeal, and laryngeal cancer – cancers of the mouth, tongue, throat and other sites. More than 48,000 Americans will develop cancer of the head and neck in 2009, and nearly 11,260 will die from it, according to the American Cancer Society.

The cancer strikes blacks more often than whites, and survival rates are notably poorer for blacks than whites. For example, according to the latest statistics from the National Cancer Institute, African-American men have an incidence rate (new cases) of 10.5 (per 100,000 men) for laryngeal cancer compared to 6.2 for white men. Fewer African Americans survive more than five years after diagnosis of oral and pharyngeal cancers than do whites (survival rate of 42.6 percent compared to 62.8 percent among whites).

For the LAF project, researchers are interviewing head and neck cancer survivors one year and three years after their diagnosis, using interview instruments designed specifically to gauge their quality of life from several aspects: physical, social/family, emotional and functional well-being. Olshan anticipates collecting interview data for 590 survivors, including 400 whites and 190 blacks. Data collection will be finished by December, and Olshan is in the process of preliminary analysis of the information.

"If we can identify any disparities and determine strong predictors, then greater attention can be given to recognizing these factors, and people who treat cancer can take them into account when considering a patient's treatment course and quality of life afterward," he says.

He also says the research can help target potentially high risks for secondary cancers in survivors. For example, health providers can use the data to provide the necessary support and strategies to help patients stop smoking or drinking, and to deal with psychological issues. Additionally, if the study uncovers factors that may affect African Americans more, such as lower income or difficulty finding employment, those can be taken into account by health professionals as they work with patients to improve their quality of life as cancer survivors. ■

– By Kim Gazella

For more information, visit:

The American Academy of Otolaryngology-Head and Neck Surgery:  
[www.entnet.org](http://www.entnet.org)

National Cancer Institute, US National Institutes of Health:  
[www.cancer.gov/cancertopics/types/head-and-neck](http://www.cancer.gov/cancertopics/types/head-and-neck)

# Olshan leads national effort to examine causes of childhood cancer



“Neuroblastoma” is a big word for a cancer that affects the smallest among us and in relatively small numbers. But UNC-led research could bring huge benefits by zeroing in on risk factors, the role of genetics and whether vitamins taken by pregnant women can make a difference in whether children get neuroblastoma.

Funded by a \$2.9-million National Cancer Institute grant, a five-year study of the causes of neuroblastoma is just getting underway. Andrew Olshan, PhD, chair of the Department of Epidemiology in the UNC Gillings School of Global Public Health, leads the study team, which will collaborate with the Children’s Oncology Group, the world’s largest childhood cancer research clinical trials organization.

The study will recruit 1,041 patients nationwide from the Children’s Oncology Group and examine genetic variation in selected vitamin pathways. The study aims to understand how genes that are involved in the metabolism of different vitamins might affect a young person’s chances of developing neuroblastoma. The study also will examine how diet and other lifestyle factors work with

genes in neuroblastoma. It builds on some of Olshan’s and other researchers’ earlier work, which suggests that use of vitamins before and during pregnancy might reduce the risk of neuroblastoma.

“That raised interesting questions about *in utero* exposure, and whether a vitamin could possibly cause a tumor to regress,” Olshan says. “We are not clear which vitamins might be involved, but we are targeting different vitamins’ pathways to tease out and see if we can confirm the role of vitamins in this disease.”

The most common cancer in babies, neuroblastoma develops from nerve cells found in several areas of the body. It usually affects children aged 5 or younger, and in the U.S., it accounts for 7.2 percent of all cancers among children younger than 15. Approximately 650 children are diagnosed with neuroblastoma in

the U.S. each year; compared to some other childhood cancers, the survival rate is poor, Olshan says.

He agrees that the number of cases is relatively small, especially compared with other widely discussed cancers like breast and colon cancer, but says the potential for discovery and possible preventive measures in the future is significant.

“This study may give us some insight into the *in utero* origins of childhood cancer, and it makes a very interesting model, possibly for adult cancers that may have an origin during fetal development,” he says. “No previous study of this scale has investigated the role of genetic susceptibility and neuroblastoma. The investigation of vitamins and associated genetic factors may provide important clues to the etiology and potential prevention of this cancer.”

This knowledge might expand more broadly to other applications, as well.

“What’s new here is that we are focusing more on the genetic aspects,” he says, “and what will be interesting is if maternal vitamin intake may reduce the risk of neuroblastoma. That could lead to preventive measures that might modify someone’s risk for disease.” ■

— By Kim Gazella



# Long Island Breast Cancer Study Project just a start for Gammon



Dr. Marilie Gammon

**I**t started more than a decade ago, when a group of women on Long Island became concerned about reports that the breast cancer rate in their region was above the national average.

In 1993, the advocates – many of them breast cancer survivors – pressed Congress to pass a law requiring a study of potential environmental factors that might be contributing to the increased breast cancer rate in suburban New York. The result was the Long Island Breast Cancer Study Project, a large population-based study of breast cancer.

Marilie D. Gammon, PhD, professor of epidemiology at the UNC Gillings School of Global Public Health, designed the study, which focuses on approximately 3,000 women. About half were newly diagnosed with breast cancer, and the rest were healthy women used as a control group.

Using blood samples, Gammon and her colleagues did not find links between breast cancer and the pesticide DDT or exposure to PCBs, a family of chemicals once used in electrical equipment. But they did find a slightly elevated risk for breast cancer linked to exposure to PAH, a chemical carcinogen formed by the incomplete combustion of fossil fuels, which is driving further studies.

PAH exposure can come from sources ranging from air pollution to grilled meat. It's found in tobacco smoke, charred and smoked foods, and diesel and jet exhaust.

PAH is one of the few environmentally related factors linked to breast cancer risk. An example of an established environmental risk is radiation exposure.

“More studies have to be done,” Gammon says. “We don’t ever believe (just) one study.”

Now, Gammon and other researchers are trying to determine whether certain individuals might be more genetically susceptible to cancer from PAH exposure. Studying PAH exposure in cigarette smoke is complicated by the fact that smokers are more likely to have an early onset of menopause, a process that may *decrease* a woman’s risk for breast cancer, since it lessens lifetime exposure to estrogen, a known breast cancer risk factor.

The Long Island study also resulted in a new research tool, a geographic information system that allows researchers to explore new hypotheses on environmental factors for breast cancer. It uses 80 databases to map health, demographic and environmental data in New York’s Nassau and Suffolk counties, including the location of roads, land use and breast cancer incidence. The information includes air quality data from monitoring sites set up by the Environmental Protection Agency.

“We can look at what’s happening when people live near a busy road or a stop light,” where cars and trucks are producing more exhaust, Gammon says.

Gammon also uses these data to examine whether developing and surviving breast cancer is influenced by other factors – not just those that society can change (like pollution) – but factors which women can control, such as diet and exercise.

For example, Gammon’s work has shown that premenopausal women who gain more than 35 pounds after age 20 – prior to breast cancer diagnosis – are two times less likely to survive the disease. Postmenopausal women who gain more than 29 pounds after age 50 are nearly three times less likely to survive. Adult weight gain is associated with abdominal fat, and another study by Gammon provided evidence that excess abdominal fat can adversely affect breast cancer survival.

“These results demonstrate that obesity, particularly abdominal fat, decreases a woman’s chance of surviving breast cancer, even if she is premenopausal at the time of diagnosis,” Gammon says. “Our goal is to identify factors that will reduce risk of breast cancer and enhance survival once diagnosed. Maintaining a healthy weight throughout adult life is something women can do to reduce their risk of developing breast cancer, and if diagnosed, improve survival.” ■

– By Sylvia Adcock

# Seeking safe levels of formaldehyde *in* humans

If you dissected a frog in high school biology, you may remember the eye-stinging fumes from the preservative chemical known as formaldehyde.

Scientists know that formaldehyde is a human carcinogen. But what's not well known among the public is that this important chemical is also naturally present in our own bodies – a fact that makes establishing safe exposure levels difficult.

“It’s an essential chemical in every living cell,” says James A. Swenberg, DVM, PhD, head of the Molecular Carcinogenesis and Mutagenesis Lab housed in UNC’s Gillings School of Global Public Health. “This seems to be lost on our regulatory agencies.”

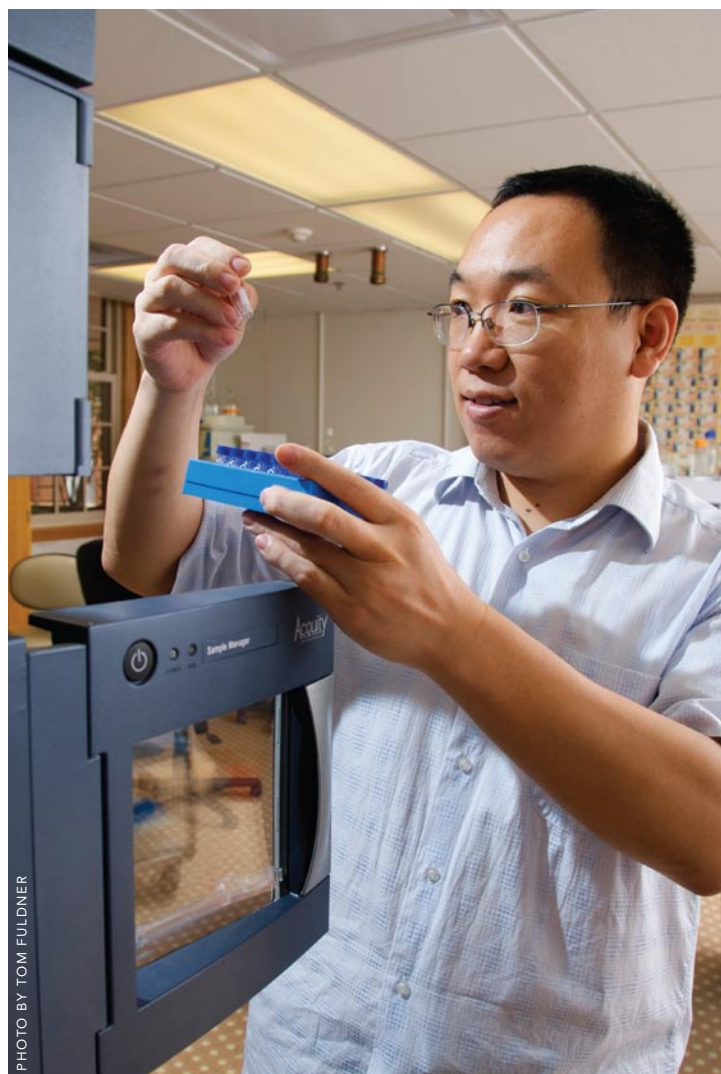
While working with the Chemical Industry Institute of Toxicology in 1980, Swenberg helped discover that formaldehyde caused nasal cancer in rats. Today, his lab produces data to help regulators make science-based decisions about safe levels of formaldehyde exposure.

Formaldehyde is an important issue in North Carolina because the chemical is commonly used to produce furniture and

textiles – two of the state’s historically largest industries – which means that many workers have been exposed to it. Other sources include cigarette smoke, auto exhaust and cooking fumes. Government-issued trailers provided to victims of Hurricane Katrina also were found to have high levels of formaldehyde. The Environmental Protection Agency is now working to establish rules to set levels of exposure.

Kun Lu, a doctoral student in Swenberg’s lab, developed a formaldehyde biomarker – a way to measure the amount in the body. In the lab, Kun exposed animals to two types of formaldehyde molecules. Using mass spectrometry, he examined whether the molecules had an effect on distant tissues.

So far, their research has not shown that formaldehyde migrates to distant tissues in



Doctoral student Kun Lu has developed a formaldehyde biomarker to measure the amount of the chemical in the human body.

the body – which means there is less chance that it causes cancer anywhere other than in nasal cavities.

“We want to see if we can find it in the liver or the bone marrow,” Swenberg says. “We don’t know what the answer is. We just want to put some good science behind it.”

For his work, Lu won a 2009 Impact Award, given to UNC graduate students whose research provides special benefit to North Carolinians. In the recommendation letter to Impact Award judges, Swenberg wrote “Kun’s research...will strongly drive cancer risk assessment for North Carolina, the USA, and the world.” ■

– By Sylvia Adcock

To learn more, see the National Cancer Institute’s fact sheet on “Formaldehyde and Cancer Risk” at [www.cancer.gov/cancertopics/factsheet/Risk/formaldehyde](http://www.cancer.gov/cancertopics/factsheet/Risk/formaldehyde)

# Finding *the* best chemotherapy *for* you

Imagine you're a cancer patient, about to discuss chemotherapy with your doctor. But first, the lab draws some blood. Now, imagine that simple act allows your oncologist to pinpoint what kind of chemo you would respond to best — and rule out therapies that would do you no good.

