

THE SIDNEY KIMMEL COMPREHENSIVE  
CANCER CENTER AT JOHNS HOPKINS

# A THORACIC CENTER OF EXCELLENCE

## PRECISION MEDICINE FOR LUNG CANCER, ESOPHAGEAL CANCER, AND MESOTHELIOMA

A CANCER CENTER does not earn a reputation as one of the best in the world by having a single great discovery or sole clinical advance. What sets a leading comprehensive cancer center—our Kimmel Cancer Center—apart from others is our unceasing dedication to doing better than our best.



We never stop monitoring and evaluating what we're doing, making sure we're accomplishing what we set out to accomplish and then looking beyond these successes to innovate ways to further advance cancer research and treatment. Our mission is to transform cancer care through discovery and its application. How we best accomplish this mission is an important part of our discovery process.

This process requires the development of new systems of care—precision medicine that incorporates coordinated discovery and expertise to effectively and efficiently manage cancer. The new Thoracic Center of Excellence, located on the Johns Hopkins Bayview Medical Center campus, is a recent example of this model. We have taken advantage of the great strength in pulmonary medicine—including an immensely successful thoracic cancer screening program—already present at Hopkins Bayview and added medical oncology, radiation oncology, surgery, diagnostic and interventional radiology, and a full complement of support services, including survivorship, palliative care, and smoking cessation. The result is an advanced and comprehensive patient-centered treatment facility for lung and esophageal cancers and mesothelioma that is second to none.

More than one-quarter of cancer deaths are from lung cancer. It is the leading cancer killer. We have an unprecedented opportunity to alter the history of this disease. In many ways, the Kimmel Cancer Center returns to its successful roots with the Thoracic Center of Excellence. Forty years ago, Johns Hopkins Medicine launched its cancer initiative on the Hopkins Bayview campus. Today, we revisit this winning formula—augmented by decades of new knowledge—to intensify our efforts against this common and deadliest of cancers.

A handwritten signature in black ink, appearing to read 'W. Nelson'.

William G. Nelson, M.D., Ph.D.  
*Marion I. Knott Professor and Director*  
The Sidney Kimmel Comprehensive  
Cancer Center at Johns Hopkins

# INNOVATION AND RENOVATION

## A NEW MODEL OF CANCER CARE

Thoracic Oncology Program director **Julie Brahmer** shares her thoughts and plans for the new, disease-specific center of excellence, the latest endeavor in bringing precision cancer medicine to patients.



### What do you want patients to know about the Thoracic Center of Excellence?

We have created a clinic where cancer patients can come to be seen by experts from multiple disciplines and then receive all of their care in one location. It is the crème de la crème of cancer therapy, but practically speaking, it is also easier for patients. They don't have to go to different buildings. All services are together in one building and dedicated to lung cancer, esophageal cancer, and mesothelioma. This center is a local, regional, and national powerhouse in thoracic cancer. If you have lung cancer, this is

the place you want to come to get treated, because it offers the best care available anywhere.

### What is different?

Moving a whole program off of a main campus is unique. If anyone can do this successfully, it's our team. The strength of the programs—pulmonology, pulmonary rehabilitation, thoracic surgery, pathology, radiology, radiation oncology and medical oncology—make it possible. We offer things at the Hopkins Bayview Thoracic Center of Excellence that aren't available anywhere else. This is the hub for thoracic cancers. There is a greater concentration of experts in all of

the disciplines involved in treating thoracic cancers than at any other Johns Hopkins location, including the main campus. The care is seamless and all-encompassing here, including prevention, diagnosis, comprehensive treatment, supportive care during treatment and survivorship. It's all here.

The neighborhoods surrounding Hopkins Bayview have a high prevalence of lung cancer, so there is great need. Many patients are being seen for the first time. We have an incredible opportunity to provide the first line of treatment, including clinical trial options that would not have been available at Hopkins Bayview in the past. We can manage their care from the onset in the most effective way.

The move also has allowed us a unique opportunity to step back and look at the way we do things and determine where we can do better. As experts, we can ask ourselves if there is scientific rationale for doing things the way we do them.

