



FALL 2016

# DukeMed AlumniNews

## Duke Human Vaccine Institute

*Many Fronts, One Goal:  
Eliminate HIV/AIDS  
from the Planet*



IN LATE JULY I announced that I will step down as dean of Duke University School of Medicine in June 2017, at the end of my second five-year term. I have always believed that institutions benefit when leadership is periodically refreshed, and I believe the time is right.

When I came to Duke as dean in 2007, I found an extraordinarily vibrant community of scholars, staff, administrators, students, alumni, and friends—all dedicated to accomplishing great things, to living up to Duke's values and aspirations, and to making the world a better and healthier place.

Together, we have made great strides and achieved far more than anyone would have expected—especially during one of the most



financially challenging periods for academic medical centers:

- Construction of the first new medical education building since 1930, the Mary Duke Biddle Trent Semans Center for Health Education;
- Construction of the Hudson Building at Duke Eye Center;
- Creation of a satellite campus for the School in the Durham Innovation District;
- Two Nobel Prizes in Chemistry awarded for work done by Duke School of Medicine faculty members;
- Groundbreaking scientific breakthroughs translated into improved care for patients—too numerous to mention;
- Creation of four new departments: Derma-

tology, Orthopaedic Surgery, Neurology, and Neurosurgery;

- Creation of the Duke Cancer Institute;
- Development of new educational programs including the Primary Care Leadership Track, Scholars in Molecular Medicine, Master of Biomedical Sciences, MS and PhD in Biostatistics, and Master of Management in Clinical Informatics;
- Launch of new interdisciplinary research initiatives including the Duke Molecular Physiology Institute, Center for Genomics of Microbial Systems, Center for Human Disease Modeling, Center for RNA Biology, Center for Genomics and Computational Biology, Center for Statistical Genetics and Genomics, Regeneration Next, and the Center for Population Health Sciences;
- Creation of MEDx, a School of Medicine partnership with the Pratt School of Engineering; and
- Creation of the School's first inclusion council and implementation of numerous initiatives focused on improving diversity and inclusion in the school.

As I've told many colleagues at Duke and around the country, I have never seen a more loyal and engaged group of alumni than ours. I have very much enjoyed serving as your dean and will always be grateful for your support of me and for your continued support of our great university and medical school.

With warm wishes,

**Nancy C. Andrews, MD, PhD**  
 Dean, Duke University School of Medicine  
 Vice Chancellor for Academic Affairs  
 Nanaline H. Duke Professor of Medicine  
 Professor, Pediatrics  
 Professor, Pharmacology and Cancer Biology

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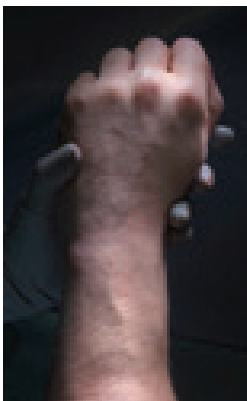
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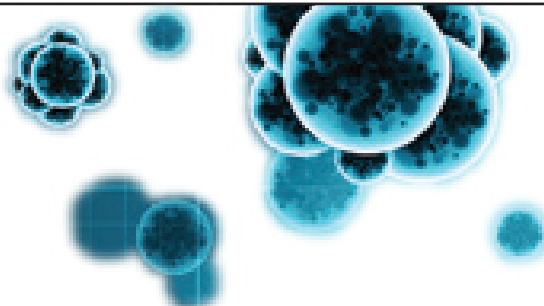
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## Memories of Leaders

**Eugene Guazzo, MD'65**, sends memories of two favorite professors, Hans Lowenbach, MD, professor of pediatrics and psychiatry, and **Jay Arena, MD'32, HS'32**.

"When Lowenbach lectured, he often brought a patient with him to the amphitheater. He would take the patient's history right before all of us, clearly giving an actual 'living' example of the development of a diagnosis or syndrome.

"Dr. Lowenbach was a broadly trained and experienced clinician. This was apparent from his lecturing. But, having visited his home—he lived on a farm and raised sheep—I came to realize even more, how broad was his medical experience. Something that made...me remember this was what was above the mantel of his fireplace: a whaling harpoon!

"I had to ask about this, and found that he had been a whaling ship's surgeon."

"Almost every time I put a cap on a childproof container, I think of Dr. Arena. He convinced the pharmaceutical industry and pharmacies to make child-resistant containers standard. The food industry also followed...Medical care for children, usually less than 4-5 years of age, who had been poisoned with medicine...and with other... products was a significant problem. Well over 500 children died every year. This was reduced by about 90 percent after 1960 when childproof medical containers came into use.

"I was also reminded of him in my residency training at Hunterdon Medical Center in New Jersey whenever we

Jay Arena



Hans Lowenbach



had a case of childhood poisoning, the chief of pediatrics would mention Dr. Arena's work.

"As a matter of coincidence, also in my residency, I was reminded, almost on a daily basis, of Dr. and Mrs. Arena. They were supporters of a convent of cloistered nuns that was located high up on a hill overlooking the medical center. Hospital house staff would hear—if the wind was just right—the nuns' steeple bell, calling them to prayer and giving us pause."

## From Muhammad Ali—the Gift of Courage

*Editor's note: the following was excerpted from an article by Elizabeth Cohen, senior medical correspondent with CNN, published on June 6.*

Muhammed Ali didn't like air conditioning.

So when he traveled in a car through the streets of Phoenix one March day in 2001, he asked the man driving to roll down the windows.

Then he asked him to get in the far left lane.

Parkinson's disease had taken its toll, and the heavyweight champion of the world had difficulty moving and speaking, but still, he had a plan.

"At stoplights, he would reach out to the car next to us, and his arm was so long, he could tap on their window, and when they looked up, he'd say, 'Hello from the greatest of all time!' Then the light would turn green, and we'd drive off," the driver remembers, laughing.

"Muhammed just loved that," he said.

The fun in the car was just one of many memorable moments in a relationship that lasted nearly two decades between Ali and the person behind the wheel: Mark Stacy, MD, currently a professor of neurology and vice dean for clinical research in the School of Medicine, who was then director of the Muhammad Ali Parkinson Center

in Phoenix, part of the Barrow Neurological Institute.

"At the dedication ceremony, I asked Mrs. Ali what we could do for them, and she said, 'Muhammed wants you to take care of everyone, regardless of their ability to pay,'" Stacy remembers.

That was a tall order.

Stacy's colleagues told him it wouldn't work; it was too expensive to give that much free care.

It was impossible, they said.

But we know what Ali said about impossible: "Impossible is not a fact. It's an opinion. Impossible is not a declaration. It's a dare. Impossible is potential. Impossible is temporary. Impossible is nothing."



Mark Stacy and Muhammed Ali

Stacy's colleagues advised him not to even mention the idea to the hospital's leadership; it would just alienate them.

He ignored them.

"That's one of the gifts Muhammed gave me: the gift of courage," Stacy said.

At a meeting of the hospital's highest executives, [he] announced he wanted the center to treat people for free if they couldn't pay.

He could read the room. They were



Paul Modrich

## Nobel Laureates Receive North Carolina Award

Nobel laureates Paul Modrich, PhD, of Duke and Aziz Sançar, PhD, of UNC-Chapel Hill, received the North Carolina Award, the state's highest honor, in September.

Modrich is the James B. Duke Professor of Biochemistry, and Sançar is the Sarah Graham Kenan Professor of Biochemistry and Biophysics at UNC. They shared the 2015 Nobel Prize in chemistry for their independent discoveries on DNA repair mechanisms.

## AOA Elects New Members

Three faculty members and 10 medical students have been elected into the Alpha Omega Alpha Medical Honor Society. The selection criteria include scholastic achievement, leadership capabilities, ethical standards, fairness in dealing with colleagues, demonstrated professionalism, achievement and/or potential for achievement in medicine, and a record of service to the school and community at large. Membership in AOA is a distinction that accompanies a physician throughout his or her career.

Only three faculty—a tenured professor, an associate or assistant professor, and an alumnus/a are elected each year. The faculty elected for 2016 are: Ann Reed, MD, the William Cleland Professor and chair of pediatrics; Raymond Barfield, MD, PhD, associate professor of pediatrics, hematology-oncology; and **Scott Palmer, MD'93, HS'93-'99, MBA'00**, Professor of Medicine; member, Duke Clinical Research Institute; vice-chair, research, Department of Medicine.

