

Cancer Lines

The newsletter for UNC Lineberger Comprehensive Cancer Center and the N. C. Cancer Hospital

Fall 2008



the inside line up

Prostate Cancer Project: Beating the Odds Against Cancer . . . and Mother Nature

In 2005, Hurricane Katrina slammed into the Gulf Coast, triggering the largest engineering failure in our nation and causing catastrophic flooding in New Orleans. The impact on the Crescent City community - including its health care system - has been well-documented. But many people don't know that an historic prostate cancer study was almost washed out by the rising waters.

But let's start at the beginning.

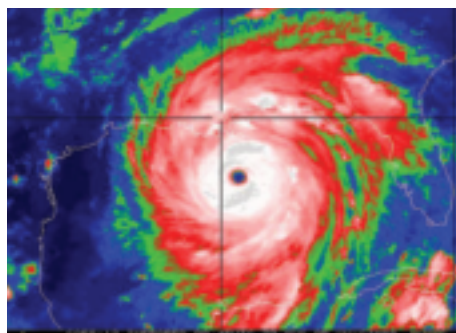
In 2003, James Mohler, MD, associate professor of surgery (urology), pathology and laboratory medicine and UNC Lineberger member, partnered with investigators at Louisiana State University Health Sciences Center and colleagues at nine other institutions to propose a study. Its goal: to uncover the factors responsible for the extremely high prostate cancer mortality rate of African-American men in North Carolina, one of the highest in the nation. Louisiana was chosen as a comparison site because African-American men there have one of the lowest prostate cancer mortality rates in the country. Mortality rates for Caucasian-American men in both states are similar and much lower than for their African-American counterparts.

After a one-year application process, a consortium received a Department of Defense Prostate Cancer Research Program (DoD PCR) Awards program grant of \$9,913,157 for a multidisciplinary population-based study of 2,000 men with newly diagnosed prostate cancer. The Prostate Cancer Project or PCaP was on its way.

"There is no biological reason we know of for the difference in mortality rates in the two races," explains Mohler, now chair of the department of urologic oncology, leader of the prostate cancer program and professor of oncology at Roswell Park Cancer Institute and professor of urology at the University of New York at Buffalo. He also still serves on the UNC faculty and maintains a lab at Lineberger.

"What was needed was a study that could look at the whole picture, not just nutrition, or just access to care, etc., and to do so with a large sample of both African-American men and Caucasian-American men," explains Elizabeth Fontham, DrPH, MPH, dean and professor at the LSU School of Public Health and LSU PCaP director.

PCaP should determine the relative contributions of racial differences in interaction with the health care system, the biology of the man who gets prostate cancer and the cancer itself in these profound racial differences in prostate cancer mortality. The study is evaluating differences in factors such as attitudes about prostate cancer early detection, use of PSA, access to health care, diet, genetics and tumor biology.



The eye of Hurricane Katrina approaches New Orleans.

A Broader Perspective

The broad view will help researchers understand what factors contribute to the increased risk in development of and death from prostate cancer among African Americans. "This in turn will help us know which factors can be modified, and thus

continued on page 3

Study Looks at Genetics' Role in Treatment Outcomes

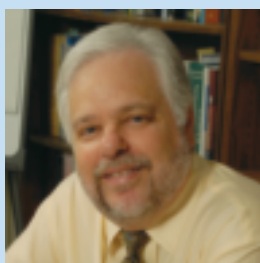
A new research study endeavors to discover whether a change in dosage of the popular breast cancer drug tamoxifen, can help improve results in women who don't break down the drug as effectively as others.

Tamoxifen is a selective estrogen receptor modulator (SERM) used to treat pre-menopausal women with hormone-receptor-positive breast cancer. It is approved by the Food & Drug Administration in 20mg and 40mg daily doses.

Studies suggest its effectiveness may be rooted in how the body metabolizes the drug. Women who break down the drug more efficiently produce higher amounts of endoxifen, a byproduct of metabolizing tamoxifen. It is hypothesized that these women typically respond better to the treatment.

But about 5 percent of breast cancer patients don't metabolize the drug well, and the FDA currently suggests they avoid

continued on page 3



4 Profile: Andy Olshan



5 Colon Cancer Screening Program



6 Clinical Trial Recruitment



8 DeSimone Wins Lemelson-MIT Prize



Drs. William Irvin, Lisa Carey, and Howard McLeod discuss clinical trial data. The team is gathered in a conference room at the new Physicians' Office Building, overlooking the N. C. Cancer Hospital.

director's *Message*



Dr. H. Shelton Earp, III

Science is about people. The word science may bring to mind test tubes, data, and scientists conducting experiments in their own labs. But most science is collaborative, across local, regional, national, and international borders. Science is about people

coming together to generate ideas, basic and clinical scientists collaborating to design new clinical trials, and health care providers partnering with communities to improve screening rates and disseminate prevention strategies. This issue of *Cancer Lines* features several stories about people doing collaborative innovative science.

Forecasting the impact of a hurricane may not be an exact science, but Hurricane Katrina sure put our prostate cancer study team to the test. In our collaboration between Louisiana State University and UNC, Hurricane Katrina tested every aspect of the research: the data, the study design, the participants, the scientists and the funding agency, the Department of Defense. Our cover story is about the scientists' determination to continue this groundbreaking study of possible causes for prostate cancer despite the ravages of Katrina.

One of the research nurses called participants on her cell phone from her FEMA trailer to keep the study going. A Louisiana participant called from Texas after the storm to let the staff know he

was okay. While we always hope our work in communities builds strong bonds, we never expect the ties to be tested - and proven - the way they were with this project.