Medicine isn't there yet. But it's closer, thanks to some groundbreaking work by Rebecca Fry, PhD, assistant professor of environmental sciences and engineering at the UNC Gillings School of Global Public Health.

"I'm very excited," says Fry, who began working on the project several years ago at the Massachusetts Institute of Technology. "No one has studied the response of healthy cells to these agents."

In addition to saving lives and avoiding the pain of ineffective chemo treatments, "it would mean you could save a lot of time and money...it's moving toward what we call individualized medicine," Fry says.

It's well known that some individuals respond better to chemo than others. Fry and her colleagues at MIT, where she was a research scientist until joining UNC last year, decided to find out just how different those responses could be and find ways to predict them.

They worked with 450 cell lines from healthy people, all from North America but with a wide variety of ancestry. Healthy cells were exposed to the carcinogen MNNG, a DNA-damaging agent found in cigarette smoke and certain chemotherapy compounds.

"Even given the same exposure, we saw a dramatic difference," Fry says. Those differences surprised even the researchers. "Some were resistant, some were sensitive, and some were in between."

From there, Fry and her colleagues determined that using the expression level (how

much the genes are turned on or turned off) in 48 genes, they could predict an individual's resistance to the compound with 96 percent accuracy.

"This kind of strategy could be used for different types of tumors and chemotherapy," says Fry, but notes that it will likely be several years before scientists will be able to move the research into a clinical setting and work with cancer patients.

Another benefit to the research is that it could help doctors predict who might be more sensitive to certain carcinogens in the environment. With that knowledge, Fry says, doctors might someday be able to warn individual patients they might be particularly susceptible to cancer from cigarette smoke or UV rays, for instance.

Fry's lab at UNC is now studying the effects of exposure to arsenic, a common environmental hazard in North Carolina and throughout the world. ■

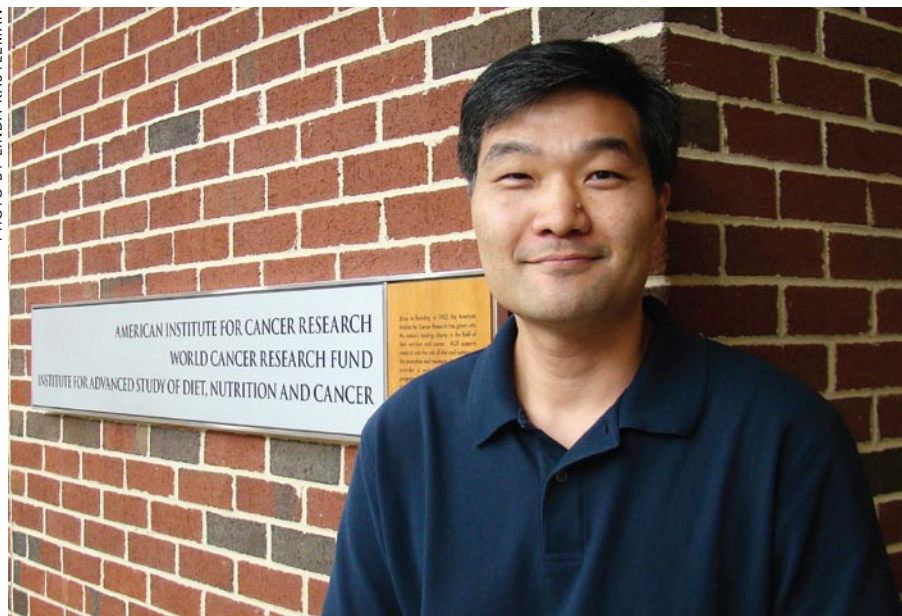
— By Sylvia Adcock





# Studying *the* link between sialic acid *and* colon cancer

PHOTO BY LINDA KASTLEMAN



Dr. Eric Park



For a different angle on the red meat debate, read the Archives of Internal Medicine (<http://archinte.ama-assn.org>) editorial by Barry Popkin, PhD, Carla Smith Chamblee Distinguished Professor of Global Nutrition and director of UNC's Interdisciplinary Obesity Center. He discusses both the potential cancer and other health risks of eating red meat and the impact on energy consumption and climate change from producing meat.

## What is it about red meat and dairy products that increase people's risk of developing colon cancer?

Eric Park, PhD, research assistant professor of nutrition at the UNC Gillings School of Global Public Health is determined to solve that puzzle.

Park's research focuses on the relationship between diet and cancer. In particular, he is looking at a family of carbohydrates called sialic acids and their role in colon cancer. Even more specifically, his research will focus on one type of carbohydrate that is found in cancer cell surfaces but comes mainly from red meat and dairy products, not from humans.

"I want to know if these carbs, these non-human sugars, could account for the increased risk of eating mammal products," Park says. "There is something unique about cancer cells that they accumulate these non-human sugars."

While many researchers have looked at some of the risks posed by large consumption of red meat, such as its high fat or caloric content, no one has examined the sialic acids from red meat in the way that Park is doing now.

He hopes to discover whether this specific type of sialic acid increases inflamma-

tion associated with colon cancer, thereby increasing a person's risk of developing the cancer. This particular form of sialic acid also has been detected in breast cancer and liver cancer.

"If you know what the functions of sialic acids are and you know what the normal state of sialic acids should be, it is a lot easier to find out what happens during the disease," Park says.

His research also could help people who suffer from inflammatory bowel disease (IBS) because they have a higher risk of colon cancer. Red meat is strongly associated with colon cancer.

The American Institute for Cancer Research recommends consuming no more than 18 ounces (cooked) of red meat (beef, pork or lamb) per week and avoiding processed meat. (For details, visit [www.aicr.org](http://www.aicr.org)).

Park says such recommendations are based on strong evidence. "It is not because of this particular sugar, but this sugar may explain why red meat increases your risk for cancer." ■

—By Natalie Gott



## Some nutrients can increase risk for lung cancer

**T**here's no question that smoking cigarettes is unhealthy. If you can't kick the habit, however, you may want to rethink what dietary supplements you take each day.

A new study led by Jessie Satia, PhD, suggests that supplements that contain some of the same nutrients found in fruits and vegetables can increase the risk for developing lung cancer in certain people, especially smokers.

Satia, an associate professor of epidemiology and nutrition in the UNC Gillings School of Global Public Health and the UNC School of Medicine, led a team of researchers at UNC and the University of Washington in Seattle. They used questionnaires to examine dietary supplement use among more than 77,000 western Washington state residents between the ages of 50 and 76. Participants were asked about their health history, risk factors and use of supplements and multivitamins over the previous 10 years. Researchers then tracked them for four years before using data from the National Cancer Institute's Surveillance Epidemiology and End Results (SEER) cancer registry to identify the rates of lung cancer among them.

What they found is that smokers who took beta-carotene or other carotenoid-containing dietary supplements had a stronger chance of developing lung cancer than those who did not take the supplements, according to the study published in the *American Journal of Epidemiology*.

Results show that smokers should be very cautious about taking these supplements, says Satia, who also is a member of the UNC Lineberger Comprehensive Cancer Center. While vegetables provide a certain amount of various nutrients, the supplements can provide substantially

more of a specific nutrient than the recommended daily allowances call for, Satia says.

"You don't know what effect taking those very large doses of supplements is going to have on your health," says Satia, who is also the Special Assistant to the Dean of the School of Public Health for Diversity.

Beta-carotene is a vitamin that acts as an antioxidant, protecting cells against oxidation damage. Food sources of beta-carotene include sweet potatoes, carrots, kale, spinach and collard greens.

Earlier double-blinded randomized clinical trials in the United States and in Europe also indicated that very large doses of beta-carotene supplements increased the risk of lung cancer in smokers and persons exposed to asbestos. The UNC and University of Washington researchers wanted to see if they would get the same results by tracking the general population. The study proved to be pioneering, Satia says.

"It is the first one that showed that people, particularly smokers, who take moderate doses for a relatively long period of time might have an increased risk of developing lung cancer," says Satia. In her study, the median 10-year daily dose was 4,500 micrograms of beta-carotene, much lower than the 20 milligrams and 30 milligrams of beta-carotene taken during the randomized clinical trials.

In fact, the study showed that a person's risk of lung cancer increased the longer they took supplements containing beta-carotene, retinol and lutein. For example, a person who took retinol supple-



Dr. Jessie Satia

### HELPING A SMOKER QUIT: DO'S AND DON'TS

Most smokers struggle to give up cigarettes. You, as a family member or friend, can help out by following these tips from the American Cancer Society:

**Do** respect that the quitter is in charge. This is their lifestyle change and their challenge, not yours.

**Do** help the quitter get what she or he needs, such as hard candy to suck on, straws to chew on, and fresh veggies cut up and kept cold in the refrigerator.

**Do** spend time doing things with the quitter to keep his or her mind off smoking – go to the movies, take a walk to get past a craving (what many call a "nicotine fit"), or take a bike ride together.

**Don't** judge, nag, preach or scold. This may make the smoker feel worse about him or herself. You don't want your friend to turn to a cigarette to soothe hurt feelings.

**Don't** take the quitter's grumpiness personally during his or her nicotine withdrawal. The symptoms usually pass in about two weeks.

**Do** celebrate along the way. Quitting smoking is a BIG DEAL!

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ments for four years or longer was 53 percent more likely to develop lung cancer. Those who took lutein supplements for four years or longer were 102 percent more likely to develop it. Satia cautions, however, that relatively few persons took large doses of these supplements for long periods of time, so the results should not be over-interpreted.

The findings may be just another reason why smokers should consider kicking their habit altogether. ■

– By Natalie Gott



# PRACTICAL INFORMATION ON CANCER TREATMENTS CAN LEAD TO BETTER POLICIES, TREATMENTS, OUTCOMES

UNC selected as one of two national AHRQ cancer research sites

Using data from 2.5 million cancer patients – or fully 25 percent of the nation’s cancer population – two University of North Carolina at Chapel Hill researchers are designing studies

they hope will provide practical information on cancer treatments to health care providers and policy makers.

Last year, UNC was selected as one of two cancer research sites by the U.S. Agency for Healthcare Research and Quality (AHRQ), an arm of the U.S. Department of Health and Human Services. The other site is Brigham and Women’s Hospital in Boston, Mass.

The work of the Chapel Hill-Boston consortium is likely to drive public health care policy.

“We don’t do policy, but we create the science under which people make policy,” says Jean Slutsky, director of the Center for Outcomes and Evidence at AHRQ. The influence of such policies, she says, can range from a patient and doctor agreeing on a treatment to decisions made by Medicare or the head of a large medical insurance company.

The UNC researchers are led by William R. Carpenter, PhD, research assistant professor at UNC’s Gillings School of Global Public Health, and Richard Goldberg, MD, associate director of UNC Lineberger Comprehensive Cancer Center and physician-in-chief of the N.C. Cancer Hospital. They will have access to data from tumor registries in various states as well as reams of data from Medicare claims, totaling 2.5 million cancer patients diagnosed since 1991. They also will analyze data from dozens of other sources.

The first task is to examine results from different chemotherapy drugs given for advanced colorectal cancer, using data from about 200,000 patients. Among other things, the researchers hope to show whether earlier clinical tri-

als were able to accurately predict how these drugs perform in the general population.

“We’re taking science out of the lab, moving beyond clinical trials and developing new science that says, ‘This works in the community,’” Carpenter says.

Carpenter explains that while a clinical trial’s information allows practitioners to try new treatments, the trial participants are not representative of the general population. “People in clinical trials tend to be Caucasian, younger and healthier than most people with cancer,” he says.

By looking at outcomes of a drug in the population as a whole, they’ll be able to tell whether the clinical trial accurately reflects the drug’s effectiveness.

“Good data already exist,” says Carpenter, but he stressed that researchers would like to work toward building even stronger data sets that contain more detailed information, including more on a patient’s experience during treatment and their quality of life.



Dr. William Carpenter (right) discusses research data with Dr. Richard Goldberg (center) and Dr. Til Stuermer, associate professor of epidemiology at the UNC Gillings School of Global Public Health.

Another project they hope to tackle is looking at whether PET scans (positron emission tomography, a test that shows metabolic activity in a tumor) are always a better tool for measuring cancer progression or recurrence than CT scans, a simpler and less expensive imaging method using x-rays. Medicare officials are very interested in such a study, because it could lead to changes in funding decisions.