The medical students elected for 2016 are: Margot Cullen, Ronnie Shammas, Leslie Chang, Adam Glenner, Michael Harowicz, Lauren Pontius, Mary Labowsky, Jackie Henson, Jeffery Sakamoto, and Kevin Schwartz.

## Kastan Elected to Academy of Sciences

Michael Kastan, MD, PhD, executive director of Duke Cancer Institute, has been elected to the National Academy of Sciences.

Kastan's research spans more than three decades and includes several focus areas, including cellular responses to DNA damage and their impact on cell viability and cancer formation. He has led the Duke Cancer Institute since 2011 and also is the William and Jane Shingleton Professor of Pharmacology and Cancer Biology and professor of pediatrics at Duke University School of Medicine.

Prior to joining Duke, Kastan was director of the Comprehensive Cancer Center at St. Jude Children's Research Hospital. During his tenure there, the facility became the only pediatric hospital designated by the National Cancer Institute as a Comprehensive Cancer Center.

Kastan is the recipient of numerous honors, including elections to the American Academy of Arts and Sciences and the Institute of Medicine of the National Academies. He was also elected a fellow of the American Association for the Advancement of Science in 2014.



Michael Kastan

## "That's one of the gifts Muhammed gave me: the gift of courage."

Mark Stacy

skeptical. Parkinson's care is expensive. They didn't see how it would work.

"I said, 'This is a Catholic hospital, founded on the principle of providing care to people regardless of their ability to pay,'" Stacy remembers.

A nun who was in the room stood up.

"She said, 'That's exactly right,' Stacy remembers.

And the center started delivering free care to those who needed it—dozens of people every year, Stacy said.

Another one of Ali's gifts Stacy will always treasure is the gift of mental toughness.

At [a fundraising event] Stacy worried that Ali wouldn't be able to make it through [the five hour program.]

"At the end of the evening, he was exhausted, and I said to myself, 'Please, please, please don't ask him to come up on stage,'" he said. "But they did. And he would rally. When he stepped up on that stage, he became the heavyweight champion of the world again.

Where did Ali get his strength to work so hard as Parkinson's ravaged his body? How did he not fall victim to depression or frustration? Either one would have been understandable.

Some of his strength came from his Muslim faith, Stacy said. But the rest is a mystery.

"To be the heavyweight champion of the world, the greatest boxer of all time, you have to have something that we don't understand—or certainly people like me don't understand," he said.

"I was lucky to have known him."

Come back  
to revisit,  
reconnect,  
rekindle

*Medical  
Alumni  
Weekend  
2016*

November 10–13, 2016



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**THURSDAY**

Alumni and Davison Club Welcome Reception

UNC vs. Duke Football Game

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**FRIDAY**

3rd Annual Women in Medicine Luncheon

Educational Programming featuring new horizons in cardiology, psychiatry, and infectious diseases

Medical Alumni Association awards dinner



# Duke

University School of Medicine

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## SATURDAY

Breakfast with Dean Nancy Andrews, MD, PhD with Nobel laureates Robert J. Lefkowitz, MD, and Paul Modrich, MD

Class Dinners, Dessert, and Dancing

**Lefkowitz**



**Modrich**



## REGISTRATION

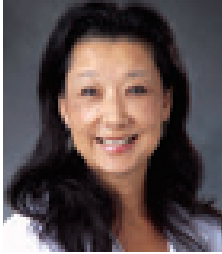
There are many more educational and entertaining activities planned. For full details and to register, please visit [medalumni.duke.edu](http://medalumni.duke.edu). Last day to register is **November 4!**

## HOST HOTEL

**Washington Duke Inn**  
3001 Cameron Boulevard, Durham  
Phone **919-490-0999**  
Contact Brenda Rimmer if you need to change your reservation.

## TRANSPORTATION

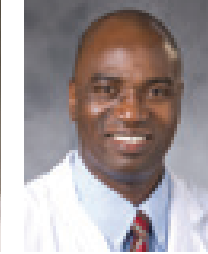
Buses will shuttle between the Washington Duke Inn and event locations throughout the weekend.



Shelley Hwang



John Alexander



Rasheed  
Gbadegesin



Sallie Permar



Allan Kirk

## Hwang Named One of *TIME's* 100 Most Influential

Shelley Hwang, MD, chief of breast surgery at Duke Cancer Institute, has been named one of *TIME's* 100 most influential people for 2016 as a pioneer in her field.

One of the world's foremost experts in early-stage breast cancers, Hwang has become an international leader calling for research to guide treatment for ductal carcinoma in situ (DCIS), in which abnormal cells are detected in the lining of a milk duct, but haven't spread to other tissues.

DCIS is the most common form of non-invasive breast cancer in the U.S., and accounts for about 20 percent of all new breast cancer cases diagnosed from mammogram screenings. But doctors are divided on how some patients with low-risk DCIS should be treated.

Hwang's research and advocacy for a more informed approach to DCIS treatments—which could include lumpectomy and/or ongoing surveillance instead of aggressive radiation or mastectomy—has helped spur international discussion. She has been a voice for women who are diagnosed with DCIS to receive the best treatment available while sparing them unnecessary procedures that don't help, or may even cause harm.

## Kirsch Wins NCI Outstanding Investigator Award

The National Cancer Institute has awarded a prestigious Outstanding Investigator Award to David Kirsch, MD, PhD, the Barbara Levine University Professor with appointments in the departments of Radiation Oncology and Pharmacology and Cancer Biology.

The \$6.6 million award covers seven years and will fund ongoing research in Kirsch's lab to improve the efficacy and safety of radiation therapy for people with cancer. Kirsch joins approximately 60 recipients nationwide who have been selected for "providing significant contributions toward understanding cancer and developing applications that may lead to a breakthrough in biomedical, behavioral, or clinical cancer research," according to the NCI.

Kirsch and his team use mouse genetics to study how radiation can cure some cancers and how it also causes toxicity or negative side effects. Learning more about the cells that are responsible for toxicity and those that control tumors can help researchers develop new drug targets that could potentially reduce side effects of radiation and help it be more effective.

Kirsch shares the honor with students and post-doctoral fellows in the School of Medicine and Duke Cancer Institute who have worked in his lab since he arrived at Duke in 2007.

## Faculty Elected to ASCI and AAP

Five School of Medicine faculty members were elected to the American Society for Clinical Investigation (ASCI) and the Association of American Physicians (AAP).

John Alexander, MD, MHS; Rasheed Gbadegesin, MD, MBBS; and Sallie Permar, MD, PhD, were elected to the ASCI. Alexander is a professor of medicine and vice chief for clinical research in the Division of Cardiology. Gbadegesin is an associate professor of pediatrics and nephrology. Permar is an associate professor of pediatrics.

**Allan Kirk, MD'87, PhD'92, HS'95,**

David Kirsch



and David Kirsch, MD, PhD, were elected to the AAP. Kirk is the David C. Sabiston Professor and chair of the Department of Surgery. Kirsch is the Barbara Levine University Professor with appointments in the departments of radiation oncology and pharmacology and cancer biology.

## Six MD Students Chosen as Howard Hughes Research Fellows

The Howard Hughes Medical Institute (HHMI) has awarded fellowships to five Duke medical students and a renewal to a sixth. Each medical fellow receives \$41,000 in grant support, and first-year fellows are eligible to apply for a second year in the program.

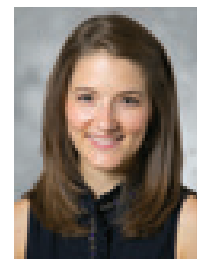
HHMI is one of the few privately funded programs in the nation that sponsor year-long fellowships for medical, dental, and veterinary students. The fellowship awardees are Melissa Abel, Momodou Jammeh, Jerry Lee, Gabriel Neves, Xiaojie Zhang, and Chelsea Feldman, who was renewed for a second year.

## Four Appointed to Distinguished Professorships

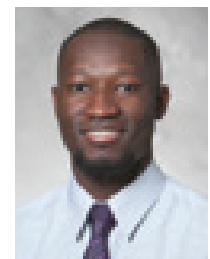
Four School of Medicine faculty members were awarded distinguished professorships, the most prestigious positions in academia, at a May 4 dinner celebration.