That personal connection is also demonstrated in the story about a new breast cancer clinical trial of tamoxifen. It's an elegant example of the promise of personalized medicine. For each participant, their molecular profile is studied and then matched with the most effective dose of the drug. The results could take us another step closer to the goal of individualized therapy, tailoring type and dose of therapy for each patient for greatest efficacy. This study is a collaborative effort of UNC Schools of Medicine and Pharmacy faculty.

And the study in High Point led by Dr. Cathy Melvin involves collaboration with long-standing community groups and health care providers to increase screening for colon cancer among African-American and uninsured citizens. It's the people interactions that propel this project and will facilitate enrollment and participation.

Collaboration is the best way to advance cancer research. We are honored to be working with communities, health care professionals and other cancer centers in North Carolina and the United States to increase our understanding of cancer's causes, how to prevent it, diagnose it earlier and develop new and more effective therapies. We all hope that our efforts will save lives and improve the quality of life for all cancer patients and families.

On a sad note, Dr. Christopher Fordham died on August 14, 2008. As Dean of the UNC School of Medicine, Chris was an early and significant

advocate for the cancer center when he worked closely with faculty to plan a collaborative cancer program at UNC to benefit the citizens of North Carolina. It was with his leadership that UNC received National Cancer Institute designation in 1975.

He enthusiastically supported our successful application and continued his support of UNC Lineberger throughout his tenure as Dean. He was instrumental in securing the naming gift from the Lineberger family of Belmont, NC in 1981. Dr. Fordham went on to serve as a wonderful Chancellor of UNC-Chapel Hill. Our condolences go out to his wife, Barbara, and his wonderful daughters and their families. He understood the importance of collaborations and was a great example of how they can move us forward. ●



Pictured (left-right): Former UNC President William Friday, J. Harold Lineberger, former UNC-Chapel Hill Chancellor Christopher Fordham and Joseph Lineberger with the gift agreement that provided the naming gift for UNC Lineberger Comprehensive Cancer Center in 1981.

Honor for "Dr. Mac," Father of Pediatric Oncology in NC

Dr. William Roper, CEO of UNC Health Care System, announced in early September that the new consultation room in the pediatric wing of the new N.C. Cancer Hospital will be named in honor of Dr. Campbell McMillan of Chapel Hill, NC. "Dr Mac" is well known as one of the true fathers of Pediatric Hematology/Oncology. His UNC honors include being a Whitehead lecturer, an AOA Adam Thorp Lecturer, a commencement speaker for the UNC School of Medicine, and the recipient of the 1988 H. Fleming Fuller Physician Award.

Campbell's service to the UNC School of Medicine is long and distinguished. He served from 1963 until his retirement in 1992. He was recruited as the first full time Pediatric Hematology/Oncology faculty member and was the only full time member of the division until 1970. In 1968 he started a monthly AHEC Ped Heme/Onc clinic in Wilmington, a thriving clinic that still exists today.

In addition to a very busy clinical career he managed to maintain and grow a research interest in coagulation, especially involving factor VIII in the newborn infant, setting up his own laboratory

in pediatric coagulation. By 1966 he became the associate director of the clinical research unit, a position he held for thirteen years. His research in clinical coagulation continued and gained him national recognition for characterization of factor VIII hemophilia patients with inhibitors.

Dr. Stuart Gold, Division Chief, Pediatric Hem-Onc, described his friend and former colleague Dr. Mac. "He won the love and respect of everyone he encountered. Dr Mac retired in 1992 and his patients and staff are still asking for him. Rounding with Dr Mac was a true adventure in learning - not only factual information but learning and observing how to truly care for patients. His bedside manner cannot be surpassed. He has a real love and interest in his patients and the people he trained and worked with."

In announcing the decision to name a room in the new N. C. Cancer Hospital, Dr. Roper said, "Campbell McMillan's distinguished commitment to pediatric oncology at UNC, in North Carolina and in the nation should be honored. Naming the consultation room is a fitting and well-deserved, permanent tribute to his legacy." ●



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where public health resources should be focused in an effort to reduce risk and improve survival," explains PCaP Co-Director Jeannette Bensen, PhD, assistant professor of epidemiology at UNC Lineberger and UNC School of Public Health.

Two-thousand participants - 1,000 from each state - will populate the study. "It's critical that the population we end up with is representative of all the men in the study areas," explains Jane Schroeder, MPH, DVM, assistant professor of epidemiology at the UNC School of Public Health and a UNC PCaP member. "To be eligible, they have to be living in the study area at diagnosis - that's a 42-county area in North Carolina and 28 parishes in Louisiana. Subjects also have to be aged 40 to 79 and able to complete the study cognitively and physically."

The process could take a number of years. "We started recruiting and collecting in the Fall of 2004 in North Carolina and Louisiana," she recalls. "Then Hurricane Katrina hit."

When The Levee Breaks

By early August 2005, 211 New Orleans men had agreed to participate, biological samples and other data had been collected and the team had arranged to follow up with the subjects for future data-gathering.

Then the floodwaters came. "The New Orleans metropolitan area was decimated," Fonham recalls. "Our population was displaced, our hospitals were closed and many have not reopened, our staff lost their homes and had been living in FEMA trailers."

Amazingly, no research data was lost, and blood and tissue research samples were recovered from all but 28 research subjects. But PCaP wondered if the Louisiana part of the study could be continued given the challenges of living, working and conducting research in the shattered city.

