

# cancerlines

UNC LINEBERGER COMPREHENSIVE CANCER CENTER



3 Donor's gift reflects personal cancer journey



4 Patient keeps a positive attitude through cancer



5 Happy accidents lead physician-researcher to her career



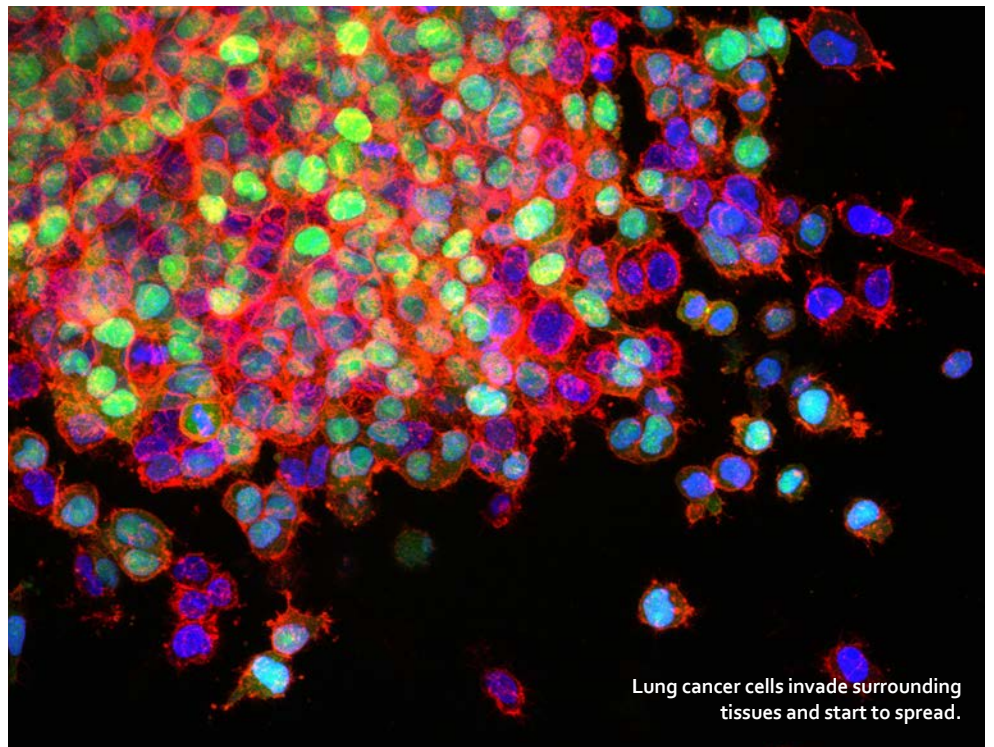
8 Student group raises money, awareness for UNC Lineberger

the inside lineup

## Lung cancer research makes a big impact on the future

“You’ve Come a Long Way, Baby” remains one of the best-known advertising slogans of the past 50 years, but with the hindsight of a half-century, it was more an ill-conceived pitch than a deserved accolade. The slogan was meant to promote cigarettes as a means of empowerment to women in an age of women’s liberation, but instead it hawked a deadly, lung-cancer causing product to an untapped audience. Ironically, the slogan is now decidedly apropos to the huge strides in research and prevention efforts that have successfully addressed many aspects of the scourge of lung cancer, particularly at UNC Lineberger, which sits in the heart of tobacco country.

One of the more prominent advances in addressing smoking-related cancers, as noted recently on the front page of the Washington Post, was a comprehensive review undertaken by UNC-Chapel Hill experts and colleagues that provided updated and foundational analyses of prevention studies regarding screening for lung cancer with low-dose spiral computed tomography (LDCT). The in-depth analyses, based on decades of evidence, showed that there are both benefits and harms from screening for lung cancer.



Lung cancer cells invade surrounding tissues and start to spread.

The National Lung Screening Trial showed that LDCT could detect lung cancer better than conventional X-rays in current or previous heavy smokers; recommendations for screening were based on the trial results. UNC scientists evaluated and synthesized data from seven clinical trials to arrive at a comprehensive, updated assessment of harms and benefits of screening.

See [LUNG](#), page 2

## Review: Targeted radiation can spare healthy tissue

A comprehensive review by University of North Carolina researchers and colleagues highlights the optimal ways that focused, high-dose radiation can be delivered to various types of tumors while sparing normal tissue and mitigating long-term side effects. The review was reported as a special issue in the International Journal of Radiation Oncology, Biology, Physics on May 1, 2021.

This analysis was based on an exhaustive review of data and the literature published largely in the past decade. It updates an earlier review that primarily focused on the effects of conventional radiation therapy on normal tissue. This new review also

includes important analyses of how well high-dose radiation can destroy small tumors, such as small brain lesions, lung lesions, and cancers that metastasize to other parts of the body.

“We undertook this review because we have an ever-increasing knowledge about the dose and volume of tissue to which we can direct radiation to both eradicate tumors while also safeguarding the surrounding normal tissue,” said UNC Lineberger’s **Lawrence B. Marks, MD**, the Dr. Sidney K. Simon Distinguished Professor of Oncology Research. “Today, we are better able to tailor radiotherapy to optimize benefit



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Lawrence Marks, MD



Shelton Earp, MD

# director's message

It's an exciting time at UNC Lineberger, and despite pandemic headaches and heartaches, we are still making forward progress and facing cancer head-on in our labs and clinics. We are constantly striving to improve in all areas of cancer, but one area that we've collectively decided needs particular attention is pancreatic cancer, and therefore, we have established the Pancreatic Cancer Center of Excellence at UNC Lineberger.

The center brings together cancer center faculty with a broad range of expertise — from laboratory, translational and clinical research to drug development, biostatistics, biomedical engineering and pharmacology to medical, radiation and surgical oncology — to focus on pancreatic cancer, one of the most aggressive and difficult to treat cancers.

