

cancerlines

UNC LINEBERGER COMPREHENSIVE CANCER CENTER



3 Donors' experience with cancer leads to philanthropic support



4 Patient improves breast cancer outcome, golf game



5 Researcher explores cancer mysteries, foreign countries



8 Community event raises funds for uterine cancer research

the inside lineup

UNC Lineberger partners with Fort Bragg to tackle tobacco use

A strategic partnership between UNC Lineberger, Fort Bragg Department of Public Health, and the Cumberland County health department is helping the nation's largest Army base rework its tobacco policies and take steps to improve the health of its soldiers and their families.

"Most of our beneficiaries and all of our civilian workforce live off-post and are not on Fort Bragg proper, so it was critical to develop relationships within the community," said Col. Sheryl A. Bedno, MD, DrPH, director of the Department of Public Health at Fort Bragg. "What's really exciting is that now, instead of people working on overlapping projects, we are working on these efforts together. A lot has happened in this short amount of time, and it's really changed the way we've done public health."

The Partnership for a Fort Bragg Tobacco-Free

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UNC Lineberger's Kurt M. Ribisl, PhD, left, a tobacco control policy expert, and Col. Sheryl A. Bedno, MD, DrPH, right, director of the Department of Public Health at Fort Bragg.

Tobacco strategic partnership work

- Finding that tobacco and vaping retailers are densely located around Fort Bragg, placing soldiers and their families at higher risk for tobacco initiation and maintenance. This work can help inform discussions about local zoning regulations.

- Conducting tobacco treatment training for health care providers, including behavioral health professionals and pharmacists who work on Fort Bragg.

- Determining that on-base tobacco retailers did not meet Department of Defense guidelines that tobacco prices should be no more than 5% lower than prices at off-base retailers.

- Recommending the removal of the 20 Designated Tobacco Areas (DTAs) on Fort Bragg after finding that none of them complied with the base's official tobacco policy.

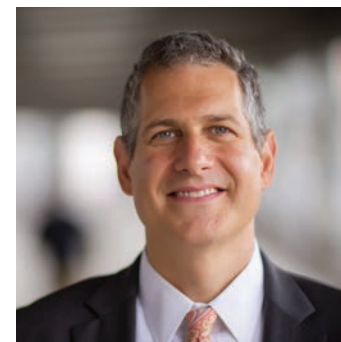
- Implementing a tobacco cessation media campaign tailored to active-duty soldiers and beneficiaries who lived on Fort Bragg and within a 40-mile radius of the base.

New positions make oncology a priority across UNC Health

Three senior faculty members are taking on new administrative roles that will benefit both UNC Lineberger and UNC Health. These appointments support the organizations' commitment to advancing cancer research and care, as well as address the growing complexities of providing cutting-edge care.

Lisa A. Carey, MD, FASCO, the Richardson and Marilyn Jacobs Preyer Distinguished Professor in Breast Cancer Research, has been named the deputy director of clinical sciences. **Jonathan Serody, MD**, UNC Lineberger's associate director of translational research and the Elizabeth Thomas Professor of Medicine, Microbiology and Immunology, has been appointed the director of hematology, and **Ethan Basch, MD, MsC**, co-leader of UNC Lineberger's Cancer Prevention and Outcomes Program and the Richard M. Goldberg Distinguished Professor in Medical Oncology, is the newly named director of oncology. Carey, a senior member of the breast oncology program, brings a highly valuable mix of clinical care and research experience to this position, having previously served as chief of the division of hematology

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Clockwise from top left: Lisa A. Carey, MD, FASCO, the Richardson and Marilyn Jacobs Preyer Distinguished Professor in Breast Cancer Research; Ethan Basch, MD, MsC, the Richard M. Goldberg Distinguished Professor in Medical Oncology; and Jonathan Serody, MD, the Elizabeth Thomas Professor of Medicine, Microbiology and Immunology have been named to new positions at UNC Lineberger and at UNC Health.



Shelton Earp, MD

director's message

UNC Lineberger set the stage in the spring as we were the first cancer center to host a virtual National Cancer Institute site visit as part of our Cancer Center Support Grant renewal application. I am proud to share that for the third consecutive time we earned an “exceptional” rating, the NCI’s highest designation.

We remain in good company among other household names in cancer care, but we maintain the distinction of being one of only a few NCI comprehensive cancer centers to be rated exceptional across the past decade. Our faculty and staff continue to stand tall and apart based on the depth, breadth and impact of our work.

The \$40 million in grant funding over the next five years will support the cancer center’s 10 research programs and 13 shared resources that provide a wide range of services to the research effort, including leading-edge technologies, high-end instrumentation, technical support and education. Particularly important is support for our Office of Community Outreach and Engagement and its service to North Carolina.

Lots of wonderful things are going on across the cancer research spectrum, and as good as we are, we have the opportunity to become even better.