Yet another study with public policy implications explores an easier screening test for colorectal cancer – one that isn’t as costly or invasive as a colonoscopy. Carpenter said he hopes to look at results from an immunochemical test that uses a stool sample to see if it’s a good predictor of cancer.

Carpenter says the well being of cancer patients is at the center of the research. “The primary order of business when we are looking at anything is: does it support cancer survival and improved quality of life?” ■

– By Sylvia Adcock



# Filling in the potholes that lead to racial disparities in cancer care

When breast cancer patients believe that their disease is being adequately managed, they are likely to stick with a treatment plan, UNC Gillings School of Global Public Health researchers have found.

But the research project, led by Eugenia Eng, DrPH, UNC professor of health behavior and health education, also shows that when patients' questions about their treatment go unanswered, or their chemotherapy schedules are inflexible, or inadequate or inconsistent information is provided about follow-up care, then they are more likely to stop or delay treatment.

For patients, maneuvering through cancer treatment can be unnerving – or, as one patient described it at a recent health forum, it's like riding a bicycle down a road and trying to avoid the potholes.

Preliminary findings of the study show that a disproportionate number of the people who

stop or delay treatment are African-American women. A recurring concern expressed by these women in the study was that they were unlikely to speak up about their needs or concerns if they had negative encounters with authority figures at critical points during their course of treatment. Instead, they would stop or delay the treatments.

Eng's study is a collaborative effort called CCARES (Cancer Care and Racial Equity Study), which has been underway for the past four years in Greensboro, N.C. CCARES uses a community-based participatory research approach to examine the different ways patients and caregivers communicate. The study also explores differences in how care



Dr. Eugenia (Geni) Eng addresses a public health forum in Greensboro, N.C., in June, reporting preliminary findings from the CCARES research

is given and received within a local medical community. Breakdowns in communication can be caused by cultural differences, Eng explains, and can lead to racial disparities in treatment and care.

The study led researchers to conclude that the structure of a cancer care system actually can *promote* racial inequities. While this is not intentional, it can harm patients – and the longer the disparities exist, the more difficult it becomes to acknowledge the problem and change the system. The way to improve patient care, Eng said, lies in improving health care as a system, not just as a relationship between doctors and patients.



“I don’t think they treat you like they should. I was getting too much chemotherapy until my doctor discovered the mistake, and then when I had radiation, they didn’t tell me anything about wearing the (compression) sleeve to cut swelling. I hope this (study) will make things better for others in the future.”

– Shirley Weatherford, 72  
Greensboro, N.C.



PHOTOS BY BONNIE STANLEY/BONNIE STANLEY PHOTOGRAPHY

Above, a patient at a health forum in Greensboro describes her difficulty navigating the health care system for her and her husband. At right, Brandolyn White, community outreach specialist with the Carolina Community Network, chats with CCARES project coordinator Christina Hardy (right) before the forum.

Improving care for African-American women is especially urgent, she says.

“What we are trying to understand is why there’s a racial disparity in breast cancer treatment – and we are focused on the system,” says Eng. “We’re not blaming doctors or nurses or care providers, but we’re trying to understand what it is about the system that produces these disparities.”

As part of the study, 50 breast cancer survivors were interviewed – more than once – about details of treatment that occurred five or six years earlier. Of these, 15 had delayed or discontinued their care.

The interviews used a qualitative research approach called “Critical Incident Technique,” first used by the U.S. Army Air Forces in World War II to improve pilot training programs by determining why missions were not completed as planned. In this study, the approach allows researchers to address all aspects of cancer treatment as a system, rather than just as a relationship between patient and doctor.

The study, funded by the National Cancer Institute and Greensboro’s Moses Cone-Wesley Long Community Health Foundation, also found that doctors typically do not receive specific information about the progress of their patients’ treatment and may not know whether a patient has missed an appointment or decided to stop treatment.

Christina Hardy, MPH, project coordinator for CCARES in Greensboro, says one pre-

CCARES was formed by the Greensboro Health Disparities Collaborative, a joint initiative of The Partnership Project (a community organization committed to “undoing racism” in Guilford County, N.C.), the UNC Center for Health Promotion and Disease Prevention and the UNC Program on Ethnicity, Culture and Health Outcomes. Moses Cone Health System also joined the project, committing to work with local health care

What we are trying to understand is why there’s a racial disparity in breast cancer treatment – and we are focused on the system

– UNC Professor Eugenia Eng

liminary study recommendation is to better inform physicians about patients’ treatment progress and status.

“We are making suggestions for how health care institutions can be modified to better track cancer patients,” Hardy says. “Sometimes, women go in for chemo or radiation on a frequent schedule but they won’t see their oncologist again for six months. If a woman discontinues her care, how would the oncologist know? We are trying to find a way that the system can track them better, and we hope that it can be a model for others.”

providers to help identify improvements in the care process.

Eng and colleagues are preparing a new grant proposal that will build on CCARES’ findings and expand research to include the Greensboro Health Disparities Collaborative and cancer centers affiliated with Moses Cone Health System, the University of Pittsburgh and East Carolina University. Using the collaborative experience, they hope to fill in potholes that will improve cancer care for all patients. ■

– By Kim Gazella



# Fight against tobacco moves to cyberspace



Dr. Kurt Ribisl tracks one of the many Web sites that offer online purchase of tobacco products.

The drop in the number of Americans who smoke, from 42.4 percent in 1965 to just under 20 percent in 2007, is touted as one of the great public health success stories in the 20<sup>th</sup> century.

Given the well-known link between smoking and lung cancer, Kurt Ribisl, PhD, is working to ensure that success doesn't falter because of the growing number of people selling tobacco online.

"We've made outstanding progress in reducing tobacco use," says Ribisl, an associate professor of health behavior and health education in the UNC Gillings School of Global Public Health. "We don't want (these gains) unraveled by a new system of marketing and distribution through the Internet."

For the past decade, Ribisl has led a team of researchers who have tracked the number of online cigarette vendors. That research has potential for widespread benefits, as it could lead to Internet regulations for more than just cigarette sales to minors, such as hand guns and alcohol.

In January 2000, Ribisl's researchers identified 88 unique domestic Internet cigarette vendors by entering key words such as "dis-

count cigarettes" and "tax-free cigarettes" into several search engines. By January 2005, 664 Internet cigarette vendors in the United States and abroad were identified through automated searching strategies developed by a private online risk-monitoring and management firm.

The problem with many of these vendors is twofold, says Ribisl, who published his findings in a chapter of the book *Ending the Tobacco Problem: A Blueprint for the Nation*. First, many online tobacco vendors do not charge excise taxes. Further, many do not take steps to prevent minors from purchasing cigarettes.

Excise taxes can serve as a great deterrent for smoking. Now, however, smokers can find cheaper cigarettes online, Ribisl noted in the book. In fact, smokers in areas with high cigarette taxes, such as New York or Illinois, are more likely to buy cigarettes online than those who live where taxes are lower, such as North Carolina, Ribisl found.

"The Internet is now providing a back channel, a way for people to avoid those higher prices at stores," says Ribisl, who also serves as director of the UNC Coordinating Center of the Cancer Prevention and Control Research Network, whose members conduct community-based participatory cancer research.

Other downsides to sidestepping tobacco excise taxes are that federal and state governments depend on the money generated from them, and some proceeds often go to cancer screening or tobacco-control programs. No published estimates of the tax revenue lost have been peer-reviewed, Ribisl said. He notes, however, that North Carolina has a fair number of online cigarette vendors and gains tax revenue because those vendors are selling and shipping to customers in states with higher taxes.

Besides not charging taxes, these sites can make it easier for minors to buy cigarettes because vendors rarely verify their customers' ages, as required by federal law, Ribisl says.

Ribisl, who gave a briefing to Congress on online cigarette sales a few years ago, is using that research as a springboard for formulating some recommendations for policymakers on how to regulate the online sale and marketing of other age-restrictive and hazardous goods, such as hand guns and alcohol. His work also could help prevent the sexual exploitation of children over the Internet.

"If you can successfully figure out how to verify the age of the people who buy cigarettes on the Internet, you can do it for other things," Ribisl says. ■

— By Natalie Gott

On June 22, 2009, President Barack Obama signed into law the Family Smoking Prevention and Tobacco Control Act, which gives the Food and Drug Administration authority to regulate tobacco products. The legislation has been in development for more than a decade. Key provisions include tighter restrictions on advertising and packaging, and a ban on candy- and fruit-flavored cigarettes.



# Trimming hair, trimming risk: Barbers promote hair care, health care

Ed Hooker has been a barber for more than 20 years. He knows that keeping his customers healthy is good for them – and it’s also good for business.

“I want to make sure my clients are healthy and let them know someone cares about them,” he says. “I also need to keep my clientele alive and teach them how to stay out there in the world so I can continue to make a living with them!”

Hooker, owner of E-Style Barbershop in Greensboro, N.C., has been an active Advisory Board member in several UNC barbershop-based research projects, including “Trimming Risk in Men” (TRIM) and “Cancer Understanding Today” (CUTS), that engage men in conversations about their health and urge them to get preventive health care.

Laura Linnan, ScD, associate professor of health behavior and health education at the UNC Gillings School of Global Public Health, leads the research teams working on these studies. They are offshoots of a successful project she started six years ago in beauty shops (N.C. BEAUTY & Health Project), which targeted African-American women to eat healthier, get more physical activity and obtain recommended screening tests.

Greensboro barber Ed Hooker tells a client about the benefits of cancer screenings.

“African-American men die, on average, seven years before white men, and most men often wait until they are really sick before they talk with a health care provider,” says

Linnan. “If you look at most of the leading causes of death – heart disease, stroke, diabetes, cancer – it would show that African-American men are suffering higher rates than any of those groups.”

The BEAUTY, TRIM and CUTS studies are grounded in a strong partnership with directors of cosmetology and barbering schools, barbers/stylists, health care advocates and others who help guide all aspects of the research. In fact, the barbershop outreach idea came from the advisory board members. Hooker is helping researchers train barbers to help promote health in their shops, with their clients.

“Our men are very private,” he says. “When you start digging or come on too strong, you can actually push them away. A lot of barbers would rather just give him a haircut and let him leave than pester him to get check-ups. That’s when I remind the barbers that if they don’t have these men, they are going to lose business.”

The BEAUTY Project enrolled 40 beauty salons and more than 1,000 women in the study. So far, Linnan’s team has worked with more than 20 African American ➤



PHOTO BY TIGER BUTLER/TIGER VISION PHOTO

barbershops and nearly 500 of their customers as part of the TRIM and CUTS studies. The TRIM study is funded by the Centers for Disease Control and Prevention. Preliminary results demonstrate that barbers can be trained to encourage clients to make informed decisions about getting colorectal and prostate cancer screenings,

and that clients are enthusiastic in their support of receiving health information in the barbershops. Preliminary results from CUTS demonstrate that African-American men were more aware of (and had increased calls to) the free, lifesaving information available through the National Cancer Institute's Cancer Information Service.

Cancer Understanding Today (CUTS) is a two-year National Cancer Institute project designed to increase calls from African-American men to its cancer hotline 1-800-4CANCER. Linnan is encouraged by early indications from the study, which relies on barbershops to promote the health education information.

"The good news is that we definitely are seeing trends toward increased calls" after a recent education campaign about cancer and the hotline, Linnan says.

Linnan says these studies have continued to build the evidence base for promoting health in beauty salons and barbershops and that they are willing partners in working toward eliminating the health disparities that exist. Perhaps most importantly, "we have clearly demonstrated that barbershops are a great place to reach men, as long as we don't overwhelm them with too much information," she says. "The average age of our CUTS participants was 35 years, and there are very few settings where we can reach young African-American men with information about health. The barbershop is a unique place in that regard."

Hooker agrees with that assessment.

"Men will listen to their barber," he says. ■

— By Kim Gazella

## Colon cancer screening kits FIT for duty in High Point project

Study seeks to boost  
cancer screening rates  
through community  
health partnership



One test that screens for colon cancer is pretty simple, but requires taking three stool samples. That can be a daunting prospect, even for people who have the privacy of their own home and bathroom. When the patient is homeless and living out of his car, the challenges ratchet up quickly.

Yet health care professionals in High Point, N.C., were able to help a man in this situation – and even provide some follow-up care based on his test results – through a UNC-led study that centers on a strong community health care partnership. The study's goal is to reduce colon cancer deaths by increasing the number of people who are screened early for the disease.