Led by Autumn McRee, MD, a gastrointestinal medical oncologist, and Jen Jen Yeh, MD, a surgical oncologist, the center's mission is to provide excellent multidisciplinary patient care and generate research discoveries that can be translated into new, more effective approaches and ultimately, cures for pancreatic cancer. And they are engaging numerous faculty with a variety of clinical and research skills.

Pancreatic cancer is a truly unrelenting disease, diagnosed late and absolutely resistant to most current therapies. For those reasons, we are working to develop different approaches for early detection and for better local and systemic therapy to improve patient outcomes once the disease is discovered. Our investment in the center of excellence leverages UNC Lineberger's basic science, genomics, immunotherapy, imaging, biomedical engineering and clinical strengths to blaze a new path toward better patient-centered care and outcomes.

In this edition of Cancer Lines, you'll learn about advances in patient care and outcomes, including lung cancer, breast cancer, and genitourinary cancer. You'll hear what keeps one patient with head and neck cancer going, and how one of our clinicians traded a musical instrument for a stethoscope as she pursued research and a medical career. You'll get to know one of our donors, who has made an incredible gift to serve future generations even as she deals with her own cancer.

These stories and the opening of the new center of excellence show UNC Lineberger's dedication to patients, families and groundbreaking research as we continue our fight against cancer. We are looking to the future and continuing to provide today's best care and tomorrow's best hope for patients and families across North Carolina and beyond. 8

## LUNG *continued from page 1*

New recommendations now broaden the criteria for screening eligibility. There were several reasons for this change in eligibility; one was to promote health equity, in part because Black people have a higher lung cancer risk even with lower levels of smoking exposure.

"Two large studies have now confirmed that screening can lower the chance of dying of lung cancer in high-risk people. However, people considering screening should know that a relatively small number of people who are screened benefit, and that screening can also lead to real harms," said UNC Lineberger's **Daniel Reuland, MD, MPH**, one of the review authors.

But before extensively expanding access to LDCT, UNC Lineberger researchers say any changes to screening protocols should address equity and implementation issues. **Louise M. Henderson, PhD, M. Patricia Rivera, MD, and Ethan Basch, MD, MSc**, the Richard M. Goldberg Distinguished Professor in Medical Oncology and chief of oncology at the UNC School of Medicine, voiced their concerns and offered potential approaches to make screening recommendations more inclusive of populations that have been historically underserved.

"The revised U.S. Preventive Services Task Force's (USPSTF) recommendations are sound and based on well-conceived evidence and modeling studies, but they alone are not enough, as we have seen limited uptake of the prior recommendations," Basch said. "Implementation will require broader efforts by payers, health systems and professional societies, and, in the future, a more tailored, individual risk prediction approach may be preferable."

Financial-based barriers are also an issue. Expanding screening access to include people as young as 50 may lead to greater inequities for those who are enrolled in Medicaid.



Daniel Reuland, MD, MPH



Louise Henderson, PhD



Patricia Rivera, MD



Ethan Basch, MD, MSc

"Medicaid is not required to cover the USPSTF recommended screenings and even when screening is covered, Medicaid programs may use different eligibility criteria," Henderson said. "This is a significant issue, particularly in the nine states where Medicaid does not cover lung cancer screening."

"A significant barrier to implementation of lung cancer screening is provider time. Many primary care providers do not have adequate time to have a shared decision-making conversation and to conduct a risk assessment," Rivera said.

Prevention or early detection of disease is far less burdensome, both to the medical system and the

patient, compared to treating a cancer once it is detected. But there is no foolproof way to prevent or detect all cancers, therefore new treatment advances will be essential for years to come.

An important acknowledgment of the success of research efforts at UNC Lineberger was seen when the Lung Cancer Initiative (LCI) gave a Career Development Award to **Shetal Patel, MD, PhD**, an assistant professor in the division of oncology at the UNC School of Medicine. The \$175,000, two-year grant will fund Patel's research into the role of myeloid cells in lung cancer treatment response.

Patel's research aims to understand how manipulating nutrient balance in the tumor impacts immune-system T-cell function and anti-tumor activity.

"I am extremely grateful for the support of Lung Cancer Initiative as I work to establish my career in lung cancer research," Patel said. "This grant will allow me to test novel combination strategies to treat advanced lung cancer, and hopefully improve long term outcomes for patients."

Prevention, detection and treatment efforts for lung cancer have made tremendous progress nationwide since the passage of the National Cancer Act in 1971, due in no small part to the work of many dedicated and tireless researchers at UNC Lineberger. While scientific progress this past half-century has certainly "come a long way," ongoing research is sure to be key to the goals of President Biden's Cancer Moonshot effort: to accelerate scientific discovery in cancer, foster greater collaboration, and improve the sharing of data. The latest evidence out of UNC Lineberger is that its researchers are clearly at the forefront of these efforts. 8



Shetal Patel, MD, PhD

## Donor creates fund for metastatic breast cancer

When Kathleen Boyd graduated from the UNC Adams School of Dentistry and began her career as an endodontist, she thought about putting her future children through college, and she thought about how she could help her community. She started saving for the future, imagining what could be and making sure she was financially able to realize those visions. But a surprise metastatic breast cancer diagnosis in 2020 has led Boyd to start focusing on her present.

In the middle of the COVID-19 pandemic, Boyd, a Blowing Rock, North Carolina, resident and Adams adjunct faculty member, experienced debilitating back pain that was almost too much to bear. An orthopedist ordered an MRI, saw the results, and an oncologist in Salisbury, North Carolina, delivered the news that cancer had collapsed her vertebrae and was crushing the nerves in her arms. She saw an oncologist in Cary, North Carolina, who urged her to see UNC Lineberger's **Lisa Carey, MD, FASCO**. Boyd, 54, learned that the average survival rate for metastatic breast cancer was 25-30 months.