### What about clinical trials?

We want to be able to offer everything here that we offer at our East Baltimore location. I am working to bring all of the clinical trials here and break down silos that hinder interdisciplinary and interfacility collaboration and cooperation. We are off to a very good start. Everyone at Hopkins Bayview has been incredibly welcoming, accommodating and helpful. I want to bring phase 1 trials of new drugs here, but currently we don't have the infrastructure we need. Over time, with increased funding support, we will make this happen.

I am very excited that an epigenetic priming trial for immune therapy is opening at Hopkins Bayview. I've been directly involved

in these trials, and they represent some of the most promising new treatments for lung cancer that we've seen in many years. We are the leaders in this work. We have the most experience. We are on the forefront and are working with partners in the laboratory to push the envelope to improve responses in patients and figure out why some patients are resistant to the treatment.

If patients want to be a part of changing the paradigm of how lung cancer is treated, this is the place to come. The Thoracic Center of Excellence is the place lung cancer patients want to come for clinical trials, because these truly are at the cutting edge of discovery.

### **It sounds like there are an extraordinary number of services at the thoracic center. How do patients know what they need?**

We have a nurse navigator here to serve as their primary point of contact and guide them through the process from the start. **Peggy Lang** is the navigator for patients with early disease, and **Kerry**



**Zimmerman** is the navigator for patients with advanced or metastatic cancer. As the name

indicates, the nurse helps patients navigate the system and what can be a complicated treatment plan. From understanding their treatment plans and medications to scheduling appointments and answering questions, the nurse navigator is the patients' guide, shepherding them through the entire process. The nurse navigator also makes sure that all of the records, imaging, and test results are in hand before

patients walk in the door to meet with the expert team of doctors. This is a bit of a change too.

This means that it is not necessarily a first call, first appointment paradigm. We don't want to bring a patient in if we don't have the test results and records we need to offer them a treatment plan recommendation. We still get people in quickly, within one week, but we are more effective and more efficient now about how we schedule appointments.

## **Thoracic Center of Excellence**

**on the Hopkins Bayview campus offers state-of-the-art screening, diagnostic, and treatment services to patients with lung cancer, esophageal cancer and mesothelioma.**

- **ACCESS**  
*Patients are scheduled within one week*
- **COMPREHENSIVE CARE**  
*The most advanced and complete care available anywhere*
- **RESEARCH**  
*Experimental studies bring research advances to patients*
- **EXPERTS**  
*All of the leaders in lung and esophageal cancer in one place*
- **NURSE NAVIGATION**  
*Each patient's care is coordinated by one person*

### **It sounds like an ideal system. Is there anything that isn't working?**

We need to be able to continue to grow the program, but that requires stable funding. Lung cancer is the leading cancer killer, but it is greatly underfunded.

Lung cancer kills more women in one year than breast cancer, colon cancer, and ovarian cancers combined. **Stand Up To Cancer, Flight Attendant Medical Research Institute** and focused

private philanthropy has helped tremendously, filling some of the gaps in federal funding.

But to grow the program, we need stable funding. We have the talent and the scientific portfolio to be the best group of thoracic experts anywhere, but we are not content with status quo; we want to be able to continually offer more to our patients. Funding is critical if we want to remain on the cutting edge of science and if we want to be able to bring the most talented young clinicians and scientists here. We lose too many gifted scientists to private industry or to other disease programs because of funding limitations. This is particularly frustrating at this point in time when we have made some of the most significant discoveries ever in the biology and immunology of lung cancer. There are things I want to do, new faculty members I want to hire who are on hold because of funding. It's hard because we know that when progress is delayed, lives are lost.

### **Do the unique assets of the Thoracic Center of Excellence facilitate progress?**

Most definitely, particularly in the areas of prevention and detection. With the nodule clinic and CT screening program already up and running at Hopkins Bayview, we can hit the ground running and increase screening for patients at high risk.