"Being able to talk with (the homeless man) and really educate him about the importance of screening, and also following up by helping him see a gastroenterologist, made a huge difference," says Carin Hiott, director of chronic care for High Point Regional Health System. The system is one of the project's partners, which also include the UNC Lineberger Comprehensive Can-

cer Center, the High Point Adult Health Center, Community Clinic of High Point, Piedmont Health Services and Sickie Cell Agency, High Point Gastroenterology, and physicians and other agencies in the High Point community.

Education and follow-up can make a huge difference throughout a community. Colon cancer is the second leading cause of cancer death in North Carolina, yet it's highly treatable if caught early. African Americans tend to die from the disease at a higher rate than any other group, according to the Centers for Disease Control (CDC). Screening rates have risen over the years but mostly among people with health insurance; those who are uninsured or underinsured tend to skip the screenings. The CDC reports that "as many as 60 percent of deaths from colorectal cancer could be prevented if everyone age 50 and older were screened regularly."

UNC researchers, led by Cathy Melvin, PhD, research associate professor of maternal and child health at the UNC Gillings School of Global Public Health, and with Katya

as 70 percent at one participating clinic. The keys, she says, are solid education about the disease, clear instructions about screening and ensuring follow-up for positive tests regardless of a patient's ability to pay. The screening method used is the fecal immunochemical test, or FIT, often called a stool test.

"In our focus groups, we discovered that people were willing (to try the test)," she says. "They had some reservations, but were reassured once they found out the kits were science-based, that they didn't have to change their diet and knew they could get diagnostic follow-up."

The focus groups of 28 African-American men and women, conducted in March 2007, recommended making available more pamphlets, videos and other educational materials. Because people over 50 don't read small print well, they helped researchers design a more user-friendly kit for the pilot project, with larger type and photos.



Dr. Cathy Melvin

kits for people who need them is only the first step. It is also crucial that a "safety net" of gastroenterologists and other specialty care providers are available to provide prompt follow-up care to people who need it.

High Point Regional's Hiott notes that the next steps would be tougher for all agencies, given limited resources and tight budgets. During the study, having a research assistant dedicated solely to promoting the FIT tests and talking with patients about colorectal cancer made a tremendous difference, she says.

Moore agrees that the challenges become greater without the study resources. Many clinics treating people who are uninsured or underinsured are acute care clinics, which must focus on more immediate problems, including hypertension and diabetes, rather than encourage preventive screenings for cancer.

Moore says that researchers are looking for additional partners to share expenses and successes. They hope to expand the project to additional communities. ■

— By Kim Gazella

As many as 60 percent of deaths from colorectal cancer could be prevented if everyone age 50 and older were screened regularly.

— Centers for Disease Control and Prevention

Roytburd, MPH, CHES, a research assistant in the Lineberger Comprehensive Cancer Center serving as project manager, set out to see if they could intervene.

They started the outreach screening study, which is a pilot project of the Carolina Community Network, funded by the National Cancer Institute's Center to Reduce Cancer Health Disparities. The Comprehensive Cancer Control Collaborative of North Carolina (4CNC) at UNC's Center for Health Promotion and Disease Prevention conducted formative research. 4CNC is funded by the CDC and the National Cancer Institute.

Alexis Moore, MPH, project director for 4CNC, says the early results are very encouraging, with home testing return rates as high

In all, 301 eligible adults have been enrolled in the study, with an overall FIT return rate of 67 percent. Of the 201 FIT that were returned, four were positive. All four patients have been referred for free diagnostic colonoscopy.

"We are excited about the high return rate," Moore says. "We have learned that the stool test is affordable and can be distributed in clinics, and it's terrific to know first hand how many positives from this first sample will need follow-up."

Lessons learned in the study have laid a good foundation, but questions remain as to whether the clinics can continue the outreach on their own and whether follow-up care will be available. Providing screening

The Comprehensive Cancer Control Collaborative of North Carolina (4CNC) at UNC's Center for Health Promotion and Disease Prevention is funded by the Centers for Disease Control and Prevention and the National Cancer Institute.



# Breastfeeding: good for babies, good for moms

**B**reastfeeding is great for babies and moms, offering the best nutrition along with bonding opportunities. Now, studies show that breastfeeding cuts the risk of breast cancer as well.

How? Breastfeeding appears to lower the levels of cancer-related hormones. At the end of lactation, the mother's body also gets rid of many breast cells, including some that may have DNA damage, thereby reducing her risk of developing cancer later.

Since the early 1990s, Robert Millikan, PhD, DVM, Barbara Sorenson Hulka Dis-

tinguished Professor of epidemiology in the UNC Gillings School of Global Public Health, and other researchers have studied the inverse relationship between breastfeeding and breast cancer.

A 1999 study by Millikan and then UNC graduate student Helena Furberg, published in the *International Journal of Epidemiology*, found that breastfeeding may reduce cancer risk by up to 30 percent (20 percent in women aged 20-49; 30 percent in women aged 50-74) and was protective regardless of the number of children breastfed or maternal age during lactation. (Furberg is now research assistant professor of genetics in the UNC School of Medicine.)

A landmark expert report, "Food, Nutrition, Physical Activity and the Prevention of Cancer: a Global Perspective," published in January 2008 by the American Institute for Cancer Research (AICR) and the World Cancer Research Fund (WCRF UK), confirms this view. The report reviewed 100 studies and found

"satisfactory evidence" (requiring the most convincing data) that breastfeeding reduces breast cancer risk. A separate analysis of 47 published studies reported a decrease in risk of 4.3 percent for every year of breastfeeding.

Millikan and colleagues Drs. Charles Perou and Lisa Carey at the UNC Lineberger Comprehensive Cancer Center recently extended Millikan's earlier work to show that breastfeeding is protective for one of the most aggressive types of breast cancer, termed *basal-like*. This form is difficult to treat and is more common in younger African-American women than other groups.

Miriam Labbok, MD, professor of the practice of public health and director of the Carolina Global Breastfeeding Institute (in public health's Department of Maternal and Child Health) sees the research as a stepping-stone to better education for women, especially black women.

Labbok says the school's job is to ensure that "these messages are not only heard, but supported and practiced, so that all women someday will be truly enabled to make the best preventive health choices for themselves and their children." ■

— By Linda Kastleman



## Current recommendations for breast feeding:

**Breastfeed exclusively for six months;**  
continue as supplement to other food  
(recommended by AICR and WCRF)

*Other ways to reduce cancer risk:*

- increase physical activity
- improve eating habits
- lower alcohol consumption
- maintain a healthy weight

*More at:*

- Carolina Global Breastfeeding Institute: [www.sph.unc.edu/breastfeeding/](http://www.sph.unc.edu/breastfeeding/)
- Academy of Breastfeeding Medicine: [www.bfmed.org/](http://www.bfmed.org/)
- Unicef: [www.unicef.org/nutrition/index\\_breastfeeding.html](http://www.unicef.org/nutrition/index_breastfeeding.html)

# UNC helps cancer patients, families shift *into* survival mode

Like being dropped off a cliff.

That's how many patients describe the difficult transition from their initial cancer treatment to cancer survivorship, says Marci Campbell, PhD, MPH.

And that's something she and others at UNC's Gillings School of Global Public Health and the Lineberger Comprehensive



Dr. Marci Campbell

Cancer Center are addressing. Last year, the LIVESTRONG chose Lineberger as a LIVESTRONG Survivorship Center of Excellence, part of a Network of centers that direct survivorship services and increase the effectiveness of survivorship care through research, the development of new interventions and sharing of best practices.

Working together, LIVESTRONG Survivorship Center of Excellence Network members are examining and transforming how survivors are treated and served in a variety of settings, stimulating survivorship research, and improving the quality and integration of care among health care providers caring for cancer survivors.

Campbell, a nutrition professor, co-directs the Center. "We are very honored to be chosen," she says. "We're only one of eight in the nation and the only one in the southeast."

The Center at UNC Lineberger was formed with a five-year \$1.5 million grant co-funded by LIVESTRONG and the V Foundation.



Additional grant monies will fund three community-based centers that will collaborate closely with Lineberger.

Awareness of the special needs of cancer survivors is growing. Today, more than 65 percent of adults and 75 percent of children who are diagnosed with cancer survive more than five years. It's a phenomenon expected to continue as an aging population brings more cancer diagnoses, while treatments and early detection bring down death rates. Nationwide, the number of cancer survivors is 12 million. About 300,000 of them live in North Carolina.

Campbell has worked with others, such as Paul Godley, MD, PhD, and Donald Rosenstein, MD, to establish community-based centers at hospitals and health care clinics in other locations across the state. Godley is associate professor of hematology and oncology in UNC's School of Medicine and a member of the Lineberger Comprehensive Cancer Center. Dr. Rosenstein is a professor of psychiatry and director of the new UNC Comprehensive Cancer Support Program.

As a result of their efforts, full-time outreach coordinators who specialize in survivorship issues are now in place at the Greensboro Area Health Education Center (AHEC), Tri-County Community Health Center in Sampson County and the Zimmer Cancer Center at the New Hanover Regional Medical Center in Wilmington.

"We didn't want it to be so that everyone had to come to Chapel Hill," Campbell says.

The program also helped establish an off-campus clinic at UNC where survivors can receive follow-up care, such as psychosocial counseling and wellness care. That helps ►►

## CANCER SURVIVOR RESOURCES

- **LIVESTRONG:** [www.livestrong.org](http://www.livestrong.org)
- **LIVESTRONG Care Plan:** [www.livestrongcareplan.org](http://www.livestrongcareplan.org)
- **Carolina Well UNC Lineberger Survivorship Program:** <http://cancer.med.unc.edu/patient/support/carolinawell>
- **National Coalition for Cancer Survivorship's "Cancer Survival Toolbox"** (a free, self-learning audio program developed by leading cancer organizations; contains a set of basic skills, as well as special topics): [www.canceradvocacy.org/toolbox](http://www.canceradvocacy.org/toolbox)
- **National Cancer Institute's Cancer Survivorship information site:** <http://dccps.nci.nih.gov/ocs/>

those “who may not want to return to a hospital setting where many people are still very ill and in treatment,” Campbell says.

The goal is for every cancer survivor to leave with a treatment summary and survivorship care plan. The plan would address physical as well as psychological and support needs and include a comprehensive list of medications and treatments used, which can be helpful to a patient’s primary care physician.

In an effort to address survivor needs, Campbell says, questionnaires were given

to cancer patients and caregivers at N.C. Cancer Hospital last fall, asking survivors whether they had received enough information (about everything from sexual issues to keeping track of important medical records), and what kind of programs and services they would like to have.

As they return to work and “the new normal,” cancer survivors say they sometimes feel as though the network of family and friends that supported them had now moved on. In addition, many have financial and

work issues that may put tremendous stress on the patient and family.

Clinical caregivers may need some education as well, Campbell says. While some caregivers would say, “well, that’s done,” the cancer survivor knows that the battle rages on, even without medicine or surgery.

“We heard several stories about cancer patients being given a celebration on the last day of treatment,” Campbell says. This is usually done with the best of intentions – but to the patient, it can seem as though the warm circle of staff and caregivers is leaving, and the patient may feel fearful and alone.

Caroline Huffman, director of patient navigation services at LIVESTRONG, praised Lineberger staff for their progress developing a survivorship center program.

“Lineberger is poised to accomplish great things,” Huffman says. “They’ve got a great team put together and they are incredibly enthusiastic.” ■

– By Sylvia Adcock

## STEPS OF YOUR OWN

- If you or a loved one is battling cancer, **keep track of all treatments and medications**, including dates and places. This list can be helpful for your primary care physician later.
- Don’t pretend that everything is finished, once treatments are over. The patient needs continuing emotional and possibly physical support beyond chemotherapy or radiation.

# Combating *the* virus linked to cervical cancer



**A**s a behavioral scientist, Noel Brewer, PhD, tries to understand how people make health decisions. As an epidemiologist, Jennifer S. Smith, PhD, looks for risk factors that affect our health. From those different perspectives, both researchers provide important weapons in the fight against cervical cancer.

Every year, about 12,000 women in the United States are diagnosed with cervical cancer and almost 4,000 women die from the disease. It is among the most treatable of cancers, but only if it is caught early. Excellent screening tools – the Pap smear, for instance

– are available, and today, the vaccine against human papillomavirus (HPV) holds a new promise to prevent the cancer.

Recent findings by Smith, a research assistant professor of epidemiology at UNC’s Gillings School of Global Public Health, have



## In America, there's no excuse for anyone dying of cervical cancer... That's something that happens in villages with no electricity.