Boyd doesn't dwell on the statistics, but the words of Maya Angelou ring true for her: "There is no greater agony than bearing an untold story inside you."

"It's not my story that needs to be told," she said. "It is the story of the thousands of moms, friends and grandmothers with metastatic breast cancer who need a cure."

Boyd hopes to change the endings of those stories like hers. Wanting to leave a legacy and be an active participant in finding a cure for her disease, she established the Kathleen Boyd Fund for Metastatic Breast Cancer to support metastatic disease research at UNC Lineberger.

"In my charity fund, I had the money there. I hadn't thought about what I would do with it. I thought 'It's time to spend it, it's time to give it away,'" she said. "It's more meaningful now to have the charity fund go to something personal now that I've been diagnosed."

Boyd and her husband, Thad Throneburg, had given to other charitable organizations over the years, and she served on the board of the Salisbury Community Foundation, where she was inspired by the legacy gifts she saw that supported the arts and humanities. "With my diagnosis, I thought about what was important to me now," Boyd said. "What's very important, in the forefront of my mind, is the fact that there is not a cure for metastatic breast cancer."

Boyd had researched her cancer and organizations that support breast cancers, and found that only a small percentage of contributions were going to metastatic breast cancer. Boyd had concerns about awareness and catching these cancers early enough to make a difference. She hopes her fund will help combine support for education, for young researchers and for other metastatic breast cancer patients, and she is confident that UNC Lineberger can do just that.

***"It's not my story that needs to be told," she said. "It is the story of the thousands of moms, friends and grandmothers with metastatic breast cancer who need a cure."***

"Having gone to UNC, having been a grad student at UNC, having done research there myself, I would pit UNC minds against any university in the country," she said. "They're just brilliant people there, and they have the cancer center that is making great strides. And so I have confidence in UNC to make a difference."

Boyd was also heartened to hear about UNC Lineberger and Duke University's collaboration with Susan G. Komen on metastatic breast cancer research. Any research gains made may come too late for Boyd herself, but she firmly believes it's the only path to a cure. "I look at young girls who have metastatic breast cancer with new babies. I've had a wonderful life. I live in my dream place here in the mountains, but these young girls need a cure; they need to raise their children."

Boyd believes supporting the "metavivor" community is important, and in turn, has been overwhelmed by the outpouring of support she's received. Her husband and her five children have been behind her every step of the way, and her friends have reached



Top: Kathy Boyd. Below: Kathy, center, with her children (left to right) JD Boyd, James Boyd, Jenna Boyd and son in law, Stephen Woitt.



out, as well. She spoke with a friend while planning and planting her garden for the spring, and she was saddened that she wouldn't see her perennials mature and bloom.

"My friend said 'skip the perennials and plant annuals.' It was a wake-up call to live now, to do the things that are most important, now," Boyd said.

That means spending time with friends, getting beautiful annuals in the ground for her to enjoy now and focusing her energy on her children and husband. But Boyd's diagnosis is never far from her mind, and she is very conscious of what she may miss. Her parents had been very involved in her children's lives, and she had always expected to be an attentive grandmother. "The thing I will miss most is helping to raise my grandchildren," she said.

"We have to leave something behind, for part of being here on this earth is to leave something behind to make our community a better place," she said. "We need to leave our world as good a place as you had it." 8

## Patient's outlook remains positive, despite cancer

Barry Wetzel, 79, has experienced highs and lows on his cancer journey, and he knows there are other patients out there going through the same thing. He's heard good news and bad news but keeps going through a roller coaster ride of diagnosis, treatment, studies and immunotherapy, always with a positive attitude.

The avid golfer and Greensboro, North Carolina, resident was diagnosed with head and neck cancer in 2016 after noticing a lump on his neck he said was about the size of a small golf ball. His doctor gave him an antibiotic for an assumed glandular infection, but later called to see if there had been any change. When there wasn't, she ordered a biopsy, and it showed Wetzel had cancer.

At the urging of his daughter, then working as an audiologist at UNC, Wetzel scheduled a second opinion consultation with UNC Lineberger's **Mark Weissler, MD, FACS**, and his staff. After learning he had cancer, Wetzel arranged to have his cancer care done at UNC, including chemotherapy with **Neil Hayes, MD**, and radiation therapy with **Bhisham Chera, MD**, as part of a study.

"I did that for six weeks, and during those six weeks, I've got to tell you, if it weren't for this little lady sitting beside me, I wouldn't have made it," Wetzel said of Susan, his wife of 47 years. "We went through blood clots, lymphedema, thrush, and I had a feeding tube. That was a pretty tough time. Probably more on her than me. I didn't know what was going on, and she did."

"He was kind of a mess," Susan Wetzel said, kindly.

In 2017, PET and CT scans revealed that six of Barry Wetzel's 19 lymph nodes were cancerous. After surgery to remove them, Chera did genetic testing and discovered the cancerous lymph nodes had an unusual mutation, something the doctor said could be used to treat future patients.

"The thing we're proud of is that we've been helping other people. I'm able to help the doctors with their continued search for better treatments," Barry Wetzel said.