"The study team was disappointed at first when there was a consideration that the Louisiana site might be dropped because of the devastation in the region," admits Joseph Su, PhD, MPH, associate professor at the LSU School of Public Health.

Tamoxifen

continued from page 1

tamoxifen. Another 40 to 50 percent of patients are intermediate metabolizers.

"Is their treatment being compromised by their genetics?" asks William Irvin, MD, a senior clinical research fellow and co-principal investigator with Lisa Carey, MD, Medical Director of the Breast Cancer Team at UNC.

The study aims to find out.

"We know that there are differences in the levels of the active form of tamoxifen between women who break tamoxifen down well, those who do it intermediately well, and those who don't break it down at all. What we don't know is if we can overcome these genetic differences simply by changing the dose of the drug," Irvin explains. Participants who are poor or intermediate metabolizers will have their dose increased from 20mg dose to 40mg, and researchers will see if endoxifen levels differ between the doses.

But the team outlined a plan to restart in Louisiana and, in July 2006, DoD scientific reviewers agreed to allow PCaP to re-initiate enrollment, recruitment, field and laboratory activities. An additional \$1,717,430 was awarded in September 2006, with \$2,305,303 more awarded in July 2007 to recruit a new group of 1,000 participants in Louisiana.

As a result of the Herculean effort, the team re-contacted 176 of the 211 pre-Katrina participants. Because of the population displacement after Katrina, the recruiting area was expanded to include the Baton Rouge and Lafayette regions. Since resuming recruitment, the LSU PCaP team has interviewed 463 Caucasian-Americans and 250 African Americans as of July 30, 2008.

"It was difficult to focus on bringing back this study while fixing up personal property damaged by the flood," Su allows. "For example, Christine Brennan, our nurse coordinator and participant recruiter, spent months in her FEMA trailer making calls from her cell phone trying to recruit participants. The team was trying to prove to the DoD and ourselves that Louisianans are resilient and we can come back to what we were before."

The End Game

There's no doubt PCaP will have far-reaching implications. "The DoD PCRP believes that the



Drs. Jeannette Bensen, UNC Lineberger PCaP co-director, and Jane Schroeder, UNC PCaP faculty, review NC data from the PCaP study.

Pictured below (left to right): Dr. Joseph Su, LSU PCaP faculty; Dr. James Mohler, UNC PCaP director UNC Lineberger and Roswell Park Cancer Institute; Dr. Elizabeth Fonham, LSU PCaP director.



results from this study will break new ground and translate into preventing and treating the disease in those at greatest risk for death from prostate cancer," says Naval Captain Melissa Kaime, director of the Army's Congressionally Directed Medical Research Programs.

For PCaP researchers, though, the study has added importance. "Health care inequities shouldn't exist," Fonham asserts. "Regardless of race or ethnicity, income, education or any other societal factor, men with prostate cancer should have an equal likelihood of surviving the disease. Today that is not the case."

Until now, she continues, "No study has offered the opportunity to relate tumor aggressiveness to a comprehensive set of factors, some or all of which may play a role. Our ultimate goal is to understand those causes so that they can be reduced or eliminated." ●

Do You Know What It Means to Miss New Orleans?

Eight months after Hurricane Katrina's rampage scattered much of the New Orleans' population and most of PCaP's participants, an LSU team member received a phone call. It was one of the pre-Katrina study enrollees.

"He started out asking about how the staff weathered the hurricane to make sure we were all doing well," Su recounts. "He told us that he lived in the Lower 9th Ward when the flood water arrived. He broke the roof with an ax and stayed on the roof of his house for hours before he was air-lifted by rescue helicopter to the Superdome. He stayed there for several days before he was transported to Lafayette, Louisiana, and then to the Astrodome in Houston. He stayed at the Astrodome for weeks before he was moved to temporary housing in Houston."

When asked if he was calling in response to the re-contact letter that had been sent to all PCaP participants, his answer was surprising.

"He told us that he picked up the toenail clipper PCaP gave to him for clipping a toenail as a biological sample for the study and saw the 800 number on it," Su says. "He just wanted to talk to someone he could relate to." ●

The study is ground-breaking because until a few years ago, researchers and clinicians didn't know that metabolism made a difference. "We hope this trial leads us to more personalized doses for women," he says. "If they fall into a certain submetabolizing group, we may choose a different dose or a different drug."

The study is the first of many, according to Howard McLeod, PharmD, Fred N. Eshelman Distinguished Professor and director of the UNC Institute for Pharmacogenomics and Individualized Therapy. McLeod initiated the development of the study and will be part of the team interpreting and implementing the results.

"We are entering an era where technology will allow greater depth of knowledge about the patient's genetics," McLeod notes. "This study is one of the first examples of turning science into practical ways of improving patient therapy."

Over the next decade he expects it will become standard practice to use DNA information to optimize therapy. "We appreciate the opportunity to help start this important change in medical practice and look forward to working with the patients of North Carolina to make sure that the best care is delivered to all," McLeod says. "With this study, our data will help each patient have a better chance of benefiting from this important therapy."

If you are interested in learning more about this study, please contact Donna Rowe, RN, at 919-966-4432 or Irvin at 919-966-0766. ●

faculty Profile

It's no surprise that a kid from the desert town of Scottsdale, AZ, would dream of a career requiring him to spend lots of time in and on the water. "I wanted to be a marine biologist," recalls Andy Olshan, PhD, professor and chair of epidemiology in the UNC School of Public Health. But that dream was washed away at Arizona State University when, he admits, "I was scared off by a course in wave physics."