Lung and esophageal cancers get a bad rap because of their connection to smoking. What many people do not realize is that most cancers have a connection to smoking. It doesn't matter whether a person smokes or not; no one deserves to get cancer. Many of the patients we see here have quit

smoking, but risk never goes to zero. I am very excited about the unique ability we have at the Hopkins Bayview center to help these people.

Lung nodules can be benign, precancers, or cancer. The pulmonary nodule clinic should become the central resource for internal medicine and family practice physicians, where they can refer their patients if a lung nodule is found and rest assured that they will be followed up long term. New guidelines support the value of CT screening for people at risk of developing lung cancer. Screening decreases risk of dying from lung cancer and other complications.

Prevention research studies have not been strong in the past. There are many opportunities to grow this vital area of discovery with the pulmonary group here. Hopkins Bayview also has a National Institutes of Health presence with the National Institute on Aging and the National Institute on Drug Abuse, so there is great potential for collaborative research.

Cancer is a disease of aging. Smoking—an addictive behavior—not only increases the risk of developing cancer, but it also increases the risk of complications during treatment. We have tried to forge collaborations with these national institutes in the past, and

we are hopeful now that our close physical proximity to them will lead to success. Imagine what we could accomplish if we were able to include these institutes among the stellar groups of experts already integrated on this campus.

#### What about basic science?

Currently, laboratory research is a bit of a challenge. We have the opportunity to add two floors of basic science research space to the Asthma and Allergy Center at Hopkins Bayview, but we don't have the funding. In the meantime, we are making sure we have an exchange of ideas going back and forth between our clinical experts at Hopkins Bayview and our basic science experts still on the East Baltimore campus. We have initiated formalized monthly meetings with cancer biology and upper aerodigestive researchers to ensure ongoing collaboration and progress.



#### What are your plans for the future? How do you define the success of the Thoracic Center?

When a person is diagnosed with a nodule or thoracic cancer, I want the Thoracic Center of Excellence to be the first place he or she thinks about. I believe we are the premier place for the prevention, diagnosis, and treatment of thoracic cancers. In the coming years, we will grow this reputation.

I would love to have image recovery and integrative medicine added to our impressive compendium of services and expand palliative care services. We want to be the center for the influx of patients with lung and thoracic cancers, but we want to establish connections with all of the Kimmel Cancer Center locations. We have equipped our Hopkins Bayview center with the technology that will facilitate collaboration with experts at other locations. If scientists and clinicians cannot be physically present, they can be virtually present. I want to continue to expand our laboratory science to learn more about how thoracic cancers are caused and develop so that we continue to make clinical advances. I also see a dedicated inpatient unit in our future.

Ultimately, I want to see us have more survivors than patients getting treated.

**“WHEN A PERSON IS DIAGNOSED WITH A NODULE OR THORACIC CANCER, I WANT THE THORACIC CENTER OF EXCELLENCE TO BE THE FIRST PLACE HE OR SHE THINKS ABOUT. I BELIEVE WE ARE THE PREMIER PLACE FOR THE PREVENTION, DIAGNOSIS, AND TREATMENT OF THORACIC CANCERS.”**—Thoracic Oncology Program director **Julie Brahmer**



## COMPREHENSIVE CARE

PROVIDING THE MOST ADVANCED AND  
COMPLETE CARE AVAILABLE ANYWHERE

The Johns Hopkins pulmonary medicine program, based on the Hopkins Bayview campus, is considered to be the best in the nation, so it made sense to capitalize upon that strength of expertise and move the Kimmel Cancer Center's lung and esophageal cancers programs there. The new center of excellence includes a multidisciplinary clinic for treatment planning for new patients. The clinic, directed by lung cancer expert and radiation oncologist Russell Hales, brings pulmonology, radiation oncology, medical oncology, thoracic surgery, radiology and interventional radiology, and pathology together in one location. "This is not a satellite location. This is the hub for thoracic cancers at Johns Hopkins," says Hales. "We are a specialty center with specialty caregivers focused solely on thoracic cancers."

The new center of excellence took 10 years of planning. "We

wanted to make sure we got it right," says Hales.