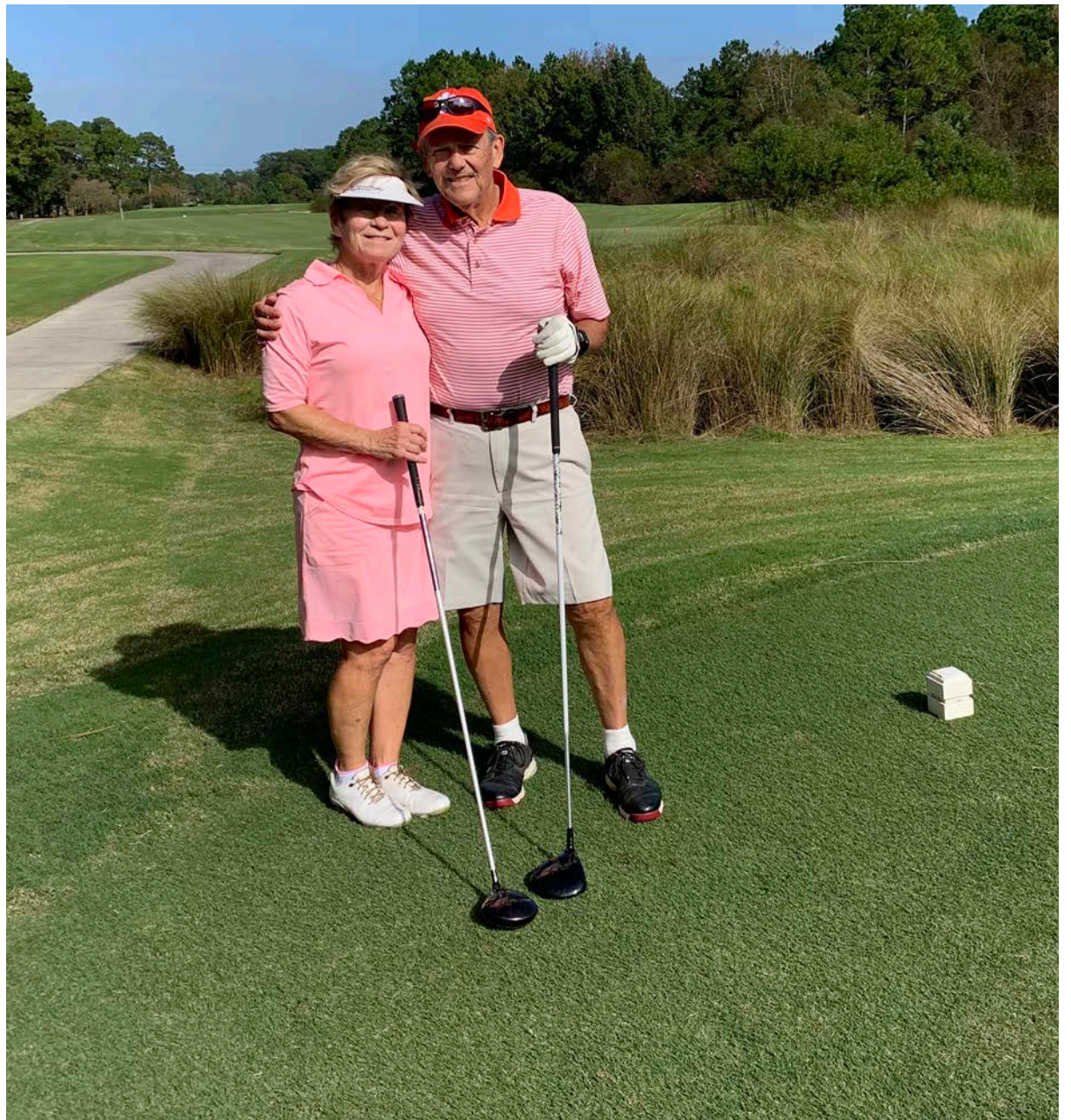
For months, the Wetzels were getting good news at Barry's follow-up appointments, but then a PET scan showed affected lymph nodes in his chest, and they got the news they'd feared since his initial diagnosis. His metastatic cancer was incurable and inoperable.

"I hit my lowest point," he said. "But it felt like it only took me five or 10 minutes to self-analyze, say 'OK, what's next?'" His doctor, UNC Lineberger's **Jared Weiss, MD**, recommended that he start Keytruda, an immunotherapy. This was possibly Barry Wetzel's only treatment option.

When he saw Weiss for a follow up appointment after starting the immunotherapy regimen, Barry Wetzel was surrounded by family, including his children and grandchildren. Happily, this time the news was positive.

"I loved Dr. Weiss' approach," Barry Wetzel said. "He said I'm going to go work with sick people now, because this treatment is working."

Throughout 2018, he continued the immunotherapy every three weeks, and it was successful enough that Chera could perform radiation on the cancerous lymph nodes in his chest. Barry Wetzel is currently still on immunotherapy, and his condition will be re-evaluated



Above: Barry and Susan Wetzel feel right at home on the golf course, one of their favorite activities.

in 2022. With tears in his eyes, he said he knows how lucky he is. "That staff and those doctors, and everybody at UNC, have been absolutely fantastic."

The Wetzels had full confidence in the UNC Lineberger team, and they were also thrilled to have a support system on the homefront, as well.

"We have a strong faith in God, a church we really like, and good friends," Susan Wetzel said. "I'm a bit of an introvert, so I started sending an email update, a 'Barry update,' with 92 people on it, because I had trouble talking about it to so many people who cared."

Barry Wetzel's golf friends and church friends reached out to them, offering to help with lawn care and driving him to appointments. Susan Wetzel shared Barry's journey with her friends, and they told her he was on more prayer lists than they could count across the country.

"I didn't realize how great and huge my community became," he said.

Barry Wetzel said he's learned a lot on his cancer journey, and ever the optimist, he said he is very appreciative of his time now and wants to spend it wisely. He and Susan recently celebrated her birthday and Mother's Day, and the couple is grateful they have the opportunity to mark those days together.

"I'm still on the right side of the sod," he said. "I do appreciate these things so much more than I did before, but when you're told incurable, inoperable, it's a jolt. But other than that, we have another lease on life; let's enjoy it."

"We try to live day by day and appreciate it. Each day is a gift from God. That's how we look at it," Susan Wetzel said. "He's not 'oh woe is me.' His positive attitude was what helped him through. Forgetting how bad it really was, that's good that it's in the background, and I think the positive attitude was very powerful."

Barry Wetzel shares that optimism when he can, and he often has friends with cancer come to him for advice, and he uses his own experiences to help them. He believes in the words of Jim Valvano: "Don't give up. Don't ever give up."