Olshan ended up studying anthropology at ASU and started graduate work in the same field at the University of Washington in Seattle. But his path changed and he ultimately graduated with an MS and PhD in epidemiology.

Carolina in my Mind

Olshan completed his post-doctoral work in medical genetics at the University of British Columbia in Vancouver. When he was an assistant professor at the University of Pittsburgh an opportunity to join the Department of Epidemiology and Lineberger's Cancer Epidemiology Program arose. UNC's highly ranked department and campus atmosphere were big draws, as was the great music.

"I like traditional bluegrass and playing with friends and neighbors," says Olshan, who recently took up the mandolin and plays in an informal

music group called Whatever Works. "A faculty member and graduate student in our department also play. Other than kids running through and making faces, though, there's not much of an audience."

Taking Care of Business

In the lab, Olshan's focus is finding the genetic factors that influence survival. He is studying two forms of the disease: childhood cancer and adult cancer of the head and neck.

In a new study - the largest of its kind in the U.S. - Olshan is assessing DNA samples from patients in North Carolina to see how genetics play a part in the disease.

"We're looking at what genetic and medical factors might predict cancer from a large population group," he explains. A recent grant from the Lance Armstrong Foundation will allow Olshan and his team to address how survivors cope. "There is no data out there yet to say what their quality of life is like."

In his work with childhood cancer, Olshan is investigating a "special early window" to determine what genetic and environmental factors trigger the disease. "The patient's young age at diagnosis might point to causal

factors just before and during pregnancy that lead to cancer development in childhood, and possibly in adulthood," he says.

On The Road Again

A heavy research agenda doesn't curb his love of travel. France is a favorite. And last summer, his wife - also a UNC faculty member - and their two sons went on an epic journey across Turkey. "We made our way from Istanbul to the coast," he recalls. "That was pretty exotic."

Now, Olshan is back and forth to the United Arab Emirates for a two-year epidemiologic study of health and environment. It will be challenging, but the time away means a break from administrative work.

"On occasion it is very rewarding to return to the realm of more abstract and creative scientific thinking rather than to decide how to address the repair of a department sink and water tap," he quips.

Olshan lives in Carrboro with his wife, Linda Levitch, PhD, a lecturer in the UNC School of Medicine department of cell and developmental biology, and their two sons, Daniel, 14, and James, 11. ●



research Briefs

Preventing and treating cancer's spread

Have you ever wondered how cancer cells from one organ, say the colon, could travel through the body to another organ, like the liver? Or why some cancers seem to prefer to spread to certain other places? You're not alone. Cancer researchers like Hendrik van Deventer, MD wonder the same thing.

van Deventer, an assistant professor of medicine at the University of North Carolina at Chapel Hill and a member of the UNC Lineberger Comprehensive Cancer Center, is investigating what non-tumor cells are capable of making a normal organ open to an invasion of cancer cells. Identifying that normal cell might enable them to design treatments to stop the traveling, called metastasis.

Published in the July issue of the *American Journal of Pathology*, new findings from van Deventer's lab are the first to show that cell in question could be a fibrocyte - a type of cell that travels around the body. "This study shows it's possible for fibrocytes to form the premetastatic niche, but it stops short of proving they positively are the cells," van Deventer says. "There is some clinical data that suggests that these cells are increased in patients with metastatic cancer."

The experiment also showed that injection of these cells induced MMP9, an enzyme that is known to promote cancer. The researchers considered this good news, since drugs are available that block MMP enzymes and have proven beneficial in treating cancer.

The study was funded by the National Cancer Institute.

UNC receives \$2 million NIH grant for state-of-the-art magnetic resonance scanner

The National Center for Research Resources, a part of the National Institutes of Health, has awarded a \$2 million High-End Instrumentation grant to the UNC School of Medicine. The grant is one of 20 such awards to research institutions nationwide to support the purchase of the latest generation of advanced research equipment.

The award will fund a 3 Tesla whole body magnetic resonance (MR) scanner to be housed in the university's Biomedical Research Imaging Center.

The scanner will be fully dedicated to research for a variety of currently NIH-funded studies on campus, said Weili Lin, PhD, professor and vice chairman of basic research in the department of radiology, deputy director of the Biomedical Research Imaging Center and a member of the UNC Lineberger Comprehensive Cancer Center. Among the projects are three studies of brain development.

The new scanner will reduce the time it takes to obtain MR images from about 30 minutes to less than 10 minutes, making the procedure

more tolerable for the patient, he added.

"The clinical implications with the improved ability of the new system are profound," Lin said. "With imaging as a key component of the University's Translational and Clinical Science Institute funded by our recent National Center for Research Resources Clinical and Translational Science Award, the new scanner will greatly improve the ability to directly translate research imaging projects into the clinical arena.

NOTE: To see a comparison of brain images from a conventional scanner and an advanced scanner, go to: uncnews.unc.edu/news/health-and-medicine/magnetic-resonance-brain-images.html

UNC Health Care first to offer 'GPS for the Body®'

UNC Health Care is the first medical center in North Carolina or South Carolina to begin treating cancer patients with a new system that tracks movement of the prostate to provide safer, more accurate radiation therapy.

The Calypso 4D Localization System® uses three tiny electromagnetic transponders - each about the size of a seed or a grain of rice - implanted in the prostate. These transponders send out signals that are used to track movement of the gland in real time, much like a global positioning system (GPS) does in your car. Technicians monitor the transponders via a receiver and infrared cameras installed in the treatment room.