Right now, the thoracic center group are trailblazers. The multidisciplinary clinic model currently exists for almost all cancer types. It involves all of the experts coming together for one day a week to review new cases and make treatment recommendations.

"However, in the thoracic center, all of the experts rub shoulders everyday," says Hales. "Instead of interacting primarily with other radiation oncologists, I am interacting daily with experts in every specialty involved in the treatment of people with lung and esophageal cancers. Having everyone together in the same space and working collaboratively leads to progress." It also provides the same opportunities to residents and fellows training at the Kimmel Cancer Center. "Now trainees are learning from all of the experts in thoracic cancer," he says.

Hales believes the thoracic center may become the model for the future of cancer care at the Kimmel Cancer Center.



Watch a video:

<http://bit.ly/kimmeltboracic>

In addition to the interdisciplinary team of experts, the thoracic center is home to a pulmonary nodule clinic that monitors patients at known risk of developing lung cancer and a lung cancer screening clinic that uses low-dose imaging to screen smokers for lung cancer. If lung cancers are detected, within just a few days, these patients are seamlessly transferred and their cases reviewed in the multidisciplinary clinic where recommendations for treatment are offered and explained. "We are taking patient-centered quality care and efficiency to a whole new level," says Hales.

The thoracic center also offers pulmonary rehabilitation—the first and most esteemed program of its kind—which has called Hopkins Bayview home for more than 30 years. The novel service improves quality of life by helping patients recover as much lung function as possible following cancer treatment. Nurses, a pain and palliative care expert and social worker who are dedicated solely to thoracic cancers are also a feature of the new center. "Parking is easy. Services are offered in close proximity. In many ways, it has the intimate and comfortable feel of a community hospital, until you pop the hood and realize it also has the full features and power of Johns Hopkins Medicine," says Hales.

The center offers a full complement of clinical trials to patients. "We will learn so much having all of the disciplines located together



and collaborating,” says Hales. “Advances are happening quickly. Lung cancer medicine that we practiced just 12 months ago has already evolved.” He points to a collaborative radiation oncology/cancer immunology study. Significant advances have been made in recent years that have awakened the immune system to fight cancer in a similar way that it fights bacterial infections. Sometimes, however, the cancer cells outsmart the immune system, but Hales found that even in advanced cancers that have spread, if radiation is given to one area of cancer, it can reignite the immune system to begin attacking the cancer throughout a patient’s body. “If I was only working with other radiation oncologists, we would have never figured this out,” says Hales. “It reflects the power of collaboration.”

To stimulate collaboration beyond the thoracic center, the facility also includes a large conference room with videoconference equipment to connect with experts at The Johns Hopkins Hospital, Sibley Memorial Hospital, Suburban Hospital and other Johns Hopkins Medicine locations. The conferencing area is also used for patient education, smoking cessation classes, support groups, and survivorship programs.

“To practice precision cancer medicine, we have to know the nuances of how all specialties are related in the care of the disease,” says Hales. “We are the great experiment. We are creating something unlike anything else at Johns Hopkins. Almost every program in the cancer center has interdisciplinary care, but we are taking it to a new level. This could be the model for the future of cancer medicine.”

# EASY ACCESS AND NAVIGATION

## THE PATIENT PERSPECTIVE



Bayview campus. Within a few days, he had an appointment in the multidisciplinary clinic with a team of experts in esophageal cancer—a medical oncologist, radiation oncologist, pathologist, radiologist, surgeon, and more. If they were involved in treating esophageal cancer, they had a seat at the table. “They knew all about me when I got there. I had a whole group of doctors taking care of me,” says Wega. “They had everything together. They knew what they were doing and explained it all really well. It was great.”

Retired carpenter **Delbert Wega** knew something was wrong when he went to his doctor with gastrointestinal symptoms, but he was not expecting to learn he had cancer. Further tests revealed esophageal cancer. When he was not satisfied with the information and care he received at the local hospital near his home in Wheaton, Md., he and his wife agreed that Johns Hopkins was the place to go. He scheduled an appointment at the new Thoracic Center of Excellence on the Hopkins

It was Wega’s first experience with Johns Hopkins. “I couldn’t want anything more,” he says. Just a few days after his clinic appointment, he began treatment. “They are very efficient and they know what they’re doing,” says Wega. The husband, father of three, and grandfather of 10 says he is ready to take on cancer, and he’s confident he has the “best group of doctors anywhere” taking care of him.