James Abbruzzese, MD, is the Charles Johnson, MD, Professor of Medicine. He is a professor in the

Melissa Abel



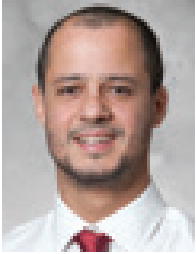
Momodou  
Jammeh



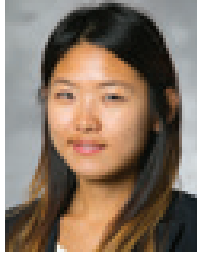




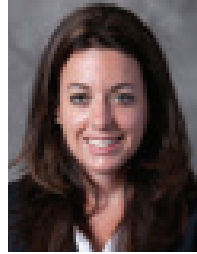
Jerry Lee



Gabriel Neves



Xiaojie Zhang



Chelsea Feldman



Ebony Boulware

Department of Medicine and chief of the Division of Medical Oncology. He also serves as associate director of clinical research and training in the Duke Cancer Institute. He is one of the world's foremost investigators in the clinical study and treatment of pancreatic cancer.

David Kirsch, MD, PhD, is the Barbara Levine University Professor with appointments in Radiation Oncology and Pharmacology and Cancer Biology. He also serves as vice chair for basic and translational research in the Department of Radiation Oncology and leads the Duke Cancer Institute's Radiation Oncology and Imaging Research Program. He is an internationally recognized expert in sarcoma.

Stuart Knechtle, MD, is a Mary and Deryl Hart Professor of Surgery. He also serves as executive director of Duke's Transplant Center. He is a nationally recognized surgeon and a leader in the field of liver and kidney transplantation who performed the first combined liver/pancreas transplant in the state of Wisconsin.

Peter K. Smith, MD, is a Mary and Deryl Hart Professor of Surgery. He is chief of the Division of Cardiovascular and Thoracic Surgery, co-director of the Duke Heart Center, and chief of cardiac surgery at the Durham VA Medical Center. He also is an associate professor of biomedical engineering in the Pratt School of Engineering at Duke and a member of the Duke Clinical Research Institute.

## Students Honor Teachers with Golden Apple Awards

The Golden Apple Awards are the highest honors for teaching presented by the School of Medicine's student body. The 2016 awardees are Leonard White, PhD, associate professor of orthopaedic surgery; Saumil Chudgar, MD, assistant professor of medicine; and Brian Gilmore, MD, a member of the general surgery house staff.

## Boulware Receives Mid-Career Mentoring Award

Ebony Boulware, MD, MPH, associate dean for clinical and translational science in the School of Medicine and chief of the Division of General Internal Medicine in the Department of Medicine, was selected to receive the 2016 Society of General Internal Medicine's Mid-Career Research and Mentorship Award. The award is given each year to honor a superb mid-career clinician investigator who is actively engaged in research and in the mentorship of junior investigators.

## Johnston Finishes 12th in Olympic Diving

Abby Johnston, MSIII, finished 12th in the 3-meter springboard Olympic finals in Brazil in August. After the competition in Rio de Janeiro, Johnston, who won silver in synchronized diving at the 2012 London Olympics, was ready to look toward the future. She started her third year of medical school nine days after the Olympics. She's also planning a wedding, after getting engaged this summer to Duke assistant football coach Sam McGrath.

"I'll be doing my clinical rotations and planning a wedding. So I do have a lot to look forward to, and I am happy to close this chapter of my life," said Johnston.



JARED LAZARUS

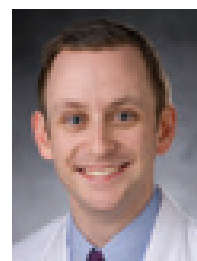
Olympian and medical student Abby Johnston

James Abbruzzese

Peter K. Smith

Saumil Chudgar

Brian Gilmore



## Med School Ranks 8th in Research and Primary Care

The School of Medicine ranked eighth in research, and for the first time in

# 8th

its history ranked among the top 10 in primary care, at eighth, according to *U.S. News & World Report*. In addition, the Duke Physician Assistant Program remained ranked number one, and the Doctor of Physical Therapy Program ranked 10th.

Three key specialty areas also placed in the top 10 nationally: internal medicine ranked fifth, geriatrics ranked seventh, and family medicine ranked 10th.

## Duke Hospital Ranked 16th

Duke University Hospital has been ranked 16th nationally by *U.S. News & World Report*.

# 16th

In addition to being included on the national Honor Roll, Duke University Hospital remains number one in North Carolina and number one in the Raleigh-Durham area.

Honor Roll designations were awarded to just 20 hospitals out of nearly 5,000 institutions across the country. Rankings consider patient safety, surviv-



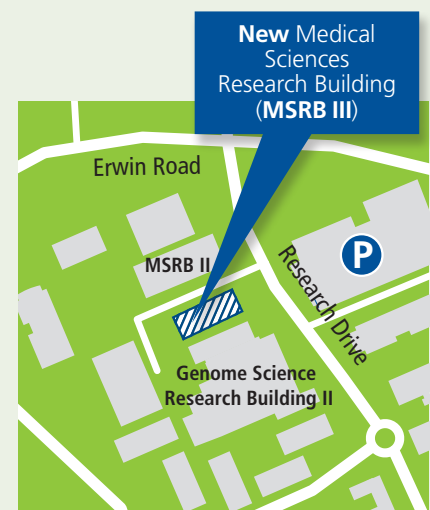
## Construction Begins on New Research Building

Construction has started on a third Medical Sciences Research Building (MSRB III).

The \$103 million, 155,000-square-foot building will be located on Research Drive and will exclusively house bench lab research. With six floors above ground and one below, MSRB III will significantly relieve the current shortage of research space in the medical school.

"This is not a place where we will simply be relocating labs and departments," said Raphael Valdivia, PhD, vice dean for basic science. "It will allow us to create research synergies and build thematically aligned groups that will expand and strengthen our research portfolio. And certainly it will decompress research space constraints so that we can build on the specific thematic areas that the chancellor has identified—including transplantation immunology, neurosciences, and cardiovascular disease—across campus."

MSRB III joins the 190,000-square-foot MSRB I, which opened in 1994, and the 165,000-square-foot MSRB II, which opened in 2006. The School



of Medicine will also be adding to its leased research space in Durham in an area dubbed the Durham Innovation District. Duke University currently leases 100,000 square feet in the newly renovated Carmichael Building on Duke Street, and it plans to lease another 100,000 square feet in the Chesterfield Building, now under renovation on West Main Street.

The completion date is targeted for late summer or fall of 2018.

al rates, technology, and the hospital's excellence in a number of specialties. Duke has earned a spot in the rankings for more than 20 years.

Duke also earned top-20 rankings in seven adult specialties in the 2016-17 report:

- **Cardiology and Heart Surgery (No. 5)**
- **Diabetes and Endocrinology (No. 18)**

- **Ophthalmology (No. 6)**
- **Orthopaedics (No. 15)**
- **Pulmonology (No. 5; two-way tie)**
- **Rheumatology (No. 13)**
- **Urology (No. 9)**

In addition, Duke Regional Hospital was ranked 16th in North Carolina and sixth in the Raleigh-Durham area. Duke Raleigh Hospital was listed at 11th in the state and fourth in the Triangle.

## Monkeys Drive Wheelchairs Using Only Their Thoughts

Neuroscientists at Duke Health have developed a brain-machine interface (BMI) that allows primates to use only their thoughts to navigate a robotic wheelchair.

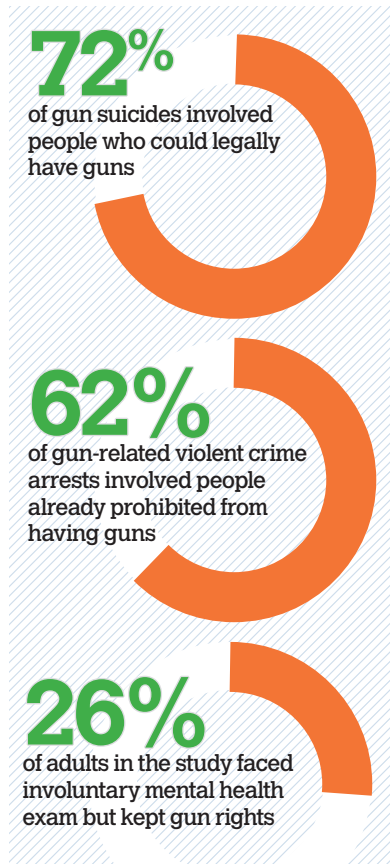
The BMI uses signals from hundreds of neurons recorded simultaneously in two regions of the monkeys' brains that are involved in movement and sensation. As the animals think about moving toward their goal—in this case a bowl of fresh grapes—computers translate their brain activity into real-time operation of the wheelchair.