The system is important because it helps mitigate treatment errors caused by patients moving during radiation therapy. "We believe the Calypso system will make a real difference in patient outcome, by delivering radiation only where it is needed and thus reducing the side

UNC Lineberger Joins with High Point Partners to Encourage Colon Cancer Screenings

Colorectal cancer is the second leading cause of cancer-related death in the United States. That's the bad news. The good news is, it doesn't have to be.

"Colorectal cancer is preventable, beatable and treatable," asserts Cathy Melvin, PhD, director of UNC Lineberger's Dissemination Core, research associate with UNC's Sheps Center for Health Services Research, and research associate professor, Maternal and Child Health. "If you get screened, you can dramatically decrease the chances of having and dying from colorectal cancer."

Screening can detect polyps in the colon and rectum before they have a chance to develop into cancer and spread to other parts of the body.

Making the Case for Screening

But despite that, less than half of the U.S. population is up-to-date with screenings, according to the U.S. Centers for Disease Control and Prevention. And that number's even lower for African Americans and people who are uninsured. As a result, their death rates are higher.

Only 10 percent of patients whose cancer is found after it has spread to distant parts of the body survive 5 years after diagnosis. By contrast, about 90 percent of patients whose colon cancer is caught before it spreads survive 5 years after diagnosis.

Getting More People Screened

People don't get screened for a number of reasons.

effects that are associated with radiation therapy, as well as assuring that the tumor receives the full radiation dose to maximize the chance of curing the tumor," says Joel Tepper, MD, a UNC Health Care radiation oncologist and member of UNC Lineberger.

Better cervical cancer screening

New research into the causes of cervical cancer gives researchers a lead on a potential early detection method that could help prevent the disease. The UNC study - thought to be the first of its kind - found that persistent infection with human papillomavirus (HPV) could be a useful clinical marker for increased risk of cervical cancer, the second most common cancer in women worldwide. HPV is a sexually transmitted virus that can cause high-grade cervical lesions, increasing a woman's risk of developing invasive cervical cancer.

"A persistent HPV infection of six months to one year was consistently associated with a woman's increased risk of high-grade cervical lesions or cervical cancer," says Jennifer Smith, PhD, research assistant professor of epidemiology in the UNC School of Public Health. She is senior author of the study and a UNC Lineberger member.

"The next step will be to develop a consensus definition of HPV 'persistence' that can then usefully inform clinical practice for future cervical cancer screening programs," Smith says. "Additionally, we need more information on whether the persistence of specific HPV types - such as 16 or 18 - is associated with relative differences in increased risk.

The findings by Smith and her colleagues were published in the May online issue of the *American Journal of Epidemiology*. ●

"They told us their doctors didn't really talk to them about it," Melvin says. "Or the patients didn't know why it was important, or which test was best." For low-income patients, the reason is sheer economics. "People are concerned that they don't have insurance to cover expenses for evaluation and follow-up treatment should they have a positive screen."

To educate citizens on the importance of screening, improve the screening rates and provide cost-free follow-up testing, UNC Lineberger researchers joined forces with the following agencies:

Guilford County Department of Public Health

High Point Housing Authority

High Point Regional Health System (HPRHS) and its Adult Health Center

Piedmont Health Services and Sickle Cell Agency

Community Clinic of High Point

Cornerstone Health Care

The partnership designed, implemented and is evaluating a pilot community-wide program in High Point.

Breaking Down Financial Barriers

Focusing primarily on under- and uninsured High Point residents, the program distributes free fecal immunochemical test (FIT) kits, donated by manufacturer Beckman Coulter. The take-home test finds hidden blood in the stool, which can be a sign of colorectal cancer, polyps or other bowel diseases.



The High Point Colorectal Cancer Screening Project team was honored by the National Cancer Institute at a summer summit on "Eliminating Cancer Health Disparities Through Science, Training and Community." Their poster describing the work won third place nationally. Pictured (left to right) are Katya Roytburd, project manager; Liz Harden, research assistant; Cathy Melvin, PhD, project principal investigator and; Alexis Moore, project director

The group will help citizens receiving positive results to get diagnostic and treatment services, regardless of ability to pay. HPRHS and Cornerstone Health Care have agreed to provide follow-up diagnostic and medical services, including a colonoscopy. This is an essential part of the pilot program because early colorectal cancer detection and treatment can beat the disease.

Melvin hopes to continue the program with additional grant money that will allow the program to expand to Wake and Durham counties next year.

"We want to expand the program to create a structure for reducing disparities in screening by making people aware of the need for CRC screening," she says. "And by assuring, that if screening is positive, the services they need will be provided regardless of their ability to pay." ●

Super Colon Visits NC Legislature

UNC Lineberger was invited to participate in a Cancer Screening Awareness Day on June 26 by Wake Representative Ty Harrell.

Activities included exhibits about cancer screening by community and state cancer groups. A news conference including Harrell and Representative Dr. Bob England was held to discuss the need for cancer screening in North Carolina.

UNC Lineberger, with help from the Cancer Prevention Foundation and an educational grant from Sanofi-Aventis, hosted a visit of the Super Colon. Close to 200 curious legislators, staff members, legislative visitors and lobbyists took the tour through the inflatable, interactive colon which teaches people about the risks, symptoms, prevention, early detection and treatment options for colorectal cancer.

Staffing the UNC exhibit were Liz Sherwood, coordinator for UNC cancer survivorship programs; Ann Steagall, nurse coordinator for the Multidisciplinary Thoracic Oncology Program; and Pam Baker, program assistant for the Patient and Family Resource Center and a breast cancer survivor.