— Assistant Professor Noel Brewer

demonstrated the link between HPV and cervical cancer. She and other researchers scrutinized 41 studies involving 22,500 women. They found that a persistent, high-grade HPV infection consistently was associated with an increased risk of cervical cancer. International surveys have shown that women with an average age of 45 may have 100 times the risk of invasive cervical cancer if they have HPV infection, she says.

Smith's research, of course, bolsters the case for vaccination. Yet many young women aren't getting it. That's where Brewer's work comes in.

Brewer, assistant professor of health behavior and health education, recently spent time in five North Carolina counties – Duplin, Harnett, Wayne, Sampson and Cumberland – to talk to parents of young girls about the perceived barriers to their getting the vaccine. Parents who were most likely to get their daughters vaccinated were those who expressed regret at the thought that their daughter might develop later health problems.

In June, when the South-Central Partnership for Public Health, a coalition of county public health departments, rolled out a public relations campaign for the vaccine, the materials included pictures of mothers and daughters and the words: "You have hopes and dreams for your daughter, and they don't include cervical cancer."

Brewer's work "helped us clarify important components of our message," says

Heather Gates, a Gillings School of Global Public Health graduate and public health consultant. Gates heads the project, which is designed to inform parents in counties with the highest rates of cervical cancer.

Brewer also found that if parents saw barriers to getting the vaccine – for instance, if they didn't know where to get it or whether their insurance would cover it – they were much less likely to get it. One-third of health care providers in those counties, Brewer found, did not have the vaccine. He also learned that people who identified themselves as born-again Christians were half as likely to get their daughters vaccinated. "We may need to think of them as a risk group, and a group we need to reach out to," Brewer says.

Smith and Brewer, who come from different fields but have common goals, are excited about the promise of the vaccine to save women's lives. "Elimination of cervical cancer is certainly a possibility in the future," Smith says.

For now, it continues to be a cancer of disparities, one that more often affects women of lower socio-economic status. Black women and rural women are much more likely to die of cervical cancer than other women. Brewer finds that unacceptable.

"In America, there's no excuse for anyone dying of cervical cancer," he says. "That's something that happens in villages with no electricity." ■

— By Sylvia Adcock

### MORE INFORMATION:

- HPV Vaccine Project: [www.hpvvaccineproject.org](http://www.hpvvaccineproject.org)
- American Cancer Society: [www.cancer.org](http://www.cancer.org) (choose "cervical cancer" under the cancer topic option)
- National Cancer Institute cervical cancer home page: [www.cancer.gov/cancerinfo/types/cervical](http://www.cancer.gov/cancerinfo/types/cervical)

# Researchers can mine new health registry for wealth of data

North Carolinians can help make scientific history *and* advance cancer research by enrolling in the groundbreaking new UNC Health Registry funded by the University Cancer Research Fund. In doing so, they'll be part of a whole new research effort aimed at determining how best to treat and support those with cancer.

There are a lot of things that physicians still don't know about cancer, a category that encompasses a wide range of diseases with different causes and treatments. They would like to know why some patients respond to therapies better than others, why certain individuals experience debilitating side effects from treatment while others don't, why there are ethnic disparities in cancer outcomes, and how cancer treatment affects a patient's quality of life over time.

The UNC Health Registry is a far-reaching initiative, that aims to answer these questions. The project will advance cancer research, prevention, treatment and care, and also seeks to reduce health disparities among North Carolinians. The study will enroll 10,000 English- and Spanish-speaking North Carolinians who come to UNC for cancer evaluation and care.

"The Registry is a chance for researchers to learn about ways to improve treatment outcomes as well as the quality of life of cancer patients and their families," says Jeannette T. Bensen, PhD, research assistant professor of epidemiology at the UNC Gillings School of Global Public Health and Lineberger

Comprehensive Cancer Center member. She is leading the project, along with an interdisciplinary group of investigators.

Bensen says she hopes that patients will understand the importance of their partici-

pation in this initiative because the questions it can answer will help change the course of cancer care.

The Registry will create an integrated record of clinical information, biological specimens and questionnaire data that includes safeguards to protect patient privacy. Additionally, those patients with a cancer diagnosis enrolled in the Registry will be followed annually and will comprise a unique part of the Registry known as the UNC Cancer Survivorship Cohort. Bensen says UNC's public health, medical and other schools have for decades contributed "excellent population-based cancer research spanning



Dr. Jeannette Bensen

PHOTO BY LINDA KASTLEMAN



To participate in the Health Registry, patients must:

- Be 18 years or older
- Have a North Carolina address
- Have an appointment in a UNC Hospital (e.g., the N.C. Cancer or N.C. Women's Hospital)

North Carolina counties, especially in the middle and eastern areas of the state. The new study will be even more comprehensive.”

The integrated nature of the project – one of very few being done on such a large scale – will link health outcomes and quality of life to sophisticated genetic analysis that can help doctors better understand how and why patients respond differently to the same treatment, how to better manage treatments to avoid side effects, how to better manage cancer after the initial round of therapy is over and how to address long-term health concerns of cancer survivors. Another unique aspect is the ability to contact patients for future studies. This will allow patients and their families to choose to be involved in exciting new studies that advance the science of cancer prevention, early detection and therapy.

“This Registry complements UNC’s rich research history by adding a hospital-based cohort that can be used to ask different questions and assemble yet another important set of information centered on a patient’s clinical care and quality of life,” Bensen adds. “UNC is one of only a few centers in the nation to establish an integrated registry and cancer survivorship cohort such as this. This resource will give researchers the potential for groundbreaking work in the field of cancer research.” ■

– By Kim Gazella

# The key to patient advocacy: resourcefulness

PHOTO BY TOM FULDNER



Dr. Jo Anne Earp, left, makes a point during a class she teaches with colleague and fellow patient advocacy expert, Elizabeth French. They co-authored the book *Patient Advocacy for Health Care Quality*.

Long gone are the days when a seriously ill patient had just one doctor, likely one who had known her for most of her life. Today, patients with a serious diagnosis enter a medical world filled with specialists, advanced technology and mountains of information on the Internet.

“People have to navigate really complicated health systems today, especially when coping with a complicated illness like cancer,” says Elizabeth French, MA, assistant director of

academic affairs in the department of Health Behavior and Health Education at the UNC Gillings School of Global Public Health. “It requires huge amounts of resourcefulness.” ►►



Being well informed is one thing. Actually advocating for yourself or a loved one is all together something else. And figuring out how to access the latest treatment, push

science, epidemiology and clinical medicine. Courses also are offered on how to lobby for improved health care. Robert Millikan, PhD, DVM, Barbara Sorenson Hulka Distinguished

“The advocates really serve as our eyes and ears, and play an important role in making epidemiological research more responsive to the needs of the communities,” he says, citing the Carolina Breast Cancer Study as an example. That study focuses on the causes of breast cancer in African-American women. The community advisory group helped create a statewide, comprehensive resource directory about breast cancer diagnosis, treatment and support around the state, and also developed a web site for the study.

So whether an advocate is reminding a provider that her patient is allergic to a particular kind of medication, pushing for redesigned hospital rooms, insisting on a different course of treatment, or lobbying Congress for a new federal law, the goal is the same: greater dignity, safety, access and empowerment for the patient and better communication between patients and their health care providers. ■

– By Kim Gazella

In addition to pushing for more research, cancer advocates have helped improve the way care is delivered. Patients and families are more involved in decision-making.

– Elizabeth French

for safer health care or even learn the terminology for your disease can be exercises in frustration.

“Patients who are newly diagnosed with a serious illness like cancer are scared, vulnerable and pretty disoriented, and this is the time they also need to pretty quickly learn the ropes of complex medical processes that may also feel dehumanizing,” says French. “But there’s good news, too. In addition to pushing for more research, cancer advocates have helped improve the way care is delivered. Patients and families are more involved in decision-making. Patients often sit on family councils that help hospitals set policy on how care is delivered, so they have an influence that way, too.”

French and Jo Anne Earp, ScD, professor and interim chair of Health Behavior and Health Education, teach a graduate level course on patient advocacy. They define patient advocacy as “the wide range of interventions promoting patient-centeredness, patient safety and patient voice in the health care system.”

As Earp and French note in their book, *Patient Advocacy for Health Care Quality*, a patient advocate can be the patient, a friend or family member, a palliative care provider (such as hospice) or an activist organization that agitates for social change and legislative action.

One prominent advocacy organization is the National Breast Cancer Coalition, which holds annual weeklong educational programs to train breast cancer advocates in basic

Professor of epidemiology, has served as an instructor in the program since 1994.

Millikan says that advocates can provide insights into different cultures and contribute to the success of studies by making written and oral communication more relevant and understandable.

## ADVOCACY TIPS

1. Establish a relationship with a primary care provider. This is the provider who knows you over time and knows what “normal health” means for you.
2. Speak up with concerns about your condition. Tell your doctor about your symptoms, and ask for explanations. Don’t be afraid to ask questions!
3. Educate yourself. Go online to learn more about your illness, but be sure to confirm information with your doctor or other reputable sources.
4. Ask a family member or close friend to serve as your advocate if you are being admitted to the hospital. This person can report symptoms, communicate your needs, check your medications and serve as a troubleshooter.

## RESOURCES

- Patient Advocate Foundation (nonprofit organization that will check the accuracy of hospital bills and work with hospitals and insurers to get procedures and reimbursements approved): [www.paf.org](http://www.paf.org)
- Institute for Family-Centered Care: [www.familycenteredcare.org](http://www.familycenteredcare.org)
- National Long-term Care Ombudsman Program (will assess and improve situations related to long-term care facilities): [www.ltcombudsman.org](http://www.ltcombudsman.org)

# Grads apply UNC training to “real world, messy problems” at National Cancer Institute

When Deborah Winn, PhD, began her public health graduate studies in epidemiology, she had not yet identified a research area that inspired her.

“I was a graduate student shopping around for a dissertation topic,” says the 1980 University of North Carolina at Chapel Hill alumna.

So when key cancer epidemiologists at the National Cancer Institute told Winn about a “huge pocket of high mortality rates from oral cancer in the southeastern United States, especially among women,” she was intrigued enough to pursue the problem.

Finding a significant association between smokeless tobacco and oral cancer, Winn’s dissertation led to product labeling of smokeless tobacco products and put her on the path to becoming one of the nation’s top cancer epidemiologists.

Now deputy director of the Division of Cancer Control and Population Sciences (DCCPS) at NCI, Winn works to direct funding and initiatives to the most promising areas of research.

“Understanding cancer epidemiology helps me figure out where the research gaps are and where the research community needs to go,” Winn says. “It also gives me a framework to help move new findings about cancer risk factors to the next step – to inform intervention research to reduce the burden of cancer in populations.”

She and two of her colleagues in the division credit their education at UNC’s Gillings School of Global Public Health with giving them the tools they need to make an impact on cancer-control planning in the United States and around the world.

“Because of my training in the Department of Biostatistics, we bring advanced and sophisticated statistical techniques to the way

in which we measure and report data,” says Brenda K. Edwards, PhD, associate director of the Surveillance Research Program within DCCPS and 1975 graduate of the School’s biostatistics department.

Edwards’ program collects and analyzes data about cancer incidence rate, prevalence, survival rate, treatment methods, risk factors, screening exams and other measurable factors. “We try to figure out who gets cancer and what happens to them,” she says.

Eric J. “Rocky” Feuer, PhD, chief of the Statistical Research and Applications Branch of the Surveillance Research Program and also a biostatistics alumnus (1983), says the approach his professors took in analyzing data laid the foundation for his own desire to make the presentation and analysis of population-based cancer statistics more rigorous, more interesting and less confusing – so that it can make a difference in setting national priorities for the control of cancer.

“The emphasis was on developing methods that are intuitive and help clearly bring out the essence of what the data are trying to tell us,” says Feuer.

His branch supports the use of simulation modeling – synthesizing information over the course of someone’s entire life.

“We help paint a quantitative picture, characterize the issue and articulate it to policy makers,” Edwards says. For example, when the data showed a decline in breast cancer mortality rates in the 1990s, the program’s model showed that about half of the decline was due to mammography, other early detection protocols and effective treatment.



UNC public health alumni Drs. Brenda Edwards, Deborah Winn and Eric “Rocky” Feuer (left to right)

One of the challenges Edwards’ program faces is finding strong researchers like Feuer. “We were trained at UNC in an applied arena,” she states, “and it’s hard to find individuals with interdisciplinary experience and with an interest in both statistical methods and applications. Our strongest people can apply what they know to real-world, messy problems.”