"Several friends have cancer and have been battling for years," he said. "I just say to them 'don't give up.' Something's going to come along, and it's going to be the answer to cure you or help you live another five, 10 or 20 years."

"It's a blessing to us to have him help other people," Susan Wetzel said. "Cancer's always changing, even from the first time he was diagnosed, he was changed. Don't give up hope, and stay positive." 🙌

## Angela Smith finds community at UNC Lineberger

Angela Smith, MD, MS, is driven by personal growth. Whether it's creating a multi-disciplinary approach to a patient's cancer care, seeking better ways to engage patients in their treatment plans through patient-reported outcomes research or spending time with her family, her natural curiosity inspires her to seek personal insights and ways to improve her life and the lives of those around her.

It was this curiosity that fortuitously led Smith to Chapel Hill. When she was a high school senior, Smith came to North Carolina from her hometown in Pittsburgh, to tour Duke University. She decided on the spur of the moment to check out UNC-Chapel Hill since it was close by, and she had already received her acceptance to Carolina.

Smith, who planned to major in music, had a chance meeting with UNC's band director and an impromptu audition that same day on UNC's campus led to a scholarship offer and a place in the wind ensemble for Smith, playing the euphonium. But it was another chance encounter that would set her on a new path that brought her to a double major, medical school and finally, urologic oncology as a specialty.

"UNC has a system by which they have current undergrads contact potential students, and the person who contacted me was from Pittsburgh, on the wrestling team and a biostatistics major," she said. "That had piqued my interest – the way I could apply math in interesting ways. [The director and I] met to discuss the potential for a double major."

Math and science had always interested Smith, so biostatistics was a natural extension of her interest in medicine, something that began when she was in elementary school.

"I always wanted to be a doctor. I liked my pediatrician. He was a great physician, and I liked that he connected with us as a family," she said. "That stuck with me throughout middle and high school, and it ultimately led to my decision to pursue medicine."

Another serendipitous phone call landed Smith a job as an administrative assistant in the biometrics consulting lab at UNC Gillings School of Global Public Health, where she worked for more than seven years, learning how to assist and consult with researchers with biostatistical needs, something that solidified her interest in medicine and prompted her to apply to medical school at Carolina.

"I slowly but surely was understanding how to perform statistical analyses," Smith said. "I met individuals from a variety of fields, including general surgery, gynecology and internal medicine, where I would learn about the clinical side of medicine from physician researchers. I learned on the job how to be a biostatistician, a researcher and what it meant to be a clinician."

Medical school opened new intellectual doors for the naturally curious Smith, and it was there she discovered urologic surgery, then urologic oncology, leading to her current position as director of urologic oncology at UNC Lineberger.

"I realized that I really enjoyed urology. Our specialty takes into account quality of life and personal preferences, and we often see our patients throughout the rest of their lives, allowing us to develop long-standing relationships" she said. "Urology was a perfect blend of the relationship I really liked as a clinician, combined



UNC Lineberger's Angela Smith, MD, MS

with my interest in the technical skill of surgery.

"When I began training, not much research was being conducted in bladder cancer. Our program had the unique position of being a leader both in the field of bladder cancer as well as innovation in the form of robotic surgery," Smith said. "I think those two elements influenced my initial interest in bladder cancer, and it was further strengthened by the fact that I could blend quality of life and cure, tailoring treatment plans to the patient's goals of care."

***"I love the culture of UNC. I feel valued as a clinician, as a researcher, and as a mentor and mentee. There's something intangible that keeps me here."***

**- Angela Smith, MD, MS**

But Smith's interest in her patients doesn't stop once they are off the operating table or leave her office. Her past experience with researchers and their work prompted her to pursue her own research, into patient reported outcomes. Working with Ethan Basch, MD, MSc, the Richard M. Goldberg Distinguished Professor in Medical Oncology and director of the cancer outcomes research program, and Gita Mody, MD, MPH, in the division of cardiothoracic surgery, Smith said studying patient reported symptoms once they leave a clinical setting is a good indicator of how clinical work can affect research.

"I've found that patients often don't know what symptoms should be expected versus what should be addressed by the clinical team," Smith said. She is interested in looking at post-operative symptoms and creating an electronic alert when symptoms pass certain

thresholds in patients recovering from bladder removal surgery and working with Mody in that same vein with lung cancer patients.

"What I'd like to do as a team is to study it collaboratively, and learn how we could implement it in a way that doesn't further widen disparities in care for our patients," she said.

Collaboration with colleagues is one of Smith's favorite aspects of her job, and she said she couldn't be as successful without her team and the support of UNC Lineberger.

"I love the culture of UNC. I feel valued as a clinician, as a researcher, and as a mentor and mentee," she said. "Some individuals succeed because of rather than in spite of . . . . In my case, my success is because of support from every level — UNC Lineberger, my colleagues, my research partners, and most importantly my patients. I appreciate the people around me, and I feel like my group works well together, supports each other, and grows together in a way that is unique to our institution. There's something intangible that keeps me here."

Smith said it's very difficult for her to imagine ever leaving UNC, and her family is part of the deep roots she's put down in North Carolina. Her husband, whom she met by chance during her freshman year at UNC, is from Chapel Hill and works as a clinician and researcher at Duke. And the similarities don't end there. He is also a musician and plays in a band, and they often play music together when they aren't outside biking with their two daughters, 5 and 7. Smith said they also enjoy picking new restaurants to visit and trying new foods. With the pandemic, though, they're enjoying more backyard picnics these days, but it's the time spent with her family that really matters to Smith.

"My favorite hobby is thinking about personal growth. I want to be as efficient as possible, with both my time and energy. If I'm more efficient, it means I have more time and energy to share with my patients and my family. Time and energy are our most precious resources" she said. 8

## Engineered safety switch curbs severe side effects of CAR-T

UNC Lineberger researchers have successfully used an experimental safety switch, incorporated as part of a chimeric antigen receptor T-cell (CAR-T) therapy, to reduce the severity of treatment side effects that sometimes occur. This advance was seen in a patient enrolled in a clinical trial using CAR-T to treat refractory acute B-cell leukemia. It demonstrates a proof-of-principle for possible expanded use of CAR-T immunotherapy paired with the safety switch.