UNC exhibit team members with Representative Harrell (left to right): Tina Shaban; Ann Steagall; Harrell; Liz Sherwood and Pam Baker

Staffing the Super Colon exhibit were: Alexis Moore, project director for several community-based screening initiatives sponsored by UNC Lineberger and the UNC School of Public Health's Center for Health Promotion and Disease Prevention; Katya Roytburd, program manager with the High Point Colorectal Screening Project; Liz Harden, research assistant; Xavier Lacy, program assistant with the Dissemination Core Facility of UNC Lineberger; and Tina Shaban, director of the UNC Lineberger Patient and Family Resource Center. ●

UNC Leading Largest International Genetic Study of Smoking Risk

Most smokers keep smoking because they're nicotine-dependent. UNC researchers think they can identify novel gene variants associated with dependency and use them to improve cessation strategies.

The University Cancer Research Fund-financed study, led by Helena Furberg, PhD, assistant professor of genetics, and Patrick Sullivan, MD, Ray M. Hayworth & Family Distinguished Professor of Psychiatry, is called the Tobacco and Genetics (TAG) Consortium and includes UNC, M.D. Anderson Cancer Center, Harvard and the International Agency for Research on Cancer. TAG will conduct a meta-analysis of 2.2 million genetic markers in relation to nicotine dependency by pooling data from existing genome-wide association studies.

Two recent high-profile genome-wide association studies for lung cancer found the same region on chromosome 15, which is related to nicotine. Scientists from both studies are active TAG Consortium participants.

A meta-analysis combines statistics from smaller studies to estimate risk with greater precision. It's the largest genome-wide meta-analysis for smoking in the world. The study could include up to 100,000 subjects who each contribute 2.2 million genetic variants for analysis.

"The Phenotype Working Group is in the process of reviewing smoking data to construct optimal variables for analysis," says Jennifer Clore Dackor, project manager. "And the Statistical Analysis Group is currently testing the data uploading/analysis pipeline on the secure Genetic Computing Cluster in Amsterdam. We expect to share results by Spring 2009." ●

Minority clinical trials recruitment gets a boost

With support from the University Cancer Research Fund, Ruben Gonzalez and Charlotte Peace were hired by UNC Lineberger's Protocol Office to offer information about clinical trials to Hispanic and African-American populations. Gonzalez works as a Spanish interpreter and also assists with recruitment and outreach. Peace works as a



Ruben Gonzalez and Charlotte Peace

recruitment specialist and also serves as a navigator: a liaison for minority patients currently enrolled in clinical trials. Together, they focus on three initiatives: serving patients currently enrolled in clinical trials, outreach to enroll minority participants, and education in the community about the clinical trials process. Most often, the number of minority participants enrolled in a clinical trial is quite low. In the US, almost 90% of clinical trials participants are Caucasian, with less than 10% being African American, and only 5% Hispanic. Why such low enrollment for minorities? Peace and Gonzalez

New lab will speed discoveries from bench to bedside

A new laboratory, partly funded by the University Cancer Research Fund and named for the UNC mascot, Rameses, will speed the translation of laboratory science to clinical care of patients.

The UNC RAM (Rapid Adoption Molecular) Lab is certified under the Clinical Laboratory Improvement Act (CLIA) which means that it complies with the rigorous set of federal regulations that govern medical practice in clinical laboratories. The RAM Lab is an extension of UNC Hospitals' Clinical Molecular Genetics Laboratory.

RAM Lab director and UNC Lineberger member Margaret Gulley, MD, professor of pathology, explained that "the RAM Lab provides a way for scientists to move some of their discoveries from bench to bedside. Once a scientist has developed a new lab test and shown it to be clinically useful, the investigator can meet with a pathologist from the RAM Lab to discuss how the assay might be implemented for routine clinical use at UNC Hospitals."

The RAM Lab aims to become involved in UNC Lineberger clinical trials by providing prognostic or predictive molecular data that helps clinicians determine whether a patient qualifies for enrollment, and by studying how to improve clinical management based on lab test results.

Dr. Gulley summarized, "To our knowledge, UNC is the first public medical school in the United States to analytically validate expression profiling so that it may be used for patient

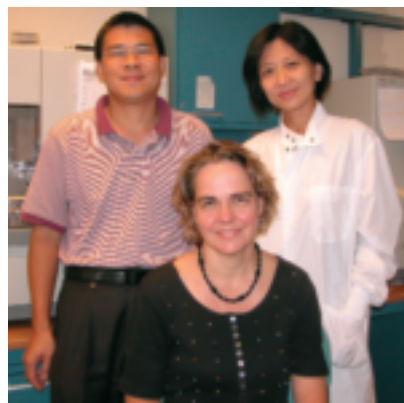
management decisions in the context of clinical trials.

"Clinicians at UNC now have new tools to translate basic science discoveries into clinical advancements that provide accurate and detailed analysis of lesional tissue. This represents significant progress towards our goal of personalized medicine whereby treatment plans are more accurately tailored to an individual patient's clinico-pathologic findings."

Patients will benefit from the RAM Lab, Gulley said, because "our expanded ability to apply modern genomic technologies is expected to improve diagnosis, monitoring, predicting response to therapy, and prevention of disease. The first clinical applications are expected to be in breast cancer and lung cancer patients where the molecular subtype of the cancer seems to correlate with prognosis in response to therapy.

"In parallel work being supported primarily by the Department of Pathology and Laboratory Medicine, mutational analysis of specific genes is being developed to assist patients and their physicians in choosing therapy for a wide range of cancers including leukemia, melanoma and colon cancer. Additionally, evaluation of drug metabolism factors can help assess therapeutic responsiveness in patients with colon or breast cancer."