“The real world is broad and messy. It changes rapidly due to social, political and economic influences,” adds Barbara K. Rimer, dean of the School and first director of the DCCPS. “Whether developing cancer initiatives or measuring and reporting data in innovative ways, these three alumni are doing exemplary work in leading advances in the control of cancer at the national and global levels. We are proud that they represent our School. Each of them has not only made important scientific contributions, they also have fostered major research and proactive innovations at the national level.” ■

– By Chris Perry

# SCHOOL NEWS

For more information on these topics and other news, please see [www.sph.unc.edu/news\\_events](http://www.sph.unc.edu/news_events).

## New weight gain guidelines established for pregnant women

NEW GUIDELINES FOR HOW MUCH WEIGHT a woman should gain during pregnancy have been established by a national team of physicians and health care professionals, including Anna Maria Siega-Riz, PhD, UNC epidemiology and nutrition associate professor and associate chair of the Department of Epidemiology. Siega-Riz was one of four team members who presented the new guidelines at a news conference May 28, 2009, at the National Press Club in Washington, D.C.



Dr. Anna Maria Siega-Riz

“This work has important implications for the lives of women, given that in any one year, approximately four million women give birth,” Siega-Riz says.

The team, established by the Institute of Medicine and the National Research Council, updated recommendations the Institute of Medicine made in 1990. The new guidelines reflect changing U.S. demographics, particularly the surge in the number of Americans who are overweight or obese. Healthy American women at a normal weight for their height should gain 25 to 35 pounds during pregnancy, the guidelines state. Underweight women should gain more, 28 to 40 pounds, and overweight women should gain less, 15 to 25 pounds. These ranges match the 1990 guidelines, but the report also specifies a new range for obese women (BMI greater than 30) which limits the recommended gain between 11 and 20 pounds. ■

## Practicing what we teach with pandemic influenza



PHOTO BY LINDA KASTLEMAN

WakeMed chief executive officer Bill Atkinson (right) and emergency responders demonstrate the medical center's preparedness van to Bill Gentry (in blue shirt), health policy and management faculty member and director of the Community Preparedness and Disaster Management program at the UNC Gillings School of Global Public Health.

PREPAREDNESS IS A CRITICAL AREA OF OUR School's interdisciplinary expertise. The global public health crisis sparked by the H1N1 flu pandemic tested the depth and breadth of the School's many programs and its training and response capabilities.

“The results of our response have confirmed for us the durability and effectiveness of our planning,” says Bill Gentry, director of the School's Community Preparedness and Disaster Management program and health policy and management lecturer.

“We were able to put more than three years of planning into practice,” adds Pia MacDonald, PhD, director of the North Carolina Center for Public Health Preparedness (NCCPHP) and research assistant professor of epidemiology.

Our School worked closely with the UNC School of Medicine, UNC Hospitals, local health departments and, especially, the N.C. Division of Health and Human Services to ensure that health care providers, public officials and the general public were aware of H1N1 symptoms, how to avoid spreading the virus, how to contain and treat suspected or confirmed cases and how to plan for treatment in case of exposure. Our experts were quoted in print, broadcast and Web news stories across the state and nation. ■

For more information, see [www.sph.unc.edu](http://www.sph.unc.edu).



## USAID awards \$8.5 million to water and sanitation project in Southeast Asia

THE U.S. AGENCY FOR INTERNATIONAL Development (USAID) awarded up to \$8.5 million to WaterSHED (Water, Sanitation and Hygiene Enterprise Development) – a joint effort of UNC’s Gillings School of Global Public Health, Kenan-Flagler Business School and the Kenan Institute-Asia. Mark Sobsey, PhD, Kenan Distinguished Professor of environmental sciences and engineering, is the principal investigator.

Researchers identify sustainable ways to increase the use of ceramic or biosand water filters in homes that lack clean drinking water, to help reduce diarrhea and related diseases that kill nearly two million children a year worldwide. They also investigate ways to achieve financially sustainable, scaled-up access to safe water sources, such as harvested rainwater; improved sanitation, including latrines; and greater practice of personal hygiene, especially hand washing with soap.

The award grew out of the Carolina Global Water Partnership, one of the first Gillings Innovation Laboratories funded through a \$50 million gift to the public health school from Dennis and Joan Gillings. ■

## Studies examine genetic role in obesity, hypertension and early onset of puberty

GENES PLAY A ROLE IN DETERMINING WHO is obese, has hypertension or goes through puberty earlier than peers, according to three studies published recently by researchers in the School’s epidemiology department.

Nora Franceschini, MD, MPH, research assistant professor of epidemiology, and Kari E. North, PhD, associate professor of epidemiology, were lead authors of a report published in the journal *Circulation: Cardiovascular Genetics* that shows how cigarette smoking, alcohol consumption and exercise level can modify the effects of genes on risk of hypertension.

The study examined the average effect of multiple genes tied to hypertension risk and showed that behaviors can influence the effects of genes on blood pressure. The study was funded by grants from the National Heart, Lung and Blood Institute, part of the National Institutes of Health. Franceschini is supported by a grant from the American Heart Association.

Franceschini also was one of the leading authors for a study published in the June issue of *Nature Genetics*, identifying an association between genes and age at first menstruation (menarche), height and possibly body mass index (BMI).

“Our findings could trigger new research about human growth factors and diseases



Dr. Nora Franceschini Dr. Kari North

associated with menorrhea,” Franceschini says. “There is also some evidence that the age of menarche is associated with breast cancer and stroke.” She says the genes found to influence puberty in girls seem to be relevant to boys, too, but their study was not extended to boys.

Another study, published June 25, 2009, in the journal *PLOS Genetics*, identified a novel link between genes and waist circumference and BMI.

“Because central abdominal fat has been shown to be a strong risk factor for diabetes and cardiovascular disease – a major health concern around the world – we searched for genes that might predispose people to a larger waist circumference,” says North. “Finding genetic associations with waist circumference may help scientists better understand why some people may be more susceptible to obesity and cardiovascular disease.” ■

## UNC injury research center receives \$4.8 million award from CDC

THE UNC INJURY PREVENTION RESEARCH CENTER HAS received \$4.8 million in renewed funding from the National Center for Injury Prevention and Control at the Centers for Disease Control and Prevention.

The UNC center is one of 11 Injury Control and Research Centers (ICRC) addressing injury prevention in the U.S.

With the help of the grant, the center will add projects on dating violence, domestic violence, knee injuries among athletes, safety on college campuses and falls among older adults. The studies add to an array of ongoing projects addressing violence, and injuries in sports and recreational activities, at work and in the

home environment. The center also has a strong national focus on professional education.

“We are pleased to work with many partners in the state and throughout the world in reducing the enormous public health burden of injuries – a preventable problem that is responsible for more years of life lost and higher medical care expenses than any other health problem,” says center director Carol Runyan, PhD. Runyan is also a professor of health behavior and health education and an adjunct professor of epidemiology in the UNC Gillings School of Global Public Health and a professor of pediatrics in the UNC School of Medicine. ■

## UNC study: new approach promises greater success for predicting drug safety

ADVERSE REACTIONS TO DRUGS are one of the leading causes of death in the United States. However, there may be a way to predict which people are most likely to suffer a toxic side effect from a drug before they have even taken it. A study published in the online journal *Genome Research* (May 4, 2009) describes a more effective and less costly method for testing drugs for potential toxicity. The method also could result in more people benefiting from existing drugs, says senior author David Threadgill, PhD, professor of genetics in the UNC School of Medicine and head of the genetics department at North Carolina State University. Ivan Rusyn, MD, PhD, associate professor of environmental sciences and engineering in the UNC Gillings School of Global Public Health, is a study co-author. The National Institutes of Health funded the research. ■

## HPM students' research contributes to Mississippi legislation

A TEAM OF UNC HEALTH POLICY AND management graduate students helped convince the Mississippi state legislature to require communities around the state to fluoridate their water. The students include Lauren Brown, Kim Hammersmith, DDS, Ashley Kranz, Presha Patel and Bhav Shukla, as well as Nick Mosca, Mississippi State Dental Director and student in the School's distance education DrPH program.

As part of a course on health care in the U.S., students were assigned a state and a broad topic area – in this case, “dental health.” Mosca asked the students to conduct research on water fluoridation and other states' mandates on the process. Last fall, he shared their findings with the Mississippi

State Board of Health. In April 2009, the board mandated that all Mississippi communities with populations over 2,000 add fluoride to their water supplies.

Later in April, Hammersmith and Kranz took the team's findings to the National Oral Health Conference in Portland, Ore., where Hammersmith made a poster presentation to dentists and dental directors from around the country.

“This project was a great example of student activity being an important part of a real-world public health benefit,” says Edward “Ned” Brooks, PhD, who taught the course.

Findings were published in the May 2009 *Journal of the Mississippi State Medical Association*. ■

## Getting more “health,” less “sickness” into marriage vows

PENNY GORDON-LARSEN, PhD, ASSOCIATE professor of nutrition, and Natalie The, nutrition doctoral student, found that newlyweds are more than twice as likely to become obese than are people in romantic relationships who are not living together. Women living with a romantic partner have a 63 percent increased risk of obesity. The findings were published online and in the July issue of the journal *Obesity*.



Dr. Penny Gordon-Larsen

According to Gordon-Larsen, when people are living together – married or not – they tend to share behaviors and activity patterns. For instance, they may cook bigger meals together or eat out more often than when they were single, and may watch TV together instead of going to the gym or playing a sport.

“If this is a time of shifting behaviors and of influencing each other, then maybe it's a good time to intervene with these young couples and get them to have a more positive effect on each other,” Gordon-Larsen says. “Maybe they can exercise together or cook healthy meals together. Couples can use that phenomenon (of shared behaviors) to their advantage if they're aware of what's going on.” ■

## Minority health videoconference focused on educational inequities and health disparities

THE 15TH ANNUAL Summer Public Health Research Videoconference on Minority Health was broadcast live online on June 9, 2009. The event, “Breaking the Cycle: Investigating the Intersection of Educational Inequities and Health Disparities,” featured Howard Lee, MSW, executive director of the N.C. Education Cabinet, past chair of the N.C. Board of Education and former mayor of Chapel Hill, N.C., as moderator. Panelists were Reginald Weaver, vice president



Howard Lee

of Education International and past president of the National Education Association; Dina C. Castro, PhD, scientist at UNC's Frank Porter Graham Child Development Institute; Nicholas Freudenberg, DrPH, distinguished professor and director of the doctor of public health program in the Program in Urban Public Health, Hunter College School of Health Sciences, City University of New York; and Lillian A. Sparks, JD, executive director of the National Indian Education Association. ■

# UNC SCHOOL OF PUBLIC HEALTH AWARDS & RECOGNITION

Details of these and other awards are available at [www.sph.unc.edu/awards\\_and\\_recognitions](http://www.sph.unc.edu/awards_and_recognitions).

## FACULTY

### Halpern receives Faculty Award for Excellence in Doctoral Mentoring



Dr. Carolyn Halpern

Carolyn Halpern, PhD, associate professor of maternal and child health at the UNC Gillings School of Global Public Health, received the UNC Graduate School's Faculty Award for

Excellence in Doctoral Mentoring at the 2009 doctoral hooding ceremony on May 9.

### Cai awarded Fellow status by Institute of Mathematical Statistics



Dr. Jianwen Cai

Jianwen Cai, PhD, professor of biostatistics in the UNC Gillings School of Global Public Health, was selected as one of this year's 17 Institute of Mathematical Statistics (IMS) Fellows. She

and other honorees were recognized at the IMS Presidential Address and Awards session at the Joint Statistical Meetings on Aug. 3 in Washington, D.C.

## STUDENTS

### UNC Nutrition students dominate awards at major national conference



Scott Ickes



Meghan Slining

Six students in the UNC Gillings School of Global Public Health's Department of Nutrition were awarded prestigious fellowships and prizes at the 2009 Experimental



Natalie The

Biology Conference in New Orleans April 18-22. Jessica Ellis, Scott Ickes, Nicole Schwerbrock (May 2009 graduate), Meghan Slining, Ya Wen Teng and Natalie The won half of the doctoral student awards and were finalists for other prizes presented by the American Society of Nutrition (ASN).

### Rositch selected as Fogarty Scholar

Anne E. Rositch, epidemiology doctoral student, was selected as a Fogarty Inter-

national Clinical Research Scholar in spring 2009. Rositch left this summer to live in Nairobi, Kenya, for a year. She is contributing to a study focusing on human papillomavirus, cervical

precancerous lesions and HIV transmission. Under the auspices of The University of Washington at Seattle and The University of Nairobi, Rositch conducts research ancillary to a study led by Jennifer Smith, PhD, UNC research assistant professor of epidemiology and Rositch's mentor.