This starts with implementing our recently created strategic plan. We aim to further leverage our expertise in cancer genetics to establish UNC as a leader in precision cancer medicine; our drug development group is poised to put new,

more effective treatments into clinical trials; our cancer outcomes and early detection programs have a path plotted for all North Carolinians.

Our outstanding faculty are continuing to conduct and publish research that’s making strides in the fight against cancer, and our breast cancer program has gotten attention recently, as UNC Lineberger Deputy Director **Lisa Carey, MD, FASCO**, and **Chuck Perou, PhD**, have been recognized as national leaders in breast cancer. Carey, along with **Ethan Basch, MD**, and **Jon Serody, MD**, have all been appointed to new leadership positions at UNC Lineberger and the North Carolina Cancer Hospital in recognition of their remarkable achievements in their respective fields.

As part of our strategic plan, and as the only public comprehensive cancer center in North Carolina, we strive to provide quality cancer care and address the burden of cancer and community needs in all 100 counties. We’re even partnering with Fort Bragg in Fayetteville to create smoking cessation plans that will work for the military and keep them in fighting shape.

Another aspect of our strategic plan is to pursue more effective cancer treatments and better outcomes, something you’ll learn about in the story of donor and patient Doug Wilson, whose rare form of lymphoma required specialized treatment and expert oversight on the part of UNC Lineberger’s **Chris Dittus, DO, MPH**, and **Marcie Riches, MD**.

We would not be achieving at such high levels nationally and throughout North Carolina without your support and the dedication of our community partners. We are grateful that you see UNC Lineberger much as I do, as a wonderful investment in the future of cancer research and care. 8

TOBACCO *continued from page 1*

Community was launched in 2018, after a delegation from Fort Bragg came to Chapel Hill and met UNC Lineberger’s **Kurt M. Ribisl, PhD**, a tobacco control policy expert and chair of the department of health behavior at UNC’s Gillings School of Global Public Health.

“I was looking for an opportunity to do something with our military in North Carolina, which is the most military-friendly state in the country,” said Ribisl, who had been working with the Air Force and the University of Virginia on a parallel tobacco control project, “and after the initial meeting, we started brainstorming and talking about projects we could do together at Fort Bragg.”

According to the U.S. Army Public Health Center’s 2019 Health of the Force report, 28% of Fort Bragg soldiers self-reported use of at least one tobacco product in the past 30 days before their annual health examination. Studies show that tobacco use affects combat readiness by contributing to, for example, greater injury risk, poorer wound healing and worse night vision. Military personnel who use tobacco have worse physical and mental health and are at greater risk of early discharge compared to their non-smoking colleagues. Annually, the Department of Defense spends more than \$1.6 billion on health costs and lost productivity due to tobacco-related health issues.

The University Cancer Research Fund supported the startup of the collaboration,

which has since received additional grant funds from the Centers for Disease Control’s Tobacco Prevention and Control branch. Their goal is to make policy changes and education work to lower tobacco use by Fort Bragg soldiers and their families from 26% to 17% by 2025.

Early results of the partnership’s efforts have been significant – helping to leverage the additional grant funding, generating three abstracts that were accepted at the 2020 Annual Convention of the American Public Health Association, and leading to the development of the Tobacco Cessation and Prevention Fort Bragg Strategic Plan.

The partnership is also working toward a formalized public health practicum program between UNC Gillings and the Fort Bragg Department of Public Health.

“Colonel Bedno has been so enthusiastic and willing to partner,” said **Hannah Prentice-Dunn, MPH**, project manager of UNC Lineberger’s Cancer Prevention and Control Program. “It is a strategic move to bring state and local health experts to the table to help the soldiers at Fort Bragg, and she really opened the doors for all of this to happen.”

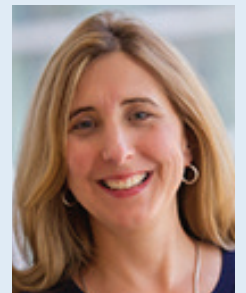
The UNC Lineberger partnership has enabled further ongoing collaboration with the Fort Bragg public health team and their response to COVID-19 that has so affected all aspects of health. 8



Prentice-Dunn

Weight gain prevention intervention activities with the U.S. Air Force

UNC Lineberger’s **Deborah Tate, PhD**, professor of nutrition and health behavior, and colleagues and students from the UNC Gillings School of Global Public Health are collaborating with faculty from the University of Virginia stationed at Lackland Air Force Base in San Antonio on weight gain prevention efforts with U.S. Air Force airmen. As is true of the U.S. population at large, weight gain is a problem for military personnel.