Described in the journal *Scientific Reports*, the interface demonstrates the future potential for people with disabilities who have lost most muscle control and mobility due to quadriplegia or ALS.

## Suicide Often Committed with Legally Purchased Gun

A new Duke Health analysis showed that people with serious mental illnesses who use guns to commit suicide are often legally able to purchase guns.

Published in the June issue of *Health Affairs*, the study looked at gun use, violent crime, and suicide among 81,704 people diagnosed with schizophrenia, bipolar disorder, or major depression in Florida's Miami-Dade and Pinellas counties over 10 years. Over that time, 254 study subjects committed suicide—nearly four times the average suicide rate of the general adult population in Florida during the same time period. Of the 50 people who used a gun to kill themselves, 72 percent were legally eligible to buy guns at the time of



their deaths.

The study findings can be used to guide federal and state efforts to more precisely tailor mental health related legal restrictions to reduce gun violence.

## BRCA1 Gene Mutation Elevates Uterine Cancer Risk

Women who carry the BRCA1 gene mutation, which dramatically increases their risk of breast and ovarian cancers, are also at higher risk for a lethal form of uterine cancer, according to a Duke Cancer Institute study.

This newly defined risk—the first to show a conclusive link between the BRCA1 gene mutation and a small but significant chance of developing uterine cancer—could become a consideration in weighing treatment

options. Currently, women with the BRCA1 mutation often have preventive mastectomy as well as ovary and fallopian tube removal. But conflicting evidence has created controversy over the need to remove the uterus. The study indicates that women with the genetic mutation should at least discuss with their doctors the option of having a hysterectomy along with removal of their ovaries and fallopian tubes.

## New Solutions for UTIs?

The process cells use to secrete chemicals also appears to be the way to clear urinary tract infections, or UTIs, according to a study by researchers at Duke Health and Duke-National University Singapore.

The process, which has been previously understood to be a way for cells to release soluble materials such as hormones, has been redefined as playing an equally crucial role in protecting the body against infections. Reported in the journal *Immunity*, the study used mice and cultured human bladder cells. It suggests new targets for developing remedies for UTIs, the second-most prevalent type of bacterial infection.

## Virus or Bacterial Infection? There May Be a Blood Test for That

Researchers at Duke Health are fine-tuning a test that can determine whether a respiratory illness is caused by infection from a virus or bacteria so that antibiotics can be more precisely prescribed.

The team of infectious disease and genomics experts has developed what they call gene signatures, *continued on page 11*



Patient Rene Chavez talks with Joel Pena, MD, his interpreter from the Duke International Patient Center.

## Duke Performs N.C.'s First Hand Transplant

A Duke Health team performed the first hand transplant in North Carolina in May, attaching the limb to a 54-year-old patient from Laredo, Texas, whose hand was severed in a childhood accident.

The highly complex, 12-hour procedure marks the beginning of a clinical trial at Duke to determine the safety and efficacy of hand transplantation and the efficacy of a new

anti-rejection drug called belatacept.

Duke is one of only about 10 hospitals in the U.S. that has performed a hand transplant. The surgery is difficult, involving an intricate process of connecting bone, blood vessels, muscle, nerve, tendons, and skin. Matching the limb from a deceased donor and controlling rejection is also complex, adding to the rarity of the procedure.

SHAWN ROCCO

*continued from page 9*

patterns that reflect which of a patient's genes are turned on or off, to indicate whether someone is fighting infection from a virus or bacteria. Results can be derived from a small sample of a patient's blood.

Described in the journal *Science Translational Medicine*, the study found that the signatures were 87 percent accurate in classifying more than 300 patients with flu viruses, rhinovirus, several strep bacteria, and other common infections, as well as showing when no infection was present.

## Walking Speed As Health Indicator

Walking speed is making strides toward becoming a key metric of a person's health with the launch of the 6th Vital Sign, a first-of-its-kind study being conducted by the Duke Clinical Research Institute.

Volunteers participating in the study download a free ResearchKit app from the Apple iTunes store, answer some questions, and then take a two-minute stroll. The app securely uploads walking speed captured on a phone along with demographic data to calculate a reliable and personalized health measure.

## Cancer Immunotherapy: New Antibody Targets Cancer Cells

A research team from Duke Health has developed an antibody from the body's own immune system that preferentially attacks cancer cells.

The antibody works by targeting a natural defense mechanism that cancer tumors exploit. Cells essentially use a "home security system" that relies on certain proteins to protect the cell surface and keep it safe.

These proteins help the cell avoid injury and even death from unwanted activation of the immune system. The antibody dismantles a specific part of this defense system and then employs several mechanisms of attack. It was discovered, developed, and tested in cell lines and animal models at Duke.

The antibody is said to be the first completely human-derived antibody developed as an anti-cancer therapy. The Duke paper was published online in *Cell Reports*.

## Poliovirus Therapy Wins FDA "Breakthrough" Status

The recombinant poliovirus therapy developed at Duke's Preston Robert Tisch Brain Tumor Center has been granted "breakthrough therapy designation" from the U.S. Food and Drug Administration.

The designation will expedite research into the poliovirus therapy, but it does not mean the investigational drug has been approved for clinical use. It is currently being tested in a clinical trial for adults with advanced glioblastoma brain tumors. To receive breakthrough status, preliminary evidence must indicate that

the treatment may offer substantial improvement over available standard therapy.

The poliovirus therapy uses a modified form of poliovirus that has been altered to eliminate harm. It attacks cancer cells, which have an abundance of receptors that work like magnets to attract the poliovirus. The modified virus then kills the infected tumor cells while also igniting an additional immune response.

## Duke Health Receives IBM Health Corps Award

Duke was one of five institutions worldwide selected as part of IBM's new Health Corps program, which aims to address disparities in health. The company's pro bono initiative will provide an estimated \$2.5 million in expertise to Duke and the other recipients to set up data, analytics, and cognitive and cloud computing for public health projects worldwide.

The company's work with Duke will be through its Center for Community and Population Health Improvement, a member of the Healthy Durham partnership that was formed to eliminate health disparities in the Durham community.

The lab of Matthias Gromeier, MD, developed and tested the poliovirus therapy.



SHAWN ROCCO



SHAWN ROCCO

## Bioengineered Blood Vessel Appears Safe and Durable

Man-made blood vessels developed by researchers at Duke, Yale, and the tissue-engineering company Humacyte appear to be both safe and more durable than commonly used synthetic versions for patients undergoing kidney dialysis.

Published in *The Lancet*, the findings are the result of a phase 2 study among 60 patients with kidney failure who required dialysis. These patients often require a synthetic graft when their blood vessel degrades from frequent needle sticks. But such grafts are prone to infection, clotting, and other complications. Alternative tailor-made grafts derived from the patient, a donor, or animal tissue have been shown to perform no better than synthetics.

Because the man-made blood vessel developed by Duke, Yale, and Humacyte contains no human cells, it offers an off-the-shelf alternative that can be used without the waiting period associated with tailor-made products.

## Breast Cancer May Soon Have No Place to Hide

Scientists at Duke Cancer Institute have identified a molecular key that breast cancer cells use to invade bone marrow in mice. Within the bone marrow, they may be protected from chemotherapy or hormonal therapies that could otherwise eradicate them.

Through years of experiments in mice, scientists have found ways to outmaneuver this stealth tactic by either preventing the breast cancer cells from entering the bone marrow or by flushing them out into the blood stream, where they can be targeted for destruction.

The problem is, some breast cancers return after seemingly being vanquished—most frequently to the bones. The researchers hope the findings, published in *Science Translational Medicine*, could eventually lead to new therapies to treat breast cancer.