The researchers published their findings in the journal *Blood* as an ahead-of-print publication.

Patients with leukemia or lymphoma have experienced complete remission when treated with CAR-T therapy but sometimes experience toxicities, which can be life-threatening, due to inflammatory responses or nervous system toxicities caused by the modified T-cells.

When using standard forms of cancer therapies, including pills and infused drugs, doctors can interrupt or lower drug dosing to respond to treatment toxicities. With cell-based immunotherapies, this is not possible after the cells are infused. So UNC Lineberger researchers engineered T-cells to include a safety switch, called inducible caspase-9, or iC9, that can be activated if toxic side effects develop. Administration of the drug rimiducid “triggers” the switch to activate the expression of caspase-9, potentially leading to reduced severe side effects from the CAR-T therapy.

## Combination therapy effective against leukemia and lymphoma

UNC Lineberger’s **Thomas Alexander, MD, MPH**, and colleagues recently published in *Cancer Discovery* findings from a study that found pairing venetoclax with low-dose navitoclax and chemotherapy had promising efficacy in pediatric and adult patients with relapsed/refractory B-cell acute lymphoblastic leukemia, T-cell acute lymphoblastic leukemia or lymphoblastic lymphoma.



Alexander

The phase 1 dose escalation study treated 47 patients with venetoclax, a selective B-cell lymphoma 2 (BCL-2) family protein inhibitor, low-dose navitoclax, a BCL-xL/BCL-2 inhibitor, and chemotherapy. In addition to demonstrating treatment efficacy, the study found the combination therapy was largely well-tolerated in patients.

The complete remission rate was 60%, including responses in patients who had previously received hematopoietic cell transplantation or immunotherapy. Thirteen patients (28%) were able to proceed to transplantation or CAR T-cell therapy on study. Neutropenia and thrombocytopenia, an abnormally low level of neutrophils, a type of white blood cells, and platelets, respectively, were the most common adverse events.

## Certain groups of women avoid breast cancer hormone therapy

Women who identified as American Indian or Alaska Native were less likely than women of other racial

and ethnic groups to start hormone therapy for breast cancer after surgery and stay on the treatment for the recommended five years, a new study from the Kaiser Permanente Division of Research shows.

The study published in the journal *Cancer* included a racially diverse group of 23,680 women in Kaiser Permanente Northern California (KPNC) diagnosed with early-stage hormone-sensitive breast cancer between 1997 and 2014. This is the most common type of breast cancer.

The research showed that hormone therapy initiation rates were 78% for Black women, 78.6% for American Indian/Alaska Native women, 82.5% for white women, 83% for Hispanic women, and 84.7% for Asian/Pacific Islander women. After five years, 50.8% of American Indian/Alaska Native women remained on treatment, compared to 53.4% of Black women, 53.8% of Hispanic women, 58.8% of white women, and 63% of Asian/Pacific Islander women.

From 2013 to 2017, the breast cancer death rate in the U.S. fell for women of all races and ethnicities, except for American Indian and Alaska Native women. Previous studies have found that factors such as a tumor’s biology, how far the cancer has spread, access to breast cancer screening, and health insurance coverage can explain some — but not all — of these disparities.

“Urban American Indian and Alaska Native women are often not included in larger cancer studies,” said the study’s lead author UNC Lineberger’s **Marc Emerson, PhD, MPH**, a postdoctoral fellow in epidemiology “The data from Kaiser Permanente Northern California made it possible to place these women’s endocrine therapy initiation and adherence in the context of that seen in other racial and ethnic groups.” Emerson said he hopes the findings will help doctors who see American Indian and Alaska Native patients. “Knowing that these women have lower rates of use may help clinicians discuss the importance of starting and adhering to these medications or encourage them to tell their patients to contact them if they are having side effects, can’t afford the medication, or intend to stop taking it.”

## Emails about tobacco chemicals lead some smokers to consider quitting

For the past decade, the U.S. Food and Drug Administration has required tobacco manufacturers and importers to report the levels of harmful and potentially harmful chemicals found in their tobacco products and tobacco smoke. The idea was to educate the public and ultimately to decrease tobacco use, but little research has demonstrated if such information can impact on people’s decisions to quit smoking.

A new study from UNC-Chapel Hill found that smokers who saw messages about tobacco chemicals with associated health risks, together with graphic health images and information promoting quitting, expressed greater desire to quit smoking. In the journal *JAMA Network Open*, UNC Lineberger’s **Adam O. Goldstein, MD, MPH**, and **Leah M. Ranney, PhD**, associate professor of UNC School of Medicine’s De-



Emerson

partment of Family Medicine, report smokers’ intentions to quit smoking increased almost 10% after being exposed to the messaging.

“Communicating about toxic constituents found in combustible tobacco products, such as formaldehyde, uranium or arsenic, is an innovative but unproven new strategy mandated for the FDA to implement,” said Goldstein, director of the UNC Tobacco Intervention Programs. “We found for the very first time that a strategy utilizing impactful messaging about such chemicals, combined with potent images depicting those messages, may help those still addicted to cigarettes in their efforts to quit.”

The researchers enrolled 789 adults in a randomized control, longitudinal study to assess whether daily emails containing a range of constituent message elements influenced a person’s intention to quit smoking.

## Resource center navigation program helps patients during pandemic

People living with cancer, particularly those with limited English-speaking abilities, have been hampered in receiving health care guidance, nutritional advice, financial assistance and other important matters during the COVID-19 pandemic.

