



Michael Pritchett is the medical director of the Chest Center of the Carolinas and a board-certified pulmonologist at FirstHealth Moore Regional Hospital and Pinehurst Medical Clinic. He leads a team of thoracic surgeons, pulmonologists, medical oncologists, radiation oncologists, pathologists and radiologists.

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FIGHTING THE GOOD FIGHT

North Carolina physicians are bringing new technologies and processes to cancer care.



Physicians at FirstHealth are developing a revolutionary procedure for treating lung cancer that can eliminate certain tumors without surgery.

While technology and drug therapies remain on the front lines of the fight against cancer, researchers and physicians at some of the state's top cancer centers are devoting energy and innovative practice techniques to their focus on patient care, comfort and well-being.

"We have to love our patients more than we hate cancer, and sometimes we get so focused on blasting away cancer or cutting it out that we forget what the patients have to go through,"

COURTESY OF THE PILOT.

says Michael Pritchett, a pulmonary and critical care physician at FirstHealth's Pinehurst Medical Clinic.

Pritchett is at the threshold of a big breakthrough in early diagnosis and treatment of lung cancer through a procedure that can eliminate early-stage tumors without surgery.

Using an electromagnetic navigational bronchoscopy ultrasound and cone beam computed tomography equipment, Pritchett can detect tiny lesions in his patients' lungs, which he can obliterate with microwave ablation. The procedure involves using a flexible antenna via a bronchoscopic approach, which won FDA approval for use on human patients in the United States last spring.

"This is basically the Holy Grail of cancer treatment," he says.

The procedures are done using a catheter inserted into the affected lung through the mouth while the patient is under general anesthesia.

This is just one example of ways North Carolina's cancer physicians and researchers are combining technology with compassion to help patients combat cancer with as few side effects as possible. In Greensboro, experts are

developing processes that enable physicians to begin cancer treatments within 24 hours. In Charlotte, a top cancer physician is finding ways of providing world-class cancer care to underserved communities in rural areas. In Fayetteville and other places, radiation-oncology professionals are using equipment that delivers radiation to tumors with pinpoint accuracy.

The rate of cancer deaths has declined steadily from its peak in 1991, according to the American Cancer Society's 2018 annual report, released in January. As of 2015, the cancer death rate of men and women combined had fallen 26% over the previous two decades.

Still, cancer remains among the leading causes of death worldwide, with 1.7 million new cases expected in 2018, including 55,130 in North Carolina, the report states.

At Cone Health Cancer Center at Wesley Long Hospital in Greensboro, B.J. Sintay, chief physicist of radiation oncology, is streamlining the process of diagnosing cancer and starting treatment as soon as patients want it, with the goal of making it available within 24 hours.

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With three engineering degrees — electrical, computer and biomedical — Sintay is uniquely qualified to design processes to speed up treatment plans.

“I’m a tinkerer and an inventor, and my skill is in creativity, so I love bringing a fresh perspective to what we’re doing here,” he says. “My background in engineering has been helpful because the medical world is ripe for reinvention.”

After Sintay and his team heard from some patients who said they wanted to be treated as soon as possible, and others who said they needed more time to consider their options, he went to work on designing processes to help them gain more control over their treatment timeline. While 70% of patients want to begin treatment the day they get their cancer diagnosis or the day after, another 20% prefer a slower timetable.

Sintay admits that delivering cancer care at the speed individual patients want it is not easy. The hospital staff of about 55, including four physicians, treats on average about 120 patients per day. The patient volume makes their efforts challenging, but they are making progress. Today, the team takes a little more than four days on average to start treatment plans, and some critical cases can start on the same day as diagnosis, Sintay says.

FirstHealth’s Pritchett has a similar goal. In addition to his practice as a critical-care physician, he is also director of the Chest Center of the Carolinas. The center takes a multidisciplinary approach to patient care, bringing together a team of specialists who meet weekly to review cases, make recommendations and coordinate care. This makes it possible for patients to see all of their specialists in a single day, which is especially helpful for those who come from far away.

Pritchett also has instituted rapid testing, which speeds up the process



UNC Cancer Center at Nash in Rocky Mount is one of the institutes working to bring down the cancer death rate.

of getting patients into treatment by having a pathologist available during the biopsy.

Edward Kim moved to Charlotte to become chairman of solid-tumor oncology and therapeutics at the Levine Cancer Center after 12 years at the University of Texas MD Anderson Cancer Center. A leader in the field of immunotherapy, he is known for his BATTLE study — Biomarker-integrated Approaches of Targeted Therapy for Lung cancer Elimination. This study introduced immunotherapies aimed at jump-starting a patient’s immune system to fight cancer. He recently received a \$200,000 grant from the V Foundation’s Stuart Scott Memorial Cancer Research Fund for minority researchers fighting cancer in minority communities.