Anne Rositch

### Sonia selected by Delta Omega to present at APHA in November

Michelle Sonia, 2009 graduate of the Master of Science in Public Health program in health policy and management, will present her research on early detection of breast cancer at the 137th annual American Public Health Association (APHA) meeting, Nov. 7-11, in Philadelphia, Pa. She is one of 19 students from across the U.S. selected for the honor by The Delta Omega Honorary Society in Public Health. The APHA poster session, scheduled for Nov. 9, will showcase student scholarship and research in accredited schools and programs of public health. The School's Office of Research partnered with Delta Omega to ►►





Michelle Sonia

nominate four students from the organization's Theta Chapter, of which UNC is a member, to compete at the national level. Other nominees from UNC include Mejs Hasan (environmental sciences and engineering), Lucia Leone (nutrition) and Regina Rutledge (maternal and child health).

## STAFF



Sue Robeson

### Robeson receives School's Staff Excellence Award

Sue Robeson, student services specialist for the Public Health Leadership Program (PHLP), received the UNC Gillings School of Global Public Health's 2009 Staff Excellence Award. Her friends and co-workers at the School attended a reception in her honor on July 31 in the Michael Hooker Research Center atrium.

## ALUMNI

### Peters receives Presidential award for early-career scientists

Ulrike (Riki) Peters, PhD, associate member of the Fred Hutchinson Cancer Research Center in Seattle, Wash., was named by President Obama in July as one of 100 recipients of the Presidential Early Career Awards

for Scientists and Engineers. This is the highest honor bestowed by the U.S. government on young professionals in early stages of their independent research careers. Peters is a 1999 alumna of the UNC Gillings School of Global Public Health's Master of Public Health program in epidemiology. Winning scientists and engineers receive up to a five-year research grant to further their study in support of critical government missions. Peters' grant is from the National Institutes of Health. She will join other recipients at a White House ceremony in fall 2009. The awards, established by President Clinton in February 1996, are coordinated by the Office of Science and Technology Policy within the Executive Office of the President. Awardees are selected on the basis of two criteria: pursuit of innovative research at the frontiers of science and technology and a commitment to community service as demonstrated through scientific leadership, public education, or community outreach.

### Mande named USDA's Deputy Under Secretary for Food Safety

Jerold R. Mande was named Deputy Under Secretary for Food Safety at the U.S. Department of Agriculture (USDA) in July 2009. In this position, he is responsible for the Food Safety and Inspection Service, the USDA agency that ensures the nation's supply of meat, poultry and processed egg products are safe and wholesome. Mande received a Master of Public Health degree in nutrition in 1983 from the UNC Gillings School of Global Public Health. Most recently, Mande served as associate director for policy at the Yale Cancer Center at the Yale University School of Medicine, where he developed a national model to increase support for cancer prevention and control and initiated and helped manage the cancer

center disparities program to improve cancer control and care in underserved populations. He also served as Senior Advisor and Executive Assistant to the Commissioner of the Food and Drug Administration, where he led design of the Nutrition Facts food label, for which he received the Presidential Award for Design Excellence.

### Shelp named head of new division within Georgia human resources department

School alumnus Frank E. Shelp, MD, MPH, has been named Commissioner of the Georgia Department of Behavioral Health and Developmental Disabilities (DBHDD) by Georgia's Gov. Sonny Perdue. Shelp is a 2006 alumnus of the Department of Health Policy and Administration, now the Department of Health Policy and Management. He earned a Doctor of Medicine from the Medical College of Virginia. The new DBHDD began operations on July 1, 2009.

## DEPARTMENTS

### ESE tied for 9th place in U.S. News and World Report rankings

The UNC Gillings School of Global Public Health's Department of Environmental Sciences and Engineering is one of the nation's best environment/environmental health programs, according to *U.S. News and*

*World Report*. The magazine ranks the best graduate programs each year. The School's environmental sciences and engineering department ranks among the top engineering schools in the nation perennially, even though UNC Chapel Hill does not have an engineering school. Michael D. Aitken, PhD, chairs the department.



Dr. Mike Aitken

“YOUR GIFTS ARE INVESTMENTS AND WE THANK YOU FOR EVERY ONE OF THEM. The return on your investment will be far more than the gratitude of public health researchers, teachers and students, though you will have that in abundance. Your return will be solid information on your gift’s impact — discoveries made, students trained, publications made possible, clinics supported, lives touched and the public’s health transformed. You will know that your gift — your investment — has made a difference in the protection of the world’s health and America’s future.”

— DEAN BARBARA K. RIMER

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Derek & Louise Winstanly

# Expendable gifts save the day

**U**nderwater – an ominous word when applied to towns – or endowments. This winter, in the midst of student admissions, the School found itself with several scholarships and one professorship “underwater.” This is a situation in which market declines cause the value of an endowment to dip below its contributed value. When it occurs, the scholarship or professorship typically cannot be awarded, unless excess income has accumulated over time.

Enter the School’s heroes. Kelly Browning, Executive Vice President of the American Institute for Cancer Research (AICR) and former president of the Public Health Foundation Board of Directors, worked with AICR President Marilyn Gentry and the AICR Board of Directors to secure an additional \$25,000 to cover the *Carla Smith Chamblee Distinguished Professorship* held by celebrated nutrition expert Barry Popkin, PhD.

“Professors Barry Popkin, June Stevens, and Steve Zeisel were critical contributors when AICR was producing its landmark reports on nutrition and cancer. The UNC Gillings School of Global Public Health has some of the most brilliant nutrition faculty in the world, and the AICR was pleased to come to the rescue when Dr. Popkin’s professorship was underwater,” said Browning. For copies of the AICR’s acclaimed reports see [www.dietandcancerreport.org](http://www.dietandcancerreport.org).

Other heroes included Deniese Chaney, Don and Jennifer Holzworth, and Derek and Louise Winstanly. All had recently established endowed scholarships at

the School. All had seen values fall. All responded generously with out-of-pocket support when they learned their scholarships could not be awarded in 2009-2010. The Holzworths even established an entirely new endowed scholarship – their third – with an expendable component to permit it to be awarded immediately. “We knew that endowment returns were suffering, and, when it became clear that the School might lose extraordinary students who could one day become world class public health practitioners, we felt that we had to step up and make a difference,” said Don.

“It has been inspiring to see the way our friends have responded,” said Peggy Glenn, Associate Dean for External Affairs. “Eddie and Joanne Dauer and Gary and Carolyn Koch pioneered expendable scholarships for us last year, and the various ways of structuring scholarships are making such a difference for our students. Even though endowments are now recovering, Annual Fund and expendable scholarships will remain an important part of our mix.” ■



Kelly Browning

## \$10,000 to \$24,999

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Bergen County United Way  
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James Donald Kinard  
Charles Wayne Kinsey  
Emil J. Klingenfus  
Gary G. & Carolyn J. Koch  
Mazie Jones Levenson  
Hong Li

Grazyna Janic Lieberman  
Julie MacMillan  
Felicia E. Mebane  
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Charlotte & Miguel Nuñez-  
Wolff  
Douglas Martin Owen  
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George Pink & Peggy Leatt  
David & Julie Potenziani  
Alan & Linda Rimer  
James & Jennifer Rosen  
John Spotswood Russell  
Patricia D. Saddier  
Jessie Satia  
*in honor of Benedict and  
Philomena Satia*  
Anna Pittman & James  
Simpson Schenck IV

Susan Willey & Allen Spalt  
State Employees' Combined  
Campaign  
Joel & Donna Storrow  
Lori Anne Todd  
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S. Mae Beale  
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Deborah Bender & John  
Curry  
Margaret E. Bentley  
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Michael N. Boyd  
Philip & Marina Braswell  
Julie McClure Chandler  
Stacy-Ann Christian  
Dennis A. Clements III &  
Martha Ann Keels  
Terri Ann Colangelo  
Ralph & Joann Cook  
David Erwin Cooper

# It comes down to good people

Michael Arrighi has been an epidemiologist for nearly 30 years, from Los Angeles to Saudi Arabia to Research Triangle Park, N.C. He's now living in California, working as senior director of epidemiology for Elan Pharmaceuticals, Inc., and loves the career he's chosen.

"Michael is passionate about epidemiology," said Barbara Arrighi, his wife of 7 years, "and I know a lot of that comes from UNC."

Michael Arrighi earned his doctorate in epidemiology from the University of North Carolina's School of Public Health in 1992. He had gotten his master's degree in public health from the University of California at Los Angeles in 1980, then took a job as a research assistant at the University of Arkansas at Little Rock. There, he worked with an outstanding alumna of UNC's School of Public Health alumna, Dr. Carol J.R. Hogue.

"Carol was very influential in my decision to come to Chapel Hill for my doctorate," he said.

He also was drawn by the strength of UNC's faculty – people like the late Harry Guess, PhD, who started the School's pharmacoepidemiology program, and Victor Schoenbach, PhD, associate professor of epidemiology and member of UNC's Lineberger Comprehensive Cancer Center.

"It comes down to good people," Arrighi said. "UNC has had the best – and continues to have them."

The Arrighis regularly support the Department of Epidemiology with generous gifts, and now have



Michael and Barbara Arrighi

PHOTO BY MICHAEL ARRIGHI

pledged to endow a scholarship for an epidemiology student and have included a bequest to the school in their will.

"Michael and Barbara's gift is extraordinary in that it addresses the short term needs of the school for unrestricted support, makes a pledge to create an endowed fund that will mature in the near future and creates a repository for a portion of their estate so that their legacy will endure in perpetuity," said Andy Olshan, PhD, chair of the Department of Epidemiology.

"A lot of times people think the state supports state schools and they don't need additional support," Michael Arrighi said. "We've been fortunate enough to be able to give back to the school in the short term and long term. We certainly encourage all graduates to support the department and the School." ■

# Louise and Derek Winstanly:

## *Education is at the heart of progress in public health*



Louise and Derek Winstanly

Derek and Louise Winstanly have lived in the United States for only four years, but already they have made a powerful mark as supporters of public health initiatives in North Carolina. Among other activities, Louise is an active member of the University of North Carolina at Chapel Hill Institutional Review Board (IRB) and the UNC Hospital Ethics Committee, navigating patient protections and other health issues. Both are members of the Acceleration Advisory Committee at the UNC Gillings School of Global Public Health, guiding the progress of funding for innovative public health research.

The South African couple has lived around the world – including the United Kingdom and Japan – and everywhere they travel, Derek, a medical doctor who has been involved in drug research for 25 years and is now an executive at Quintiles Transnational Corp., and Louise, an attorney with a Master of Science degree in bioethics, find ways to make global health local.

"Health is definitely a global issue," Louise says. "We've seen that through the wide and rapid impact of the H1N1 virus. The global effects of such a threat are obvious, but we must recognize what is going on at the local level, too, so that outcomes are guided by strong ethical principles."

In their native country, Derek worked closely with the Medical University of South Africa (MEDUNSA), now part of the University of Limpopo, one of the first universities in the country to educate black South Africans as physicians.

He recognized the need for public health education and training to halt the advance of HIV/AIDS and other infectious diseases in the local communities and the world at large.

"Apartheid had a marginalizing effect on education," Louise says. "Derek and I see education as a keystone for society – the more educated one is, the more likely he or she is to make a difference."

That is why the couple has established The Winstanly Scholarship, funding given at the dean's discretion to a deserving graduate student in public health.

"We identify with Dean Rimer's vision and with the School's mission," Louise says. "We recognize the imminent need for funding the best and most deserving students – which is why we wanted to give – but we also don't want to be overly prescriptive. The School's leaders know where student funding is most needed, and we wanted to allow them the freedom to allocate it."

This fall, the 2009 Winstanly Scholar, Virginia Senkomago of Uganda, will begin the doctoral program in epidemiology at UNC. Virginia, who holds an undergraduate degree in chemistry from Berea College (Berea, Ky.) and a Master of Public Health from Yale, currently is working in South Africa in an HIV/AIDS program sponsored by the private-sector charitable organization, Africare.

The Winstanlys are confident that Virginia's contributions to public health will be a great return on their investment in her education. ■

– By Linda Kastleman

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 Chester W. Douglass  
 Shelley & Jo Anne Earp  
 Dan Elliott & Jeanne Stahl  
 Kenneth LeRoy Eudy, Jr.  
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*MacMillan*  
 Edwin B. Fisher  
 Lyne Gamble & Kathryn  
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 Leslie Ann Gura  
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## SCHOOL TO FOCUS ON BUILDING SCHOLARSHIP POOL

Each spring, schools of public health compete vigorously to attract the best, most diverse student body. Carolina does well – most of the School's top candidates accepted offers.