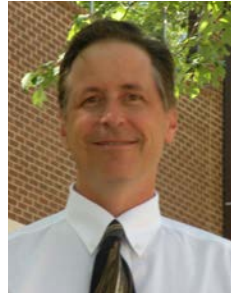
A new proactive program from North Carolina Cancer Hospital’s Mary Anne Long Patient and Family Resource Center, that included volunteer patient navigators, was able to help a majority of the 600 cancer patients in the pilot program during the first seven months of the pandemic. The navigators used virtual resources to reach patients self-isolating in their homes as well as many who were deferred from scheduled appointments.

“We were able to pivot from an old model of patient resourcing to finding a new way to reach cancer patients,” said **Sharon M. Bigelow, RN, MSN, ANP OCN**, lead author and nurse navigator in the Patient and Family Resource Center at the North Carolina Cancer Hospital, the clinical home of UNC Lineberger “Our new model demonstrated that our nurse-led volunteers were able to connect with identified patients to assess for unmet needs and provide valuable support to decrease barriers to care.”

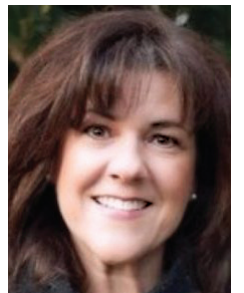
At the start of the pandemic, the navigators devised a novel outreach strategy based on risk factors that were known to result in poor patient outcomes prior to the pandemic. This enabled them to identify the most vulnerable cancer patients and then provide them with meaningful interventions as quickly and effectively as possible.

The findings also showed that the most common risk factors that made accessing care difficult were:

- Distance from the cancer hospital
- Complex care needs
- Being over the age of 65
- Not being fluent in English



Goldstein



Bigelow

## Holli Gall joins UNC Lineberger fundraising and development team

Holli Gall joined the UNC Lineberger fundraising team as Senior Executive Director of Development and Communications for UNC Lineberger on May 3.

In this role, Gall will lead UNC Lineberger's dynamic team of fundraisers and communicators in securing major and principal gifts while strategizing for the final leg of the Campaign for Carolina.

Holli brings more than 15 years of development experience in top-tier fundraising programs for medical institutions across North Carolina.



Gall

She is no stranger to UNC-Chapel Hill, having held several positions with the Medical Foundation of North Carolina from 2005 to 2011. During her tenure, Holli served as Director of the Excellence Fund, focusing on non-alumni giving to UNC Hospitals and UNC School of Medicine, and later rose to serve as Assistant Director of Major Gifts, raising more than \$12 million for programs in Otolaryngology, Pathology, Neurosurgery and Neurology.

Gall now returns to UNC from Duke Health Development and Alumni Affairs, where she has served as Executive Director of Development since 2016. In this role, she has specialized in fundraising for Neurobiology, Neurology and Neurosurgery, including the Preston Robert Tisch Brain Tumor Center and the Duke Center for Brain and Spine Metastasis. She built a team and established faculty partnerships that translated into raising \$36 million for research and patient care — including personally closing the largest gift for the

Tisch Center since it was named.

Before her time at Duke, Gall served at Wake Forest Baptist Medical Center as Director of Grateful Patient Programs and Assistant Vice President of Program and Campaign Management. She was responsible for creating the first comprehensive faculty engagement program while overseeing all logistics for the medical center's capital campaign.

A native North Carolinian, Holli holds a bachelor's degree in music from Salem College, where she was a recipient of the Vardell Music Scholarship. She lives in Chapel Hill with her husband and two daughters and is an avid runner — she is looking forward to participating in the Chicago Marathon later this year.

"I am thrilled to be joining UNC Lineberger at a time where we are poised to generate interest and spur donors into philanthropic support to help Lineberger researchers and clinicians continue to serve the people of North Carolina and beyond. UNC Lineberger is a special place and I am honored to join the team," Gall said.

## Get a jump on fundraising for cancer research during MyVictory Month

The Victory Ride to Cure Cancer will return this year August 28, but in the month prior, you can get a jump on your fundraising efforts during MyVictory Month, a virtual experience. Cycling and non-cycling competitions will take place July 28 through August 28.

The Victory Ride is a one-day charity cycling event at N.C. State University's Centennial Campus in Raleigh. This year, riders from across the Triangle and beyond will navigate the course, and all funds raised will go to benefit cancer research.

Register for the Victory Ride and MyVictory Month at [thevictoryride.org/register/](http://thevictoryride.org/register/).

## Honors and Awards

### Honors

**Ralph S. Baric, William R. Kenan Jr. Distinguished Professor of epidemiology,** was inducted into the National Academy of Sciences, one of the highest distinctions for a scientist in the United States. He is known for his visionary research of norovirus, flavivirus and coronaviruses. His scientific discoveries made a significant impact on the COVID-19 pandemic by identifying antivirals to fight COVID-19 and collaborating with the National Institutes of Health to test vaccine candidates.

**John Belcher, BSN '21, Lindsey Humphrey, BSN '22, Lauren Larison, BSN '22, Robert Streeter, BSN '21, Jenny Warnasch, BSN '22, and Alexa Woodard, BSN '22,** were named 2021 UNC Lineberger-Sylvia Lauterborn and Warren Trent Piver Oncology Nursing Fellows.

### Awards

The Triangle Business Journal presented **Ralph Baric, PhD,** with its Lifetime Achievement Award and **Lauren Lux, MSW, LCSW, and Andrew Smitherman, MD, MSc, MPH,** with the Adolescent and Young Adult Cancer Champion Award Presented by First Citizens Bank during the 2021 Health Care Heroes award ceremony. The event, held virtually April 15, honored Triangle individuals and organizations for putting innovation and compassion to work to improve the human condition.

## RADIATION *continued from page 1*

and minimize risk."