## Duke Scientists Discover New Class of Pain Relievers

A Duke research team has discovered a potential new class of small molecule drugs that simultaneously block two



sought-after targets in the treatment of pain.

These proof-of-concept experiments, published in *Scientific Reports*, could lead to the development of a new drug to treat conditions including skin irritation and itching, headaches, jaw pain, and abdominal pain stemming from the pancreas and colon.

More than 100 million people in the U.S. suffer from chronic pain, according to a report from the Institute of Medicine, and new medicines are badly needed.

## Paraplegics Regain Feeling and Movement after Using Brain-Machine Interfaces

Eight people who have spent years paralyzed from spinal cord injuries have regained partial sensation and muscle control in their lower limbs after training with brain-controlled robotics, according to a study published August 11 in *Scientific Reports*.

The patients used brain-machine interfaces, including a virtual reality system that used their own brain activity to simulate full control of their legs. Videos accompanying the study illustrate their progress. Several patients saw changes after seven months of training. After a year, four patients' sensation and muscle control changed significantly enough that doctors upgraded their diagnoses from complete to partial paralysis.

||| more information

To read more about these and other news stories go to:  
[corporate.dukehealth.org/newsmedia](http://corporate.dukehealth.org/newsmedia).



Thomas Catena



Matthew Hepburn



Michael Fields

## Help Our Students Travel, be a HOST!

Our fourth-year students are hitting the road to interview. Help them out by lending a room or offering advice. Volunteer for the HOST program today!

The Help Our Students Travel (HOST) program connects current medical students and trainees who are traveling for residency and fellowship interviews with alumni hosts in the vicinity of their interview sites. Alumni HOSTs may offer housing, which helps to ease the financial burden and stress of the interview process. Alumni who cannot offer housing may also be an eHOST by providing guidance on particular specialty or research opportunities, the local community and hospital, etc. The HOST program provides a wonderful opportunity to build connections between students, trainees, and alumni that can last a lifetime.

**Interested**  
If you would like to be a host or need more information visit [bit.ly/DukeMedHost](http://bit.ly/DukeMedHost) or contact Karen Bernier at [karen.bernier@duke.edu](mailto:karen.bernier@duke.edu).

## Duke Alumni Association Award Recipients

Two Duke Med alumni and a friend of the Duke Cancer Institute are among the recipients of Duke Alumni Association 2016 Awards. Awardees are chosen from the undergraduate, graduate, and professional schools who embody the spirit of Forever Duke and advance the Duke ideal of “knowledge in the service of society.”

**Thomas Catena, MD’92**, received the Beyond Duke Service and Leadership Award for his work as medical director and sole physician at a 400-bed rustic hospital in the Nuba Mountains of war-torn Sudan.

**Matthew Hepburn, E’92, MD’96**, received the Forever Duke Award for excellent volunteer service. As a member of the Medical Alumni Council, Hepburn showed a passion for connecting alumni, students, and faculty through numerous events and outreach programs.

**Michael Fields, T’79**, received the Charles A. Dukes Award for Out-

standing Volunteer Service for his commitment as a board member and donor to the Duke Cancer Institute and member of the Duke Health Board of Visitors.

The awards were presented during Homecoming Weekend.

## One Website. 160,000 Alumni. Infinite Possibilities.

Want to find more than 160,000 Duke alumni in one place? Visit the Duke Alumni Association’s new website ([alumni.duke.edu](http://alumni.duke.edu)), which gives alumni and students exclusive access to the complete Duke alumni network. The site allows users to search for classmates, view alumni profiles, join groups, and sign up for alumni events around the world. Alumni can also share their LinkedIn profiles with Duke, ensuring their classmates have up-to-date information on their professional skills and accomplishments. To get started, visit [alumni.duke.edu](http://alumni.duke.edu) and click “Register.”



## Welcome Picnic for New House Staff

Nearly 200 new and current Duke house staff and their families attended a welcome picnic in July at Durham Central Park. Sponsored by the Duke Medical Alumni Association, the picnic featured a DJ and games for kids and adults.



MEGAN MENDENHALL

From left, Rebecca and Steve Scott, MD; Jim Urbaniak, MD; **Claude T. Moorman III, MD, T'83, HS'87-'93**; President Richard Brodhead, PhD; Chancellor Eugene Washington, MD, MSc; and Duke Men's Basketball Coach Michael Krzyzewski were on hand to celebrate the dedication of the Urbaniak Sports Sciences Institute at Duke.

## New Sports Sciences Institute Honors Urbaniak

The James R. Urbaniak, MD, Sports Sciences Institute was dedicated in June, with an open house and celebration.

Made possible by a gift of \$20 million from **Steven M. Scott, MD, HS'74-'78**, and his wife, Rebecca, the new institute is named to honor **James R. Urbaniak, MD'62, HS'62-'69**, for his years of service and international leadership in research as Virginia Flowers Baker Professor and chief of the Division of Orthopaedic Surgery from 1985 to 2002.

The new institute integrates research, education, and clinical care for professional and amateur athletes. Services include clinical and surgical treatments, primary care sports medicine, injury prevention and sports performance, pediatric sports medicine, sports ophthalmology, sports

cardiology, women's sports medicine, and sports neurology and concussion treatment.

Research components include clinical trials, development of new regenerative and cellular therapies, personalized and preference-based care, improved rehabilitation, and kinematic research, including high-speed imaging and the Michael W. Krzyzewski Human Performance Laboratory (K-Lab).

## Keck Grant Funds Early Career Brain Researchers

Two School of Medicine brain researchers who want to solve the long-standing puzzle of human consciousness

Fan Wang



Kafui Dzirasa



have been awarded a \$1 million grant by the W.M. Keck Foundation.

"Unraveling the Neural Gate to Consciousness" will pair the neurobiology labs of Fan Wang, PhD, associate professor of neurobiology and cell biology, and **Kafui Dzirasa, PhD'07, MD'09, HS-current**, assistant professor of psychiatry and behavioral sciences, biomedical engineering, and neurobiology. The pair will attempt to find the specific circuits in the brain that govern the conscious and unconscious states.

Focusing on a family of cells known as the anesthesia-affected neurons, the two labs will trace cellular activity chemically and electrically to create maps of the neural networks. Once those specific circuits are identified, they will attempt to determine whether instilling specific patterns of neural activity across multiple brain regions can sustain conscious perception in the anesthesia-induced unconscious state in mice.

"Our results could help identify potential therapeutic targets to re-awaken patients from coma or vegetative states," Wang said.

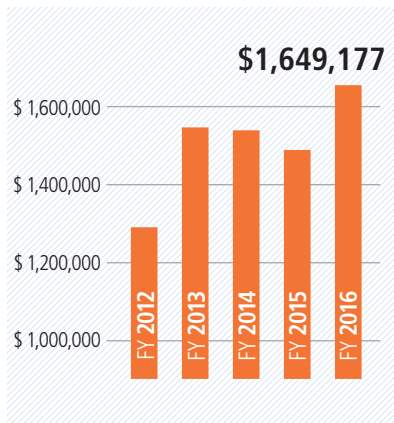
She is known for her work using novel molecular methods and chemical signals to identify and precisely map sensory and motor neural circuits in the brains of mice.

Dzirasa, a 2016 recipient of the Medical Alumni Association's Early Career Achievement Award who earlier this year won a Presidential Early Career Award from President Barack Obama, is using engineered probes to electrically measure and manipulate specific circuits in the brain.

Both researchers are also members of the Duke Institute for Brain Sciences.



## Medical Annual Fund Has Record Year



Duke Med alumni and friends helped raise a record \$1,649,178 for the Medical Annual Fund in fiscal year 2015-16. When combined with annual giving from Duke house staff trainees and others, the total comes to \$2.5 million to support many different efforts within the School of Medicine.

The Medical Annual Fund provides unrestricted support used at the discretion of Dean Nancy Andrews, MD, PhD, as well as scholarships for Duke medical students and research in the School of Medicine.

**Donors at the \$1,000 level become members of the Davison Club, the School of Medicine's honorary annual giving society.**

## Chancellor's Event Debuts "Advancing Health Together"

More than 200 alumni, donors, and friends attended an evening that brought to life key points of a new Duke Health strategic plan announced in January by Chancellor Eugene Washington, MD, MSc.