"There were, of course, students we wanted who chose to go elsewhere," said Dean Barbara K. Rimer. Many students need financial support, but what is available is often not enough.

"When the most promising students choose to go elsewhere, we often learn that a competing institution offered a bigger scholarship or support over a longer period of time," she said. "Often, they can tell the applicants sooner and can commit for longer periods of time. We must expand our pool of scholarships before the spring (of 2010) so that we can compete head-to-head with any offer. This is especially true if we are going to compete for the most promising minority and under-represented students. We *must* be able to do this. It is the right thing to do, and it is a matter of maintaining our competitive edge."

Over the next six months, the School will embark on a focused effort to obtain a minimum of 30 new scholarships. These will include scholarships created by gifts to the Annual Fund; endowed and expendable scholarships established by individuals, families and organizations; and internships with scholarship components funded by corporations.

If you would like to discuss options to establish a scholarship in your name or the name of a loved one, please contact Peggy Glenn at [peggy\\_glenn@unc.edu](mailto:peggy_glenn@unc.edu) or call 919 966-0198.

What could be more important than training the next generation of public health leaders? Together we really can make a world of difference. ■

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 John Anton & Renee  
 Schwalberg  
 Kenneth Ray Argo  
 Nikita Arya  
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 Terry & Stacey Barnhardt  
 Sheri Ruth Bates  
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# Rosenau Society

## Membership July 1, 2008—June 30, 2009

THE ROSENAU SOCIETY IS NAMED IN HONOR OF MILTON J. ROSENAU, THE FIRST DEAN OF THE SCHOOL OF PUBLIC HEALTH. MEMBERSHIP IN THE ROSENAU SOCIETY IS LIMITED TO BENEFACTORS MAKING A MINIMUM UNRESTRICTED CONTRIBUTION OF \$1000+ TO EITHER THE UNC GILLINGS SCHOOL OF GLOBAL PUBLIC HEALTH OR ONE OF ITS DEPARTMENTS. MEMBERSHIP MUST BE RENEWED ON AN ANNUAL BASIS.

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Paula B. & Gregory W. Stafford  
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*in honor of Norman Weatherly*  
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*in honor of Arthur L. Smith*  
Deborah Bender & John Curry  
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Linda Marie Kaste  
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Kannan Mahadevan  
Craig Stephen Maughan  
Richard Paul McCoy  
William Sheffield McCoy  
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Gary John Mihlan  
Wilbur & Virginia Milhous  
William Clarence Miller  
Beverly Nieman Mirman

# Karthik Sundaram:

## *I like to think I've helped a little*

Karthik Sundaram is a Renaissance man. He plays violin and piano and has performed in Vienna with the Duke Chapel Choir ([www.chapel.duke.edu/choir](http://www.chapel.duke.edu/choir)). He is an athlete – partial to swimming, tennis and crew – and a philanthropist, most recently spearheading a campaign with his sister to purchase books for orphaned children in India.

He is also a scholar, despite the fact that he never attended college.

Well, at least he hasn't yet. At 14, Karthik is still busy mastering ninth grade.

Sundaram's resume is astounding for someone twice his age, reflecting his prodigious talents and training in vocal performance. He's an alumnus of St. Thomas Choir School in Manhattan ([www.choirschool.org](http://www.choirschool.org)) and the youngest-ever member of the famed Duke Choir.

One doesn't have to talk to him long, however, to learn that this modest young man has a heart even bigger than his magnificent voice.

Staff members at the UNC Gillings School of Global Public Health were deeply moved recently when they received a letter from Karthik and his

mother, Cheri Sundaram, after Karthik performed with the Choir School at UNC's Memorial Hall.

Karthik wanted to return his part of the choir's honorarium to UNC, his mother explained. As they talked about where the donation could be put to the best use,

Karthik kept in mind that his dad (Dr. Senthil Sundaram, a Raleigh, N.C., cardiologist) is a 2000 alumnus of UNC's Public Health Leadership Program.

"Karthik continues to hear about all the great things accomplished by the school of public health from his father and colleagues," Cheri Sundaram wrote, and he concluded that he wanted the School to be beneficiary of his \$125 gift.

Karthik has traveled several times with his family (including sister Arya, 11) to Sivasailam, in the state of Tamilnadu, India, where the family takes on numerous projects to benefit children in a local orphanage.

"I've seen people my age who are very poor and who need a lot of help to be healthy and happy," he says. "They don't have money or parents to watch out for them. The kind of work my dad's school does can really make a difference in their lives, so I like to think I've helped a little by sharing the honorarium." ■



Karthik Sundaram

– By Linda Kastleman

*He has traveled expensively and seen*

*situations in person most teens have never seen*

*or may have only discussed in the abstract.*

– Cheri Sundaram, Karthik's mother

Carlton Virginia Jackson  
Mitchell  
Philip Keith Mitchell  
Hal Morgenstern  
Janet Mullaney  
Patricia Louise Murphy  
Mary Anne Murray  
Jacob Alan Neufeld  
Raymond Joseph Nierstedt  
Donald & Mary Oberlin  
Timothy Wade Okabayashi  
David Leonard Parks

Graydon Pleasants &  
Margaret Scales  
Lewis William Pollack  
Stephen Praissman  
Margo Lynn Quiriconi  
Martha Jean Reddout  
Mark Graham Rodin  
Ruth Rothman  
William Anthony Rutala  
SAAPHI  
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Robert Charles Sykes  
J. Chi-Chung Tang

Eugene Emerson Taylor  
Steven Michael Teutsch  
Julie Poh Thurlow  
Anh Nhat Tran  
Kimberly Dawn Simpson  
Tum Suden  
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Margaret Emily Weydert  
Deborah Marie Winn  
Mary Elizabeth Worstell  
Beverly Ann Young  
Keri Allman Young

### \$100 to \$249

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Gloria Ann Absher  
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Barbara Vineyard Alexander  
Jean Elizabeth Alexander  
Jose Leonel Alfaro  
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Duff III Charles Perry Dunbar Erin Mary Dusch Alan & Ellen Edmonds Leah Bennett Edwards Dolores Marie Eggers Molly Margaret Eggleston Edward P. Ehlinger Lois A. Ejups Brian K. Ellerby Sharon Ellen Epstein Patricia Allen Estes Lori Ann Turnbull Everts R. Michael & Kimberly Eve Beth Ann S. Everly John Hume Faulkner Paul Jay Feldblum Cynthia Hutton Ferrell Luther L. Fincher Jr. Amy Ellen Fine Terry Lynn Flanagan Robert & Elizabeth Flewelling M. Holly Flood Theresa McCarthy Flynn Robert Harold Forbes Jr. Michele Robin Forman James Fitzgerald Fowler* Claude Earl Fox III Laurie Judith Fox Nora Franceschini Margaret A. Franckhauser Joyce E. 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Ava June Lay  
Ji-Hyun Lee  
Kelvin K. Lee  
Kerry Lamont Lee  
Soong Hyun Lee

Ann Hogan Leonard  
Steven & Barcey Levy  
Geraldine Spitzer Lewis  
Susan Lieff  
Henry N. Lin

Stacy Melvin Linick  
Anne Marie Lipscomb  
Everett Logue II & Claire  
Bourguet  
Vanna Lombardi-Gillies

Jinnie Lowery  
Margaret A. Lucking  
Erika Gantt Lumsden  
Patricia Ann Lusk  
Lorraine Leigh Lutton

William Whiting Lyon  
Juliana Meimei Ma  
Martha Rutledge Macon  
Kathryn Marley Magruder  
Khalil & Patricia Mancy

## Annual Fund donations directly aid students

When Jillian Casey's parents died in a traffic accident last summer, she did not know if she would be able to pursue her dream of attending the Gillings School of Global Public Health. The twenty-one year-old UNC senior from Bethlehem Township, N.J., had stellar grades, had been elected to Phi Beta Kappa, and participated in the UNC Honors Public Health Semester in Cape Town, South Africa. Her summers were spent conducting AIDS research in Chapel Hill and working with orphans in Tanzania.

"We knew that it would be a tragedy for public health if we lost a student with Jillian's dedication, drive and ability," said Jo Anne Earp, ScD, chair of the Department of Health Behavior and Health Education. Thanks to donors to the 2008-2009 Annual Fund, Jillian is now a first-year master's student at the School.

Each year more than 2,000 alumni and friends support the Annual Fund. These unrestricted dollars enable the School to respond to unanticipated needs and opportunities and to move in new directions. In the past, Annual Fund support has underwritten lectures, retained experts in emerging issues and provided seed money for new courses and programs. As the economy worsened in 2008-2009, School leaders made student financial aid the top priority for the Annual Fund for the foreseeable future.

### This year's scholars are:

- Christopher Bryant (Biostatistics)
- Jillian Casey (Health Behavior and Health Education)
- Jonathan Crocker (Environmental Sciences and Engineering)
- Christine Hunt (Health Policy and Management)
- Kristen Kenan (Public Health Leadership Program)
- Carmen Maria Piernas Sanchez (Nutrition)
- Heidi Soeters (Epidemiology)
- Jacquetta Woods (Maternal and Child Health)

(All are masters students except Sanchez and Soeters, both working on doctorates)

For more information on all the scholars, visit [www.sph.unc.edu/annualfund](http://www.sph.unc.edu/annualfund)



Jillian Casey with ...

The School is pleased to introduce the first class of *Annual Fund Scholars*. They represent every department in the School and are engaged in work related to infectious diseases, infant mortality, obesity, health disparities and water treatment. Two are doctoral students and six are master's students.

Doctoral candidate Carmen Maria Piernas Sanchez will be the first trained nutritional epidemiologist in her native Spain when she completes her training with Barry Popkin, PhD, Chamblee Distinguished Professor of Global Nutrition.

"This is a great new tradition," said Dean Barbara Rimer. "Every gift aids a student directly and every gift is deeply appreciated."

Gifts of \$5,000 or more qualify for membership at the highest level of the Rosenau Society and cover the full cost of an Annual Fund scholarship. The School hopes to double the number of Annual Fund Scholars in 2009-2010. ■

Lewis Harvey Margolis  
 Meera Tina Markanda  
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 Edwin Cochran Marshall  
 Stephen Marshall & Anna Waller  
 Christopher & Caroline Martens  
 Robert Martin  
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 Victoria Stover Mordecai  
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 John Lee Morris  
 Jennifer Leigh Mullendore  
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 K. Darwin Murrell  
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 Timothy Keith Myers  
 Margaret Newell Nelson  
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 Marie Sylvia O'Neill  
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 Jane Therese Osterhaus  
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 Joel Ellison Vickers  
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 Ralph Gene Wallace  
 Susan Wall Wallin  
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 Nancy Burrow Watkins  
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 H. Bradley Wells Jr.  
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 Feng Ye & Jean Pan  
 Thomas & Diane Yerg  
 Carl Nobuo Yoshizawa  
 Martha Royster Young  
 Rebecca Ann Young-Marquardt  
 Leah Sophie Zanzville  
 Jun-Guo Zhao & Yu Lou  
 Zhi Zhong  
 Katherine Shelden Ziegler  
 Michael Alexander Zustra

\*Deceased

*We have made every effort to ensure the accuracy of our Honor Roll lists. We regret any errors or omissions that may have occurred and ask that you advise us of corrections needed by contacting Kembrie Greene at 919-966-3722 or kembrie.greene@unc.edu. Every gift is vitally important to the UNC Gillings School of Global Public Health and deeply appreciated.*

# GlaxoSmithKline *and the* UNC Gillings School of Global Health

## A COMMON GOAL



**GlaxoSmithKline**, one of the world's leading pharmaceutical research companies and an established leader in oncology products, has long been a generous supporter of the UNC Gillings School of Global Public Health. We have a common goal – to help people throughout the world live longer, healthier lives.

The School is grateful for GSK's support of many projects, including:

- The UNC – GlaxoSmithKline Center of Excellence in Pharmacoepidemiology and Public Health.
- The program on Ethnicity, Culture and Health Outcomes (ECHO), created to coordinate efforts to reduce health disparities in North Carolina and nationally.
- The Minority Health Conference, conducted by the School's Minority Student Caucus.
- The GSK Global Health Program, which provides a formal way for UNC and Duke faculty and students to collaborate on research and training in global health issues (including the 15-501 Global Health Dinner Club).
- This issue of Carolina Public Health magazine, along with the University Cancer Research Fund.

*Together, we can – and do – make a world of difference.*