To learn about tests that are already available to patients, visit the UNC Molecular Genetics Website at [/labs.unchealthcare.org/directory/molecular_pathology](http://labs.unchealthcare.org/directory/molecular_pathology). ●



Pictured above (left to right) are RAM Lab members Young Hu, PhD, RAM Lab Director; Dr. Margaret Gulley, Pathologist; Yan Li, PhD, Technologist

navigators, is located in the Medical Office Building on the Outer Banks Hospital campus in Nags Head. Mills is a 12-year Dare County resident. The initiative is funded by the University Cancer Research Fund as an initial pilot program.

Nurse navigators listen to and address the patient's and caregiver's medical and nonmedical needs. They also can offer information and education regarding the disease process, treatment options, medications and available clinical trials. Navigators can also help with transportation, financial assistance, and other community resources. Navigator services are provided at no cost.

"This is an exciting program that we hope will provide patients with an invaluable resource in their efforts to make the best decisions possible regarding the diagnosis and treatment of their disease," said Thomas Shea, MD, UNC Lineberger associate director for outreach programs. "Most navigator programs are based at individual hospitals but these community-based positions represent a different option that we hope will become a model for many communities wishing to augment their cancer services." ●

offer several reasons: socio-economic background, fear, misconceptions, faith, cultural beliefs, language barriers, and lack of knowledge. Their job is to help our patients overcome these obstacles.

Dare County Nurse Navigators Program launched

UNC Health Care announced the UNC Outreach Nurse Navigator program in Dare County to help cancer patients, family members and caregivers. Lynn Mills, RN, MSW, the first of two nurse

volunteer *Spotlight*

A first-person essay on volunteering, by Elizabeth Swaringen

Mondays dawn like no other day for me. I wake up knowing that I will spend a rewarding morning at UNC's Breast Imaging Center.

The tasks that greet me change little from week to week. First, I check that the dressing rooms are adequately stocked with gowns, bags for patients' belongings, and wipes for those women who forgot and wore deodorant, powder or lotion. Most of the next four hours I will assemble the "jackets" that contain a patients' breast health history including films, radiologists' reports and the requisitions for why the patient is with us. (Essentially, I make sure the medical record numbers match on all the pieces. Never do I read the contents. That's not my job, and besides, it would be a huge breach of patient privacy.) Once each jacket is assembled, I greet the patient and escort her to the dressing room. As needed, I chaperone male radiologists when they conduct ultrasounds. Occasionally, I'm called on to "just hold a hand" when a patient needs a little extra comfort during a procedure. Always, I am made to feel appreciated as part of the team by all who do mighty work in that tiny space in Gravelly.

The variety - and true joy - is provided by the patients. As a breast cancer survivor I know first-hand the anxiety and fear that is front and center when it's time for a mammogram. So my goal is to put each patient at ease. I smile and greet her by first and last names, welcome her and thank her for being with us.

Then, I strike up a conversation about her: the book she was reading when I called her name; the color in her clothing that's particularly complimentary; the origin of her name and an apology if I mispronounced it. If her eyes and body language still tell me anxiety has too much control, I encourage her to take some deep breaths. Sometimes I practice with her.

Most times I am successful in engaging the conversation, and I am rewarded with laughter even if it's nervous around the edges. I also have been the recipient of anger, being told harshly that I couldn't understand the anxiety of a mammogram in a post-breast cancer life. On those occasions, I've held my tongue and then quietly and politely said that as a survivor I do understand and that's why I'm there: to use my experience to ease the road for others and to give back for the excellent care I received at UNC. Either I get a shy smile or a tear of relief that signals she knows she's not alone - a reinforcement to me that I'm doing what I'm supposed to be doing in my post-breast cancer life.

It's a short walk between the lobby and the dressing room, but most Mondays I easily log between two and three miles. The time flies, and after I leave at noon, rarely do I remember patients' names or faces. I do remember how they touched my heart and soul, and I hope I touched theirs. ●

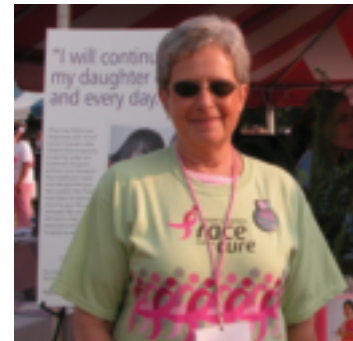


Liz Swaringen assists Debra Futrell as she prepares for a mammogram.



Blowing Rock Event

Over 110 guests gathered in Blowing Rock on July 11 to learn more about UNC Lineberger Comprehensive Cancer Center. The group heard presentations from Cancer Center Director Shelley Earp, MD and David Ollila, MD, Co-Director of the UNC Lineberger Melanoma Program. Special thanks to our wonderful event sponsors: Penny and Bob Barnhill, George and Sally Blackwelder, Nancy Dowdy, Charles and Becky Elderkin, Alice Harney, Seymour and Carol Levin, Anna Boyce Lineberger, Dee Dee and Peter McKay, Bob and Pat Sevier, Anna and Verner Stanley, and Jan Stedman. Pictured (left to right): Verner Stanley, JoAnne Earp, Anna Stanley, and Shelley Earp.



UNC and Rex Largest Team at 2008 Komen Race

The combined forces of UNC Health Care and Rex

Healthcare garnered top corporate team honors at the June 14 Komen Race for the Cure in Raleigh. UNC tied with Duke for the award. This award marks the seventh time since 1999 that UNC has been named the largest team with 540+ team members in 2008. Sue Haney (pictured above), UNC oncology clinical manager, is a new NC Triangle Komen Board member.