The May event featured videos, testimonials from patients and their



CHRIS HILDRETH

Chancellor Eugene Washington, MD, MSc, welcomes guests.



families, and presentations by students and faculty. The evening was centered on the mission of the new strategic plan, "Advancing Health

### videos

Fluorescent Dye To Help Surgeons Detect Residual Cancer: [youtu.be/kffmMx05dPQ](https://youtu.be/kffmMx05dPQ)

Duke Global Health Brings Technology to Mongolia: [youtu.be/COBjt0EGP9A](https://youtu.be/COBjt0EGP9A)

Patient Shania's Story of Success: [youtu.be/0fQo503JdoE](https://youtu.be/0fQo503JdoE)

Together," and its five pillars, patient care, research, education, community health improvement, and global health.

The plan was developed over eight months in collaboration with people from every corner of Duke Health and Duke University—faculty, staff, students, and residents. It included more than 100 interviews with leaders across campus and thought leaders external to the university.

For complete information, please visit [dukehealthstrategy.duke.edu](https://dukehealthstrategy.duke.edu).

# 50 Years of Community and Family Medicine at Duke

## CONTROVERSY AND PROGRESS

By *Andrea Martin*

In July 1966, Duke University School of Medicine established a new department: the Department of Community Health Sciences. Its roots were multiple and complex and began with a decision to discontinue another department—the Department of Preventive Medicine—which had functioned since the first days of the medical school.

The Department of Community Health Sciences (renamed Community and Family Medicine in 1979) has long been described as a “catch all,” a department that took in divisions and programs that didn’t belong anywhere else in the medical center, said **George R. Parkerson Jr., T’50, MD’53, HS’53**, professor of community and family medicine and former chair.

“Anything they couldn’t find a place for in the medical center they put into the department,” Parkerson said.

### more info

Learn more about the history of the Department of Community and Family Medicine at [cfm.duke.edu/about/history](http://cfm.duke.edu/about/history)

July 2016 marked the 50th anniversary of the department’s founding, and through the years the seemingly mismatched programs and divisions have worked together toward one common goal: improving the health of people in their communities, whether at home, at work or in the local community.

Current and former faculty, staff, residents and students gathered on June 28 at the Duke Physician Assistant Program to celebrate the department’s milestone with a reception. Speakers at the event included Parkerson; original chair **E. Harvey Estes Jr., MD, HS’53-’54**, distinguished service professor emeritus; current chair and professor **J. Lloyd Michener, MD, HS’78-’82**; and Viviana Martinez-Bianchi, MD, FAAFP, assistant professor and director of the Duke Family Medicine Residency Program.



Current Duke Family Medicine residents.



Faculty and staff from the Department of Community Health Sciences in 1971



Family Medicine faculty and staff in 1984



Incoming class of family medicine residents in 1985



DUKE PHOTOGRAPHY

From left, George Parkerson Jr, MD, professor of community and family medicine and former chair; Harvey Estes Jr, MD, Distinguished Service Professor, emeritus, of community and family medicine and former chair; Lloyd Michener, MD, current chair, community and family medicine; Terry Kane, MD, consulting professor and former chief, community and family medicine; Ed Hammond, PhD, professor, community and family medicine; **Howard Eisenson, MD'79, HS'82**, associate consulting professor and chief medical officer, Lincoln Community Health Center; Don Bradley, MD, MHS-CL, associate consulting professor and director, Practical Playbook



Duke-Watts Family Medicine Center on the grounds of Durham County General Hospital in 1974

A series of articles chronicling the Department of Community and Family Medicine's complicated—and sometimes controversial—history has been published on the department's website. [bit.ly/Duke-FamilyMedicine](https://bit.ly/Duke-FamilyMedicine)

on the underserved populations of the Durham community: In the mid-90s, the department began reaching out to potential partners in Durham to collaborate on improving the health of the community.

5. Family Medicine at Duke: A seven-part series chronicling the history of family medicine at Duke University Medical Center, including a near-shutdown of the program in 1985. ♡

**STORIES INCLUDE:**

1. Origins of the department: How the department began and a look at its early programs, including a computer program that started one of the first computerized medical records.
2. Duke Physician Assistant Program: The birthplace of the physician assistant profession: The program, ranked No. 1 by *U.S. News & World Report*, joined the department just two years after its founding by Eugene A. Stead Jr., MD.
3. Leonard Goldwater's vision: A history of the Division of Occupational and Environmental Medicine: Goldwater, a well-recognized occupational health specialist, established the program within the department in 1970.
4. Division of Community Health: A focus

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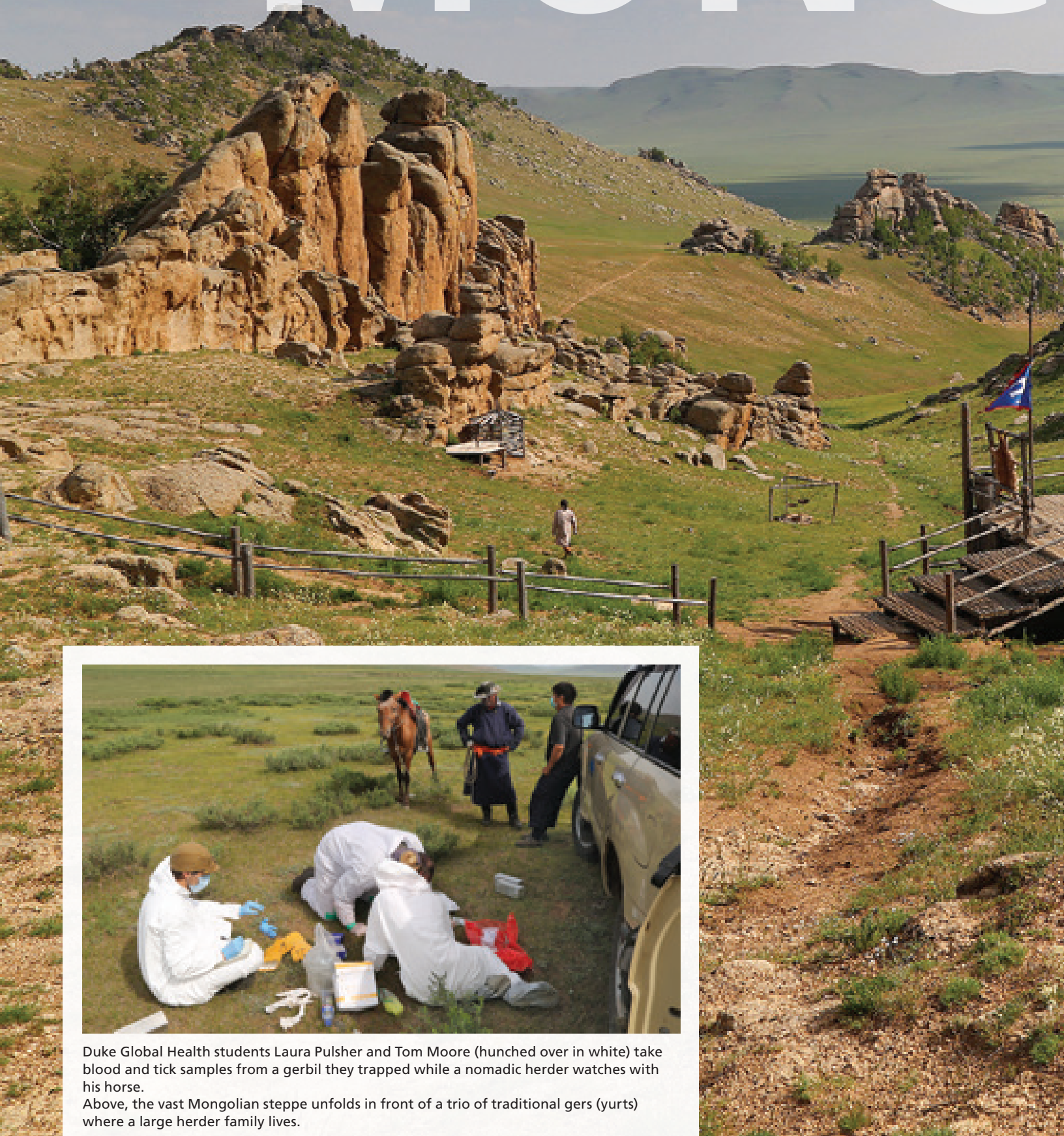
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# MONGOL



Duke Global Health students Laura Pulsher and Tom Moore (hunched over in white) take blood and tick samples from a gerbil they trapped while a nomadic herder watches with his horse. Above, the vast Mongolian steppe unfolds in front of a trio of traditional gers (yurts) where a large herder family lives.