Tate

This is particularly an issue for some pilots who fly aircraft with cockpits designed for thinner cohorts. There is a need for specific evidence-based interventions, adapted for military implementation, to help improve readiness and fitness in the military. The UNC-UVA team completed a nine-week pilot intervention with 391 airmen to examine the feasibility of implementing a weight gain prevention intervention in preparation for a larger and longer-term study. The team also surveyed young airmen to assess their level of concern for weight gain and interest in participating in a digital weight gain prevention intervention.

Based on their findings, the UNC-UVA team is developing a NIH grant proposal for submission in early 2021 that proposes to adapt a successful weight gain prevention intervention developed by Tate and colleagues for young adults using digital tools, for implementation in the adult Air Force population. 8

Donors credit doctors for life-saving cancer care

Doug Wilson and Betsey Bent are retired and live in Wrightsville Beach, North Carolina, these days, spending hours on paddle boards in the sound and enjoying time with their daughter, Elizabeth, and Coby, their springer spaniel who is never left out of family activities. Bent is 71 and Wilson is 74, but he now counts his age only in years since his life-saving bone marrow transplant at the North Carolina Cancer Hospital, the clinical home of UNC Lineberger. He's now three and a half, he says, a significant milestone based on his early prognosis with a rare form of non-Hodgkin lymphoma, mantle cell lymphoma.

"My Wilmington oncologist said it was stage 4, and I had it in my bone marrow, my lymph nodes and several other places throughout my body," Wilson said. "My prognosis was not very good."

With such a rare form of cancer, Wilson's oncologist referred him to UNC Lineberger, and he and Bent headed to Chapel Hill to meet with **Christopher Dittus, DO, MPH**, two days after his diagnosis. After their initial meeting, the couple knew Wilson was in good hands.

"At Lineberger, we were so lucky that Dr. Dittus had treated [mantle cell]. It's rare, and we were so fortunate that there is an expert at Lineberger," Bent said.

They had done their homework on Dittus and were confident in their choice of oncologist and care team. Wilson is also a Carolina alumnus, which made the decision a little easier. Dittus explained Wilson's options, with a bone marrow transplant offering the best chance for extended remission.

"I was 71 at the time, and I was sort of aging out of the possibilities, but he went through everything and told me what we had to do," Wilson said. "He wanted me to go home and think about going through an aggressive chemotherapy program that he felt was necessary to get me into remission and eligible for transplant."

Once Wilson was transplant-ready, UNC Lineberger's **Marcie Riches, MD**, stepped in for the next step of his cancer journey. Wilson read through binders of information on bone marrow transplants, went through additional testing to make sure his body could handle the stress of the transplant and spent more than an hour answering Riches' questions.

Wilson and Bent said their experience with bone marrow transplant actually brought their family closer together and even what was once an extended community became part of their family fold. Bent served as her husband's primary caregiver but found more support than she expected. Their daughter frequently returned from her home in Portland, Oregon, to North Carolina to help her parents, and a group of close friends in their Wrightsville Beach community pitched in and helped with Wilson's care.

"The restrictions required by COVID-19 have not been new to us. We've almost been living that for three years with the transplant care restrictions," Bent said.

"The impact cancer has on the family is huge," Wilson said. "This has transformed Betsey's life more than mine. There were many times that Betsey had to do special meals, take care of me and do everything, and the way in which the people at Lineberger treated us helped her deal with this. It's harder on her than on me. I was going through it, but she was having to watch it."



Above: Doug Wilson and Betsey Bent. Below right: Bent, Wilson, their daughter, Elizabeth, and Coby, a springer spaniel named for UNC-Chapel Hill basketball player Coby White.



Chris Dittus, DO, MPH



Marcie Riches, MD



Wilson and Bent couldn't stop thinking about the effects of cancer on their family and how others have gone through the same experiences they did. Like many people, they had friends who had been treated for cancer, and they began considering a significant gift to UNC Lineberger. Based on their own personal experiences and research, the couple discovered the cancer center's mission was in line with their own values.

"To me, it's the devastation of cancer in general that affects all of us. We attended the Blue Ribbon Gala two years ago, and I was so moved by the stories of the patients, [UNC Lineberger Director] Shelley Earp, Champ Mitchell and the many folks we met and talked with at the gala. I talked to Champ about what he had learned about the mission of Lineberger, and a lot of that was clicking," Wilson said.

Wilson and Bent liked that the N.C. Cancer Hospital's mission is to treat everyone regardless of their ability to pay. This struck a chord with both of them, as Bent served as director of Senior Services at Mission Health Systems in Asheville, North Carolina, and Wilson had been heavily involved in legal aid and other charities during his years as a managing partner of an Asheville law firm. They also joined the Board of Visitors after being asked by Wilson's fraternity brother and current Board of Visitors President Jim Harrell.

Basing their decision on the "world-class standing

of UNC Lineberger," Wilson and Bent have donated \$10,000 per year during the past two years in honor of Riches and Dittus to support their work in bone marrow transplant and the continued exploration of treatment options for mantle cell lymphoma. This year, they have pledged \$50,000 over five years to continue their support.