## A NEW MODEL OF **CANCER CARE**

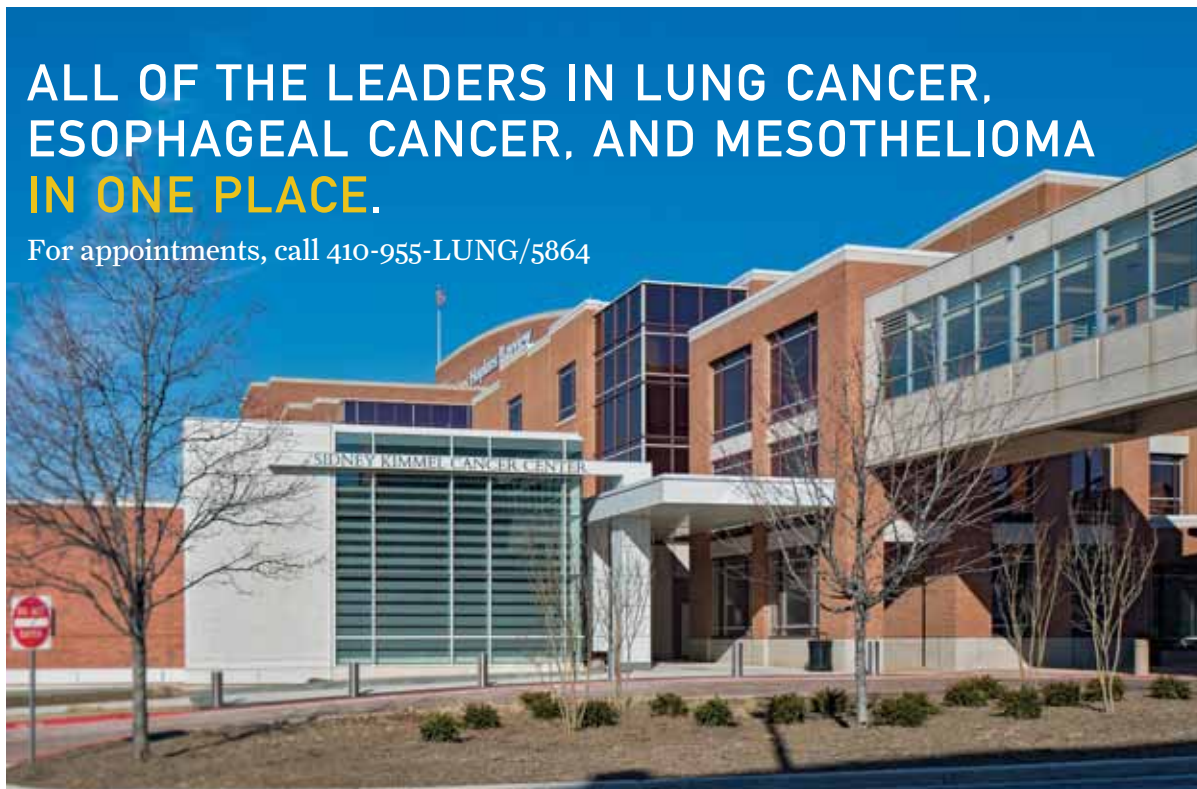
The new \$26 million, 24,000 square foot **THORACIC CENTER OF EXCELLENCE** on the Hopkins Bayview campus offers state-of-the-art screening, diagnostic, and treatment services to patients with lung cancer, esophageal cancer, and mesothelioma.



THE JOHNS HOPKINS  
THORACIC CENTER OF EXCELLENCE

ALL OF THE LEADERS IN LUNG CANCER,  
ESOPHAGEAL CANCER, AND MESOTHELIOMA  
IN ONE PLACE.

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