# OLIA



IN RURAL  
MONGOLIA  
GLOBAL HEALTH  
STUDENTS  
LOOK FOR  
DANGEROUS  
PATHOGENS



Laura Pulscher sets several humane traps near ground squirrel burrows.

### Story and Photographs by Jim Rogalski



The fortified Toyota Land Cruiser slipped and bounced in the muddy hollows of the rain-drenched Mongolian steppe. The driver, a native Mongolian man named Inka who spoke little English, slowly engineered the vehicle along what just two days earlier was a dusty pair of dirt tracks.

In the back seat of the Cruiser, Duke master of science in global health students Laura Pulscher and Thomas Moore braced themselves during the ride as best they could, relaxing when Inka stopped the vehicle to ask a goat herder for directions.

Pulscher, unfazed by hours of jouncing, said slowly with a matter-of-fact smile, "We're lost."

It's a commonly uttered phrase for visitors and natives alike. A meager 10 percent of Mongolia's road network is paved. The vast majority of travel in this vast, storied land of Genghis Khan is done

on dirt trails and grassy paths.

"If you had told me before beginning the global health master's program that I'd be coming to Mongolia, I would have laughed," Moore would say later at a campsite on the edge of a livestock pasture.

But Mongolia was the opportunity presented to Moore and Pulscher to conduct their field research projects, and they both barely blinked before saying yes.

"It's one thing to learn something in a classroom setting," Pulscher said, "but another to actually apply it to your field of study in a developing nation. I don't think it ever crossed my mind that I'd end up in Mongolia."

Yet, there they were for three months.

Early in their three-month stay in Mongolia, Moore and Pulscher





A nomadic herder stops by to watch the Duke students trap small rodents and take blood and tick samples.



A young Mongolian girl is curious as she peeks out from the doorway of her family's ger (yurt).



Thomas Moore and Laura Pulscher enjoy the hospitality of a Mongolian herder family, on whose land the students were trapping small mammals.

**“It is amazing how welcoming they were to let us into their homes, feed us, let us get to know them, and let us camp on their land.”**

**Laura Pulscher**

spent three weeks traveling north from the capital of Ulaanbaatar toward the Siberian border. With them in a second vehicle were veterinarians Myagmarsuk “Myagaa” Yondon; Igori “Khatnaa” Khatanbaatar; and Purevdorj “Zula” Munkhzul from the Mongolian Institute of Veterinary Medicine, who collected blood samples from herders’ horses, goats, and sheep. Moore and Pulscher captured small rodents—Mongolian gerbils, Daurian ground squirrels, Siberian chipmunks, hamsters, and field mice—in humane, live animal traps, and injected them with a mild sedative.

Pulscher collected blood and serum samples from the animals’ tails and took small ear biopsies. Moore’s work was far more tedious—combing the oft-matted fur of the rodents, in search of ticks.

Their individual projects differed, but the students’ goals were the same: to detect in rodents’ blood and ticks the presence of dangerous pathogens—*Borrelia* (Lyme disease), *Rickettsia* (spotted fever), and anaplasma (blood disease seen mostly in livestock but that can



Pulscher and Moore (right) work with Mongolian veterinarian Igori “Khatnaa” Khatanbaatar as they sedate a wild gerbil.

cause mild fever in humans). Then they would share lab results with local health officials and veterinarians who could take prophylactic measures, such as educating herders and their families about ways to protect themselves and their livestock.

In Mongolia, animals have near-royalty status. It is a nation of just three million people and more than 50 million horses, camels, sheep, goats, and yaks, which are serious players in the economic cycle, and critical for the more than one million herder families who feed off their livestock and make a living selling animals for meat, hides, or wool.

“Observing these diseases as they circulate throughout wildlife and livestock has a tremendous impact on the health and welfare of humans here,” Moore said.

#### MONGOLIAN PARTNERS

Holed up for two days in the dome tent she shared with Sola as an atypical summer downpour drenched the steppe, Pulscher was confident the rain would subside and the rodent trapping continue. Moore entered the tent and announced, “My tent has turned into a swimming pool.”

By afternoon the sun reappeared and the drying-out process commenced. The quest for rodents resumed about a half-hour from camp on a tract of land where a herd of horses grazed nearby. Small, rectangular, aluminum traps were set. When the researchers returned early that evening (the summer sun sets around 10 p.m.) the



Dirt paths make up the vast majority of roads in the vast Mongolian steppe.



Heavy rain soaked the steppe, making traveling by vehicle a muddy adventure.

sound of scratching was heard coming from within several of them.

"It's great that we still have a project," Pulscher jested as she suited up in a full-body Tyvek suit to protect her from any pathogens the rodents might harbor. "I'm glad it stopped raining."

The veterinarian Khatnaa, with heavily gloved hands, cradled a Mongolian gerbil taken from one of the traps. Pulscher—with Khatnaa's guidance—injected it with the mild sedative. It was Khatnaa, with his well-spoken English, who had baptized the students to rodent testing in the field. He taught them how to safely handle the animals, determine the correct dose of sedative, clip the tail and ear so as not to cause lasting injury, and collect the blood and tick samples.

After four gerbils were tested and gear repacked inside the Land Cruiser, Moore considered the importance that the team of Mongolian vets played in the success of his and Pulscher's respective projects.

"They are a tremendous help to us," Moore said. "They not only teach us different tricks of the trade to catch rodents here, but they act as interpreters when we meet a herder family and provide us with local knowledge of the different species of animals."

This partnership between Mongolian vets and Duke Global Health students was forged by Gregory Gray, MD, MPH, a professor of global health and infectious diseases, who established a research relationship with Mongolia nearly 10 years ago. Gray, who also holds an appointment in the Nicholas School of the Environment, is a passionate disciple of the One Health concept of health care, that champions the conviction that human health is intimately tied to veterinary and environmental health.

Grey, Moore, and Pulscher were part of a roughly 10-member Duke contingent that participated in the 5th Annual International Symposium on One Health in Ulaanbaatar prior to the students' embarking on their three-week fieldwork. Pulscher and Moore were presenters at an infectious disease workshop. It is rare, they said, for master's students to have the opportunity to present at an international symposium.

"It was a tremendous opportunity to collaborate with international leaders and share our upcoming research," Moore said.

#### ANALYZE, SYNTHESIZE, SHARE

The Institute of Veterinary Medicine in Ulaanbaatar is a 1980s-era Soviet-looking building that houses multiple labs with Mongolian scientists exploring various aspects of zoonotic diseases—those

that can or might some day jump from animals to humans. This was home base for Moore and Pulscher for the bulk of their three-month Mongolian stay. It was here that the blood and tick samples they collected in the field were analyzed for signs of the dangerous pathogens.

The Duke students extracted DNA from the samples using magnetic beads inside small test tubes. Because DNA has a charge, it is attracted to the beads, which are then separated from the rest of the sample and the DNA extracted.

Performing field *and* lab work is usually an either/or proposition for students interested in global health. Rarely do master's students have the opportunity to do both.

"It's unique that we're able to collect our own specimens in the environment and bring them back and test them," Moore said. "This takes our education to the next level."

"It makes us more well-rounded individuals," Pulscher added. "A lot of people don't necessarily have both lab and field skills."

They worked in the lab with Myagaa, who accompanied them on their fieldwork. His own project involved collecting mosquitoes and testing them for West Nile virus.

Learning about his work and watching the other Mongolian vets in the field lasso livestock and take blood samples was an unexpected, welcomed educational component, Moore and Pulscher said.

#### LASTING MEMORIES

The fresh yogurt was great, the dried, fermented milk curds and mare's milk not so much, the students concluded. But that is the way one gets to know the culture of a people – through their food. The hospitality of the Mongolian herder families is a memory that won't soon fade.