"That research was important to us. We learned so much about their work," Bent said. "It was to thank them for [Doug's] life."

"We've been so fortunate, and this was something we could do," Wilson said. "This could help pay forward what was done for me and help so many other people who are exposed and suffer from this horrendous disease."

Wilson and Bent feel strongly that giving can truly make a difference in the lives of cancer patients and their families, and they hope other people will find ways to give back to UNC Lineberger. The couple said that if people want to help in the fight against cancer, giving to the cancer center is a great investment.

"Listen to the personal stories, they will reach your heart," Bent said. "Put your money where your heart is."

"They gave me a chance at life," Wilson said. "My cancer was nasty stuff; it's aggressive and I needed to be the best I could possibly be if I was going to survive it. Being treated at UNC Lineberger gave me the best chance to do it." 8

Tailored treatment helps patient's cancer recovery

Having cancer can be physically and emotionally taxing. For Donna Cornick, 74, of Chapel Hill, her cancer journey was made easier by talking to other patients about her experiences and having a team of doctors who went the extra mile to help her do the things she loved, even after cancer.

Cornick enjoyed a busy life, one full of activity, prior to her cancer diagnosis. She started playing golf in high school, and has spent decades perfecting her game, mostly because she enjoys the outdoors and likes to walk. She even worked at UNC Finley Golf Course, and still plays weekly whenever course restrictions due to the pandemic allow. She's also a member of a band and plays mandolin and guitar in the bluegrass and Celtic styles.

In 2014, those activities came to halt when a routine mammogram showed a small tumor in her right breast, less than half a centimeter wide. "The radiologist said 'I think there may be an issue here,'" Cornick said. "I said 'Please send me to UNC.'"

From the start, Cornick's experience was positive. She met with **Anthony Meyer, MD, PhD**, who scheduled a lumpectomy and told her he'd have her home in time for a late lunch.

"He was right," she said. "I was home early and didn't have any problems."

After the surgery, Cornick met with UNC Lineberger's **Lawrence Marks, MD**, the Dr. Sidney K. Simon Distinguished Professor of Oncology Research and chair of radiation oncology, to discuss a treatment plan.

"He looked at everything about me," she said. "He knew I played a lot of golf, so he was very careful during the radiation and doing it a little differently than what they typically do."

"Ms. Cornick's case was interesting as her concern about her golf swing challenged me to think more critically about the anatomy of the shoulder and its various joints and how I could better spare these tissues," Marks said. "I settled on using a somewhat unusual combination of beams, and I am glad that we were able to deliver her radiation without negatively affecting her golf game."

To help with side effects, Marks wrote her two prescriptions — one for lidocaine and one for a mulligan to help with her golf game.

"It said 'one mulligan per hole as needed. I handed the [pharmacy] the joke prescription and got my lidocaine," she said. "I really enjoyed seeing [Marks] and visiting with him. He made me laugh."

Cornick finished radiation in December, 2014, and Marks' treatment strategy paid off; she was playing golf again in the spring. Her oncologist, UNC Lineberger's **Claire Dees, MD**, was also careful when prescribing Cornick Arimidex, which can cause cramping in the hands. Dees wanted to make sure her patient could still play the guitar and the mandolin, despite the side effects, so she monitored Cornick closely. Fortunately, she never experienced any effects that impacted her playing.

"Everyone at UNC Lineberger was incredibly kind and professional," she said. "The guys in the parking lot, nurses, physicians, everyone. I felt very well cared for and very fortunate."

Cornick said that care even extended to other patients in the waiting room. She would see familiar faces at the North Carolina Cancer Hospital, the clinical home of UNC Lineberger, and they would swap stories.

"We sort of got to know each other, she said. "Some of their stories were more serious than mine, and it hits you emotionally."

Cornick found talking to other patients helped with her own cancer journey, and she said she's always willing to share her experiences with others who may need to hear that story.

"I told several people, 'Try not to have breast cancer, but if you do, have what I have.'"

Cornick is still playing in her band and hitting the links as often as she can. But she's also making time for some bucket list items she had put off during her cancer journey.

A history buff, Cornick was fascinated with the Franklin Delano Roosevelt era and was always interested in seeing the FDR historic site in Hyde Park, NY. She took a leap and wrote them a letter, and ended up spending several weeks in the fall as a tour guide and docent at the FDR Library and Museum. She has also kept up with old friends, making time to see them and spending two to three weeks every summer in Maine catching up on each others' lives.

"It makes you more aware of your mortality, and for me, it made me decide to not put off doing things I really wanted to do on my bucket list," she said. "I decided now is the time and to get on with it. In many ways, I look at life more positively. Now is the time to do it." 8



Above: Donna Cornick plays the mandolin, something she was able to continue after a tailored radiation treatment from her radiation oncologist, UNC Lineberger's Larry Marks, MD.