Conventional radiotherapy, developed nearly a century ago, often broadly hits the tumor and some healthy tissue surrounding the tumor, and is administered in low daily doses, usually over many weeks. For some patients, their cancer can be treated with more advanced techniques, called stereotactic body radiation therapy, or radiosurgery, that target smaller areas of tissue that are primarily cancerous, treating them at a high dose per day and usually administered for one to five days. These radiosurgery treatments are the focus of this recently published report.

Marks said UNC is a leader in radiosurgery treatments. "We are

lucky to have specialized equipment and expertise to deliver these types of treatments." He added that UNC's multidisciplinary approach to cancer care brings together clinical collaborators to work in partnership with radiosurgery program to care for a wide range of cancers, including brain, thoracic, gastrointestinal and genitourinary cancers.

"New computational methods and machines allow us to deliver radiotherapy much more accurately today, allowing us to limit the area where the radiation is targeted, thereby giving us the ability to increase the dose per day," Marks said. "However, at this point in time we can only use this approach for smallish-sized tumors, but newer techniques may allow us to extend this approach to larger

tumors as well."

Because it takes years for data to accrue and mature, the next review will be done when there are discernible shifts or changes in treatment practice patterns, according to the authors. However, there is a large review due out next year, in which Marks is participating, that is focusing on use of radiotherapy in pediatric cancers. Radiotherapy is often used sparingly in children due to later-in-life side effects, therefore making it important to know when best to use these treatments.

"Radiation therapy is now safer than ever. Our analysis will help support the growing use of the latest forms of radiotherapy, which are proving to be a very effective in treating many primary and metastatic lesions," Marks said. 🦋

**"Radiation therapy is now safer than ever. Our analysis will help support the growing use of the latest forms of radiotherapy, which are proving to be a very effective in treating many primary and metastatic lesions."**

- Lawrence Marks, MD

# calendar of events

## August

28<sup>th</sup> Victory Ride to Cure Cancer, Raleigh

## September

21<sup>st</sup> 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 its 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](http://www.unclineberger.org), or follow us on [f](#) [t](#) [i](#)

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(919) 966-5905  
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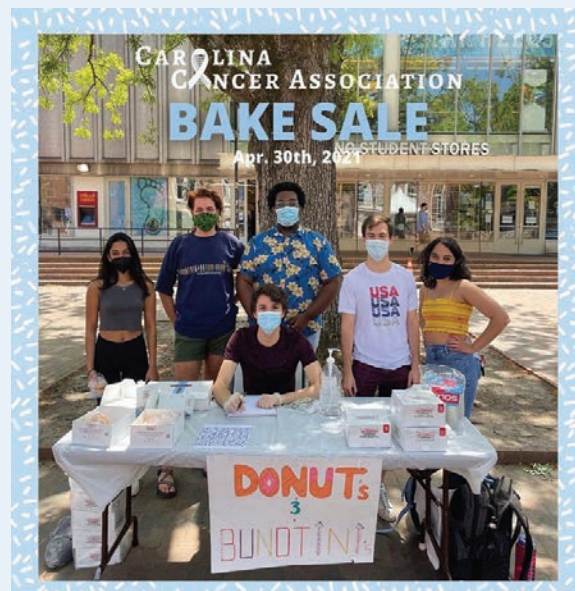
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## Student group focuses on supporting cancer research, enhancing scientific careers

A good backstory is something everyone can appreciate. From superheroes in capes to those who work in research labs and clinics to save lives every day, they all had to start somewhere. And for a group of UNC-Chapel Hill undergraduates who aspire to become cancer doctors and researchers, their journey begins right here at UNC Lineberger.

In 2019, biology and biochemistry student Sloane Fussell founded the Carolina Cancer Association, formerly the Carolina Med Society, an organization for students studying biology to learn more about cancer and gain access to UNC Lineberger's resources. But his experience with patients and personal connection to cancer helped grow the group's mission beyond his initial idea.

"When we founded it, it was an organization that was driven by biology students interested in cancer. It was focused on science and the pre-med aspect," said Fussell, the outgoing president. "As we started to grow, and we got involved in volunteering, we saw the patients impacted by cancer and saw the need out there, so we delved into fundraising. We saw the need was larger than what was being put out."



**Above:** The Carolina Cancer Association held a bake sale to raise money for cancer research at UNC Lineberger.

**Right:** The group's outreach efforts included creating and delivering Valentine's Day cards to pediatric patients at the North Carolina Cancer Hospital.

"We are a collegiate driven effort to be the next fighters against cancer and help the community," said Amber Amparo, the group's incoming president.

The group's fundraising efforts, led by then-chairperson Amparo and a team of students, centered on crowdfunding and other smaller initiatives. During the past three years, the group has been driving interest in support for cancer research and oncology among their peers, and they were able to raise more than \$7,000 to benefit UNC Lineberger in 2020, despite the pandemic.

The funds were split between the Comprehensive Cancer Support Program, which provides cancer patients in need with assistance like gas cards to pay for fuel to and from appointments, and the Adolescent and Youth (AYA) Cancer Program, which works to address the unique needs of patients ages 13-39.

The group could readily identify with those needs, and the team was fortunate to find like-minded student participants and donors among them. "It's a team effort; all of our events are team driven. It's a community within a community," Amparo said. "We all work hard, and we're passionate about what we do."

"It's all about the impact, and it has a personal connection," Fussell said. "I want to be an oncologist or scientist, and my mom went through cancer. We want to make an impact so others can be in a better position than I was in."



**Members of the Carolina Cancer Association visit the SECU Family House as part of the group's volunteer efforts.**

And even with the new school year yet to start, Amparo is already thinking about fundraising activities for the fall and following in Fussell's footsteps as the president of the association.

"I've been fundraising for a really long time. It's my favorite thing to do in life. You have to be the hype man, and if something is not successful, you motivate donors and team members in a way that's different the next time," Amparo said. "The biggest reward is knowing the impact you have and saying 'we did this together, and we had this impact.' Truly fulfilling our mission in that way is rewarding." 8