Kim admits he surprised his colleagues when he moved to the smaller Levine Cancer Center from MD Anderson, one of the country’s leading cancer institutions.

“I wanted the experience of moving from academia to working in a community-based health care sys-

tem,” he says. “Levine is the hybrid of the two, front-facing with patients, but with the qualities of being in an academic setting.”

Today, thanks to a Bristol-Myers Squibb grant, the Levine Cancer Center is hitting the highways, visiting underserved communities across both Carolinas, providing free lung cancer screenings in a mobile CT lung screener.

Targeting uninsured patients in rural communities, the grant funding is for three years and covers 1,300 patients. By eliminating financial barriers and problems with transportation, the mobile unit is already detecting cancers that might have progressed to later stages.

“I grew up in Terre Haute, Ind., but we didn’t have close access to a large medical system,” he says. “To find experts, we had to travel to Indianapolis or Chicago. My goal is to provide more access to care for patients.”

In addition to the mobile CT unit, the Levine Cancer Center is creating “homegrown pathways” to keep doctors and health care professionals connected.



1 *in* 8
 WOMEN
 WILL GET
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 CANCER.
 WE'LL
 BE THERE
 FOR ALL
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“These pathways are the glue that keeps us together,” Kim says. “Physicians will have access to whatever they need. Alerts to new clinical trials are updated every 24 hours, which allows physicians to be nimble when time is of the essence.”

Kim is also creating a system of integrated care, combining diagnosis, treatment and palliative care into one department when needed. While he is known for his work using biomarkers to develop immunotherapies targeted to individual patients, it is Kim’s work on making quality health care accessible that inspires him.

If there is strength in partnerships, Wayne UNC Health Care of Goldsboro has created some muscle power through its collaboration with Southeastern Medical Oncology Center, a local private cancer care practice.

Wayne Health UNC, which admits patients suffering from most types of cancer and offers surgery, chemotherapy, immunotherapy and radiation therapy, does not directly employ cancer doctors but works with SMOC’s oncologists.

SMOC was founded in 1984 to serve cancer patients in rural eastern North Carolina. With offices in Goldsboro, Clinton and Jacksonville, the center has more than 100 employees and hundreds of patients undergoing active treatment.

“We have a very busy practice,” said Samer Kasbari, a hematologist and oncologist at SMOC. “We see 50 to 80 patients among all three offices daily. We’re not your average private practice.”

At Wake Forest Comprehensive Cancer Center in Winston-Salem, director Boris Pasche and his team are at work testing precision medicine therapies. In 2015, they embarked on an ambitious study to analyze the aggressive TP53 gene mutation in tobacco-related tumors and discovered that a higher percentage of the



Cone Health Cancer Center provides nationally recognized cancer care within a community hospital setting.

African-American population carries that mutation.

The study, based on a clinical trial involving 431 cancer patients from March 2015 until May 2016, was led by Wei Zhang, the Hanes and Willis Family Professor in Cancer at Wake Forest School of Medicine. His research team discovered the gene mutation occurs in 55% of all cancer patients, but the African-American patient population showed close to a 70% mutation rate.

Pasche is a co-founder of TheraBionic, the company holding the patent for a technological platform that uses a low-intensity electromagnetic field to directly attack tumors.

A different type of treatment at Cape Fear Valley Cancer Center in Fayetteville employs a vision RT Optical Surface Monitoring System. The system uses cameras to make sure patients are positioned correctly to minimize the amount of radiation that is absorbed into their body, while delivering an accurate dosage with pinpoint precision into cancer tumors.

The hospital’s OSMS is one of about 50 currently in use across the state, according to Rachid Mghari, director

of medical physics at Cape Fear Valley Cancer Treatment & Cyberknife Center.

“It gives us accuracy, which is what we look for. It can be used for all kinds of cancers and ensures patient safety in real time.” Mghari says.

In 2008, the American Cancer Society estimated 1.4 million new cases of cancer in the United States, with a 39% death rate. Today, 10 years later, the figure has increased to 1.7 million cases, but the death rate has dropped to 35%.

Across the state, in other cancer centers such as FirstHealth, physicians and researchers are innovating in their quest to improve their patients’ chances of surviving cancer and thriving.

Pritchett recalls that even five years ago, he had no opportunities to give his sickest patients hope.

“Every day there are new tumor markers, new diagnostics and new drugs, and that’s what has made me so passionate about all of this,” Pritchett said. “It’s like trying to drink from a firehose. It never stops. It’s constant and it’s overwhelming, but that just makes me want to do it more.” ■

— Teri Saylor is a freelance writer from Raleigh.

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