At left: Cornick and Marks on the day she hit the gong, marking an end to her radiation treatments.

Triple-threat researcher tackles cancer questions

After 36 years of working at UNC Lineberger, **Jenny Ting, PhD**, knows she's in the right place. Her work with genetics, microbiology and immunology has always been interesting and fulfilling to her, and she shares her knowledge and expertise on the campus of UNC-Chapel Hill and another hill entirely, Capitol Hill, when she has the opportunity to advocate for immunologists and the important work she and her colleagues do.

Ting, the William Rand Kenan Professor of Genetics, has a degree in medical technology, but there were particular aspects of that field that piqued her interest, leading to a PhD in microbiology and immunology from Northwestern University, and post-doc appointments at the University of Southern California and Duke University.

"When I was going through my undergraduate work at Illinois State University, I was excited by a genetics course and had a clinical rotation in microbiology and serology, which is a component of immunology, and these were fields that really attracted me," she said. "It's interesting that now I'm a professor in all three of these disciplines."

As head of the Ting Lab, the director of the Center for Translational Immunology and the Immunology Program leader at UNC Lineberger, Ting and her passion for service and education helps the next generation of immunologists, just as her mentor did for her when her career was just taking off.

"After I finished my postdoctoral training, I was uncertain if I should go into academic research or industry," she said. "My former post-doc mentor really encouraged me to apply for academic positions. For my early research direction as a faculty, I was interested in the larger question of how an immune cell developed through specific lineages of the immune system. To achieve this, I had to understand how each gene was controlled first, so I studied immune gene regulation for nearly 10 years."

Ting applied to UNC Lineberger after urging from her mentor and was delighted to find a place that has been her research home for the past 36 years.

"It's just a really great environment with really strong leadership," she said. "I've had wonderful colleagues and stayed here despite many attempts to draw me away."

Ting's work is prolific, and she is either working on something new or publishing results on her lab's discoveries in genetics, immunology and microbiology. She said it's hard for her to decide on the research she is most excited about. "It's like asking 'which one is my favorite kid?' I'm always most excited about what I'm doing right now," she said.

Ting is currently focused on two different aspects of cancer care, prevention and treatment. Her lab is exploring the body's microbiota, or the entire composition of microbes living inside and on the human body, hoping to find connections to improve cancer treatments. Ting said the goal is to use data from the



UNC Lineberger's Jenny Ting, PhD.

microbiome to improve cancer treatment outcomes and mitigate the negative effects of treatments like radiation or chemotherapy, based on genetic clues from an individual patient's microbiome. In that same vein, Ting and her team are looking into how to manipulate genes that control inflammation and innate immunity in the body, whether good or bad, and better understand the role these genes play in cancer and look for new ways to control them.

"We've also been trying to figure out how to make vaccines for cancer and infectious diseases, and improve responses by targeting the innate immune system," Ting said. "We're very excited about these directions."

Donor funding is essential to Ting's work, and she said some of her high-risk research has been possible due to philanthropic support, including funding for her microbiome work on mitigating the effects of radiation treatments on cancer patients, which was recently published in the journal *Science*. Key research has been enabled by donor support, in-depth research that will benefit future patients.

Outside the lab, Ting is creative in finding ways to cure pandemic boredom, trying to get outside when she can and meeting friends for walks and socially distanced meals. The pandemic has grounded her from her favorite pastime, traveling, something she hopes to get back to when life goes back to normal. Ting has been to nearly every U.S. state, and said she's only missing four. She's been to Australia, New Zealand and many Asian countries, and she's also visited most of Western Europe, hoping to travel to

Luxembourg post-pandemic, the only country in that region she hasn't visited.

With current travel restrictions, however, Ting is not seeing enough of her two daughters and her grandchild, according to longtime friend and UNC Lineberger director, Shelley Earp, MD. "Perhaps Jenny's proudest achievement is raising her two daughters, both with advanced degrees, meaningful careers and families of their own," he said. "I have always been in awe of Jenny's ability to keep track of her 20 person-plus lab family, publish research at the world's highest level and raise [daughters] Claire and Erin to be such wonderful people."

Ting also embraces her service role as president of American Association of Immunologists and relishes the thought of heading back to Washington, D.C., to advocate to legislators on behalf of immunologists and their important work. "As a group, we go to Hill Day, and I always find that it is extremely meaningful and cool to advocate for scientists," she said. "We lobby for policies and discuss why immunology is so important in cancer care and other public health challenges."

While Ting stays busy, she's always aware of what's going on in the world, and is especially inspired by the positive impacts individuals can have on the people and places around them.