Postema Funds Lung Cancer Endowment Fund

This summer, Dr. Gerald J. Postema, Distinguished Professor of Philosophy at UNC, created an endowment fund in honor and memory of his wife Linda. As a non-smoking, healthy woman Linda never dreamed that she would battle lung cancer. She was diagnosed in January 2006 and courageously fought this terrible disease for nearly two and a half years. Linda was only 59 years old when she died in May 2008.

Throughout her experiences, Linda remained a positive inspiration to her family and friends. She was deeply determined and committed to the research process and wanted to help others with this type of cancer as much as she could. While she knew a clinical trial or other unproven treatment regimens might not help her fight this disease, she knew the difference that this early stage research could make to others. She bravely and eagerly signed up to participate in trials such as Mark Socinski's national collaborative Phase II Clinical Trial hoping that she might make a difference for others.

Postema realizes first hand that funds like the Linda T. Postema Endowment Fund for New Ideas in Lung Cancer Research are critical in discovering new treatments and potential cures for lung cancer. ●

Fowler Honored with Endowed Fellowship

Wesley C. Fowler, Jr., MD, Palumbo Distinguished Professor of Obstetrics and Gynecology, has been honored with an endowed fellowship bearing his name. The Wesley C. Fowler, Jr. Fellowship in Gynecologic Oncology celebrates the leadership and contributions of Dr. Fowler, who has served as the director of the department's oncology division since its inception in 1982. A native North Carolinian, Dr. Fowler attended the University of North Carolina at Chapel Hill for both undergraduate and medical school. He has dedicated his career to patient care and the treatment of women's cancers, with a particular interest in training new physicians. The Fowler Fellowship will support the academic development of future physicians and enhance UNC's renowned GYN Oncology Fellowship Program. More than \$300,000 has been raised toward this effort with a goal of \$500,000.



For more information or to make a gift to the Fowler Fellowship Fund, please contact Kelly Moore, Director of Development, Department of Obstetrics and Gynecology, 4002 Old Clinic, Campus Box 7570, Chapel Hill, NC 27599-7570, 919-843-4923. ●

DeSimone Wins Prestigious Lemelson-MIT Prize



For Joseph M. DeSimone, PhD, the interface between seemingly disparate fields and concepts offers the best opportunity for invention and innovation. A well-recognized chemist and polymer expert, DeSimone has uniquely applied his skills to the development of ground-breaking solutions in green manufacturing, and promising applications in gene therapy and drug delivery, as well as medical devices. For his pioneering inventions, lab-to-marketplace entrepreneurship and commitment to mentorship, DeSimone has been awarded this year's \$500,000 Lemelson-MIT Prize.

"DeSimone has established a stellar record of achievement and innovation," said Dr. Robert S. Langer, Institute Professor at the Massachusetts Institute of Technology, who nominated DeSimone for the Lemelson-MIT Prize. "Joe is clearly one of the most inventive researchers in all of science." DeSimone received his award in June at a ceremony held at MIT.

DeSimone is a Chancellor's Eminent Professor of Chemistry at the University of North Carolina at Chapel Hill, a William R. Kenan, Jr. Distinguished Professor of Chemical Engineering at North Carolina State University, and a member of UNC Lineberger. He is also the co-principal investigator for the Carolina Center for Cancer Nanotechnology Excellence, which concentrates on projects using PRINT (Particle Replication in Non-wetting Templates) in oncology and is part of the National Cancer Institute (NCI) Alliance for Nanotechnology in Cancer.

The Lemelson-MIT Program recognizes outstanding inventors, encourages sustainable new solutions to real-world problems, and enables and inspires young people to pursue creative lives and careers through invention. ●

It's October ... time for Fast Break & Tickled Pink!



Roy Williams' Fast Break Against Cancer

Join Coach Williams as he welcomes special guest Mia Hamm for the 4th annual Fast Break Against Cancer breakfast on Friday, October 17, 7:30-9:30 a.m. at the Dean E. Smith Center in Chapel Hill. Tickets are \$100; tables for 8 are available for \$1500.

Tickled Pink Luncheon and Tickled Pink at Twilight

We've been tickled pink for five years now, and this year we're heading to a new location: the Pope Box in beautiful Kenan Stadium on the campus of UNC.

The ladies' luncheon will be held on Wednesday, October 22, 11:30 a.m. - 2:00 p.m.

The coed Twilight event will be held on Thursday, October 23, 5:30 - 7:30 p.m.

Tickets are \$50; patron tickets are also available.



For more information or to order tickets for **Fast Break** or **Tickled Pink**, please call 919-966-5905, or visit unclineberger.org and click on "What's Afoot"

calendar of events

OCTOBER 2008

4th Paws for a Cause Dog Walk/Animal Parade, Rocky Mount, NC

17th Roy Williams' Fast Break Against Cancer, Dean E. Smith Center, Chapel Hill, NC

22nd Tickled Pink Luncheon, Pope Box, Kenan Stadium, Chapel Hill, NC

23rd Tickled Pink Twilight, Pope Box, Kenan Stadium, Chapel Hill, NC

NOVEMBER 2008

8th Free to Breathe Lung Cancer 5K, Raleigh, NC

DECEMBER 2008

12th Patient Family Resource Center Holiday Open House

FEBRUARY 2009

7th Lineberger Club Luncheon, Carolina Club, Chapel Hill, NC

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