"Whether it's a story about someone who spoke up and did something despite pressure to stay quiet, people fighting fires on the west coast, health care workers taking care of others during the pandemic and risking their own lives, I think every day we see heroes," she said. "They're pretty darn inspirational every day." 🦋

Donor funding is essential to Ting's work, and she said much of her research has been possible due to philanthropic support, including funding for her microbiome work on mitigating the effects of radiation treatments on cancer patients.

Novel CAR-T immunotherapy proves effective against Hodgkin lymphoma

UNC Lineberger researchers have shown, for the first time, that a person's immune cells can be reprogrammed to attack hard to treat Hodgkin lymphoma with remarkable results.

In an early-phase clinical trial, whose results are published in the *Journal of Clinical Oncology*, researchers at UNC Lineberger and the Baylor College of Medicine demonstrated that CAR-T immunotherapy, which attacks cancer cells using a person's reprogrammed immune cells, was both safe and highly effective for patients with relapsed/refractory Hodgkin lymphoma. The treatment led to the complete disappearance of tumor in the majority of patients treated at the highest dose level of therapy, with almost all patients having clinical benefit after treatment.

"Decreasing a patient's own lymphocytes with a new, UNC-conceived regimen prior to CAR-T cell infusion seems to produce a more favorable environment for the CAR-T cells to proliferate and attack their cancerous targets," said UNC Lineberger's **Natalie Grover, MD**, the study's co-first author and an assistant professor of medicine at the UNC School of Medicine.

"This is particularly exciting because the majority of these patients had lymphomas that had not responded well to other powerful new therapies," said study senior author and UNC Lineberger member **Barbara Savoldo, MD, PhD**, professor in the Department of Microbiology and Immunology at the UNC School of Medicine.

The researchers hope to do further studies of the CAR-T therapy alone and in combination with other new immunomodulating anticancer drugs.

Study: Black women with breast cancer experience delayed, longer treatment

One in seven black women with breast cancer had delays in starting treatment, and black women also had extended duration of treatment, according to a study led by UNC Lineberger researchers.

Melissa Troester, PhD, Marc Emerson, PhD, and their colleagues report in the journal *Cancer* that Black women were more likely than white women (134% vs. 79%) to have the start of the care delayed by at least 60 days after diagnosis. Black women were also more likely to have longer duration of treatment, as were women under the age of 50 of all races.

The study assessed a variety of patient-reported factors for their impact on delaying start or prolonging duration. While access to care, tumor status and socioeconomic status did affect treatment start times, these factors had greater impact on the length of care. It was also notable that socioeconomic status was not as strongly connected to treatment delay as race.



Savoldo



Grover



Troester



Emerson

"Our study found that Black women experienced delays in both treatment initiation and duration more often than white women. Even among women with low socioeconomic status, we still saw fewer delays among white women, underscoring the disparate experience of Black women, who appear to experience unique barriers," said Emerson, the paper's first author and postdoctoral fellow at UNC Lineberger and UNC Gillings School of Global Public Health.

Immune system cell therapy preserves vision in mice with rare eye cancer

A treatment that uses immune system T-cells, combined with an immune-boosting drug packaged in an injectable gel, was found to preserve the vision of mice implanted with tissue from a human eye cancer known as retinoblastoma.

Retinoblastoma is primarily diagnosed in infants and young children. It is considered rare, with approximately 200-300 children diagnosed with the cancer each year in the U.S. Current treatments for retinoblastoma use cold, heat, chemotherapy, lasers or radiation but vision loss still occurs, so the UNC researchers wanted to search for methods that could preserve vision.

"Based on our mouse study and the existence of an active cell immunotherapy program at UNC Lineberger, along with infrastructure for generation of CAR-Ts for clinical use, we feel confident that our efforts could be translated into a phase I clinical study in people," said **Zongchao Han, MD, PhD**, an associate professor in the UNC School of Medicine and UNC Eshelman School of Pharmacy and a UNC Lineberger member.

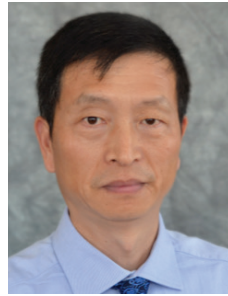
"We are always looking to improve the lives of children at Lineberger," said **Barbara Savoldo, MD, PhD**, professor in the Department of Microbiology and Immunology at the UNC School of Medicine. "Therefore, we hope to look at the safety of gel injection in a clinical trial of retinoblastoma in children, and if that proves safe, we could move on to see if our methodology can reduce or eliminate these tumors."

New vulnerability found in lung cancer may help drug targeting at cellular level

New cancer research by scientists at UNC Lineberger and colleagues shows the potential for targeting a specific circular RNA, known as CDR1as, to attack lung squamous cell cancer. Lung squamous cell cancers comprise up to 30% of all lung cancers and are responsible for about 70,000 new cases and approximately 40,000 deaths each year in the U.S.

The results from this study are published in *Cancer Research*, a journal of the American Association for Cancer Research.

"Research is revealing, at a rapid pace, that cancer has many more vulnerabilities than we previously believed, including the one we've elucidated. This undoubtedly means better treatment options are ahead," said UNC Lineberger's **Chad V. Pecot, MD**, the study's senior author. "I'm very hopeful, based on our work and much of what is being done in the field of drug development, that many new medicines are on the horizon." 8



Han



Pecot

Honors and Awards

Honors

Halei Benefield, PhD, has been named the 2020 recipient of the *Michael S. O'Malley Alumni Award for Publication Excellence in Cancer Population Sciences*.

Lisa A. Carey, MD, FASCO, has been recognized as one of the country's top 10 breast cancer experts. She is the only breast cancer expert in North Carolina and the southeastern U.S. to earn the honor.

Andrea Hayes-Jordan, MD, Byah Thomason Doxey-Sanford Doxey Distinguished Professor, has been elected a governor of the board of directors for the *American Pediatric Surgical Association*.

Katherine Hoadley, PhD, is the 2020 inaugural recipient of the *Marion R. Wright Award for Scientific Excellence*.

Meghan O'Leary, MA, was awarded the 2020 *Marci K. Campbell Dissertation Award*, which recognizes excellence in dissertation research focused on cancer and population sciences.

The *American Association for Cancer Research* presented the founding members and the current project team associated with *The Cancer Genome Atlas* with the 2020 *AACR Team Science Awards*, including **Charles M. Perou, PhD, Katherine A. Hoadley, PhD, Joel Parker, PhD, Benjamin G. Vincent, MD, and Jen Jen Yeh, MD**, for their efforts to analyze the data generated by the project.

Awards

Louise Henderson, PhD, M. Patricia Rivera, MD, ATSF, and a multi-disciplinary team were awarded \$1.5 million by the *National Cancer Institute* to study comorbidity and functional status in a population undergoing lung cancer screening.

Wendell Yarbrough, MD, MMHC, Bisham Chera, MD, and colleagues were awarded a five year, \$3.78 million grant by the *National Institute of Dental and Craniofacial Research* to study tumor mutation and blood tests for HPV-related head and neck cancers.

Dale Ramsden, PhD, Gaorav Gupta, MD, PhD, and team were awarded a 5-year, \$8.8 million grant by the *National Cancer Institute* to study an enzyme that is part of an important pathway that repairs damage to genomes.



Gilbert Casterlow, Jr. with his grandson, Bryson Mittman.

Durham boy supports cancer patients in honor of grandfather

For the past three years, Bryson Mittman has asked his family and friends to donate to UNC Lineberger's multiple myeloma research program rather than buy him birthday presents. Bryson is motivated by his love for his grandfather, Gilbert Casterlow, Jr., who was diagnosed with multiple myeloma, a form of blood cancer, in 2004.

Casterlow is a patient of **Sascha Tuchman, MD, MHS**, director of UNC Lineberger's Multiple Myeloma and

Amyloidosis Program.

"I already get presents at Christmas, and my parents taught me that it's better to give than to receive, so I thought it would be nice to do something for someone else on my birthday," Bryson said. "Plus, I love my granddad and want to help him however I can. He's cool, really smart and funny, too."

Casterlow, a retired math professor and administrator at North Carolina A&T State University in Greensboro, has received care at UNC Lineberger for more than a decade. His treatment regimen has included conventional therapies as well as a double stem cell transplant in 2005 as part of a clinical trial.


Alexander develops pediatric cancer fellowship program in Ethiopia

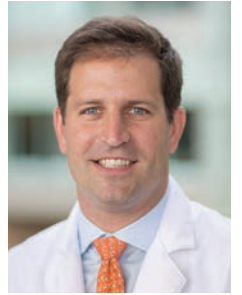
The majority of pediatric cancers cases worldwide occur in low- to middle-income countries. This can present significant medical challenges because these countries may have a scarcity or outright lack of trained pediatric cancer care providers.

UNC Lineberger's **Thomas Alexander, MD, MPH**, and colleagues report in the journal *the Pediatric Blood & Cancer* on their work to help establish a pediatric hematology-oncology training curriculum in Ethiopia, which has 6,000-12,000 new pediatric cancer cases

annually but, as recently as 2013, had no dedicated pediatric hematology-oncology programs.

In collaboration with the Asian Project, they developed a formal two-year pediatric hematology-oncology fellowship program. Alexander, an assistant professor in the UNC School of Medicine Department of Pediatrics, said the goal was to create a sustainable local capacity in Ethiopia to treat pediatric blood disorders and cancers.

Four physicians have completed comprehensive subspecialty training, and all have remained local. There are now two pediatric cancer centers in Ethiopia, led by former fellows, that have a combined capacity of 64 inpatient beds and more than 800 new diagnoses per year. Another program graduate is developing a pediatric cancer program in Nairobi, Kenya. The fellowship program is currently training two additional fellows, and leadership and oversight is being transitioned to program graduates. Moreover, it is supporting the development and growth of dedicated pediatric cancer care services where none existed seven years ago. 



Alexander

FACULTY *continued from page 1*

and oncology in the Department of Medicine and as physician-in-chief of the North Carolina Cancer Hospital. She also has national leadership roles on the National Cancer Institute Breast Cancer Steering Committee, the NCI-sponsored Alliance Translational Science Executive Committee and the Translational Breast Cancer Research Consortium Steering Committee.

"I'm excited to continue working with the great team at UNC Lineberger in this new capacity. Our physicians, researchers and faculty have been working at such a high level, and I'm so appreciative of their efforts and hard work and know their skills and expertise will continue producing great results in cancer care and research across the spectrum. I'm passionate about top-notch clinical care and innovative research and am looking forward to what comes next in cancer care and science at UNC Lineberger and the N.C. Cancer Hospital."


In a realignment of the division of hematology and oncology that will form two divisions from one, Ron Falk, MD, chair of the UNC Department of Medicine has appointed Serody as chief of hematology and Basch as chief of oncology.

"The division of hematology and oncology has grown substantially under the leadership of Dr. Lisa Carey, managed as three groups: benign hematology, malignant hematology and solid tumor oncology," Falk said. "As Dr. Carey transitions to her new role as deputy director of clinical sciences at Lineberger, we've determined that having two divisions, tightly linked, will help us more efficiently manage administration for these subspecialties and position them for future growth."

"Drs. Serody and Basch are world class investigators that we are so fortunate to have had in our midst,"

Falk said. "Their vision for the future of our now separate hematology and oncology divisions is awe inspiring."

Serody serves as associate chief of malignant hematology, bone marrow transplant and cellular therapy, and is director of UNC's Bone Marrow Transplantation & Cellular Therapy Program, in addition to his UNC Lineberger role. He also serves as the associate director for translational science at UNC Lineberger. Serody's group was the first to demonstrate a role for T-cell trafficking in the pathogenesis of acute graft-versus-host disease and a critical role for B lymphocytes in the anti-tumor immune response. Additionally, he continues to be pivotal in the development of the adoptive cellular therapy program at UNC Lineberger. He has held leadership positions in the American Society of Hematology, served on advisory panels for the FDA and editorial boards of *Blood* and *The Journal of Clinical Oncology*.

Basch, who was also appointed physician-in-chief at the N.C. Cancer Hospital, is focused clinically on the treatment of prostate cancer. He leads a longstanding research program focused on cancer care delivery transformation and patient-centered care, and directs the Outcomes Research Program for UNC Lineberger. His group established that integrating patient-reported outcome symptom monitoring into routine cancer care improves patients' quality of life, reduces emergency department visits, and lengthens overall survival. Basch developed a system for patient adverse event reporting in clinical trials, the PRO-CTCAE, that is now a standard in oncology drug development. He is an associate editor at *JAMA*, has served on the Board of Scientific Advisors of the National Cancer Institute, is an elected member of ASCI, and currently serves on the Methodology Committee of PCORI and the board of directors of the American Society of Clinical Oncology. 

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calendar of events

September

21st Golfing for the Gals, Chapel Hill

Ongoing

Chapel Hill Toffee: Chapel Hill Toffee will give a portion of the sale of every box of toffee to the Dina's Dynasty Ovarian Cancer Fund.

Peter Millar: Retailer Peter Millar will donate a portion of the sales from their UNC Lineberger collection to support patient care and research at UNC Lineberger.

For more information about these events and other UNC Lineberger news, visit www.unclineberger.org, or follow us on [f](#) [t](#) [i](#)

UNC Lineberger Comprehensive Cancer Center
P.O. Box 1050
Chapel Hill, NC 27514
(919) 966-5905
www.unclineberger.org

Address service requested.

Golfing for the Gals

Left to right: UNC Lineberger's Victoria Bae-Jump, MD, Lisa Milligan, and UNC Lineberger's Paola Gehrig, MD. Milligan organized Golfing for the Gals, a September event that spread awareness and raised money for uterine cancer research and care at UNC Lineberger.



Power of Pink

UNC Lineberger held Power of Pink, a campaign for breast cancer, throughout October. Patient Meghan Richbourg shared her story to help spread the word about the campaign, and UNC-Chapel Hill's National Champion women's field hockey team, below, also raised money for the cause. The campaign raised more than \$10,000 to help support breast cancer research.

Carolina Soccer Kicks Childhood Cancer

During September, the UNC-Chapel Hill men's and women's soccer teams teamed up to raise money to support the UNC Lineberger pediatric hematology/oncology clinic. The funds go to help pediatric patients and their families with non-medical needs like parking and gas cards. They also support the child-life specialists who work with families.