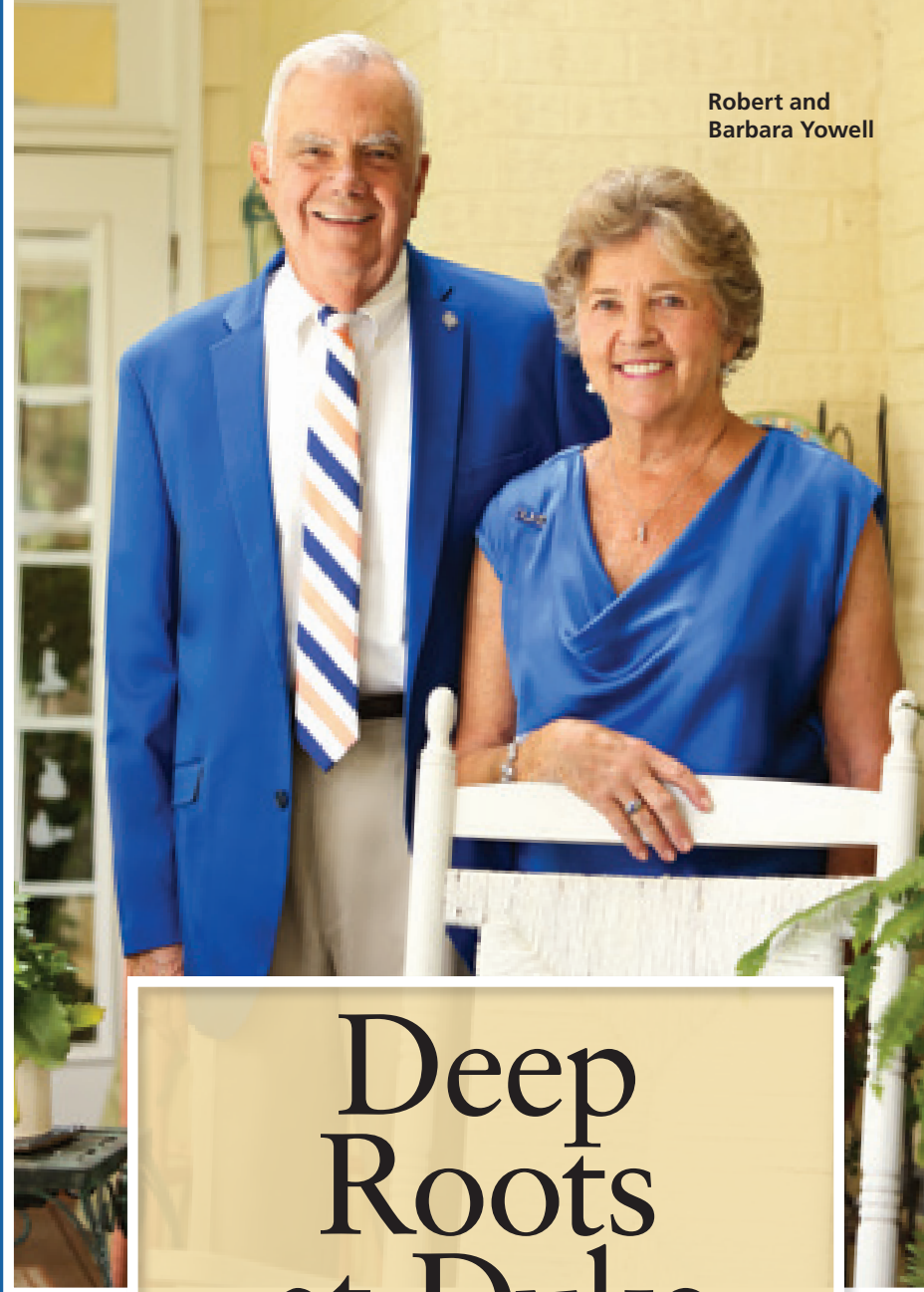
"It is amazing how welcoming they were to let us into their homes, feed us, let us get to know them, and let us camp on their land," Pulscher said.

On a cool summer night in one of those camps as he watched the sun set over a verdant hillside, lighting the horizon in an indigo purple haze, Moore reflected on the allure of the landscape surrounding him.

"This place is beautiful," he said. "Being here has been such a privilege." ♥



Robert and  
Barbara Yowell



## Deep Roots at Duke

When **Robert Yowell, MD'61, HS'64-'69**, entered Duke University School of Medicine in 1957, he was, by a pretty fair margin, the youngest student at the school. His parents had started him in grade school a year earlier than most kids, and Duke accepted him to its medical program after just three years of undergraduate work at the University of North Carolina, so he was just 20 years old when he began medical school. It wasn't easy.

"I was pretty green behind the ears," says Yowell, who retired a decade ago after a long career in obstetrics and gynecology. "That first year was tough. But I made it through, and from that point on I knew I'd found the right place."

Being in familiar surroundings helped; Yowell was born in Durham and grew up barely 15 minutes' drive from Duke Chapel. So did meeting his future wife, **Barbara Dimmick Yowell, N'62**, a Duke School of Nursing student, in his second year. The two were married in Duke Chapel after he completed a year's internship at the University of Virginia and Barbara graduated. After two years in the Norfolk, Va., area while Bob served in the Navy, they returned to Durham, and Bob began his residency in OB/GYN at Duke.

Yowell went into private practice at Watts Hospital—where he was born—and then at Durham Regional Hospital for thirty years, the last ten of them under the Duke umbrella when his practice became part of the Duke network.

He and Barbara have deep roots at the university. His father received a master's degree in economics from Duke in 1943, and Barbara served a long career as a nurse in multiple units at Duke University Hospital. The Yowells, who lost a daughter to leukemia at the age of 3, have three grown children, all born at Duke and all Duke graduates: **Robert Yowell II, T'88; Sally Yowell Barbour, T'90**, who is director of Oncology Pharmacy Programs at Duke; and **Charles Yowell, MD'00, HS'00-'06, T'92**.

Those roots have nourished a commitment to service and philanthropy. The Yowells helped establish the Roy T. Parker, MD, endowed

professorship in honor of the longtime chair of Duke's Department of Obstetrics and Gynecology, who was an influential mentor to Bob Yowell. They both have served on boards and committees and given generously to the Davison Club, the School of Medicine, the School of Nursing, Duke Athletics, and many other units and programs.

"I probably have my name on more bricks and buildings at Duke than I should," Yowell says. "But it's not about me. Duke has been extremely good to us. If we can do something to give back and help out a little bit, we're eager to do that."



Members of an infectious disease response team trained by Duke's Regional Biocontainment Laboratory staff practice safely removing personal protective equipment.

**T**he man seemed fine when he landed in Newark, New Jersey, but two days later, after he'd made his way to Person County, North Carolina, his temperature spiked.

Isolated fevers aren't normally cause for concern. But in this case, the man had just returned from Liberia, which at the time—November of 2014—was caught in the grip of history's deadliest outbreak of Ebola, a lethal infectious hemorrhagic disease. The epidemic had erupted in West Africa, devastating entire communities and sowing fear around the world, and health authorities everywhere were on the alert for anyone traveling from the affected areas showing potential Ebola symptoms, including sudden fever.

When the man in Person County became ill, he was

transported by ambulance to Duke University Hospital, where a special Ebola response team swung into action. The team's mission was twofold: to care for the patient, and to ensure that any potential contagion was safely contained without infecting anyone else.

Every member of the response team knew exactly what to do, thanks to intensive training for exactly this situation they'd been given by staff from the Regional Biocontainment Laboratory (RBL), a facility operated by the Duke Human Vaccine Institute (DHVI).

"Luckily, we had just completed a successful emergency response drill on the isolation unit a couple days prior to receiving the call that a rule-out Ebola patient was en route to Duke Hospital," recalls Scott Alderman, MS, CBSP, the

# New Fronts in the Battle Against Emerging **INFECTIOUS DISEASES**

*By Dave Hart*

*“Luckily, we had just completed a successful emergency response drill on the isolation unit a couple days prior to receiving the call that a rule-out Ebola patient was en route to Duke Hospital.”*

Scott Alderman



director of safety for DHVI, who oversaw the training. “Hospital administration was able to quickly assemble the properly trained clinical care team on site prior to the arrival of the patient. It was amazing to see how beautifully it all came together.”

In the end, the patient at Duke tested negative for Ebola. But the real-world experience served as a reminder of the importance of being prepared for the next infectious disease.

And it led to Duke’s being selected last spring as one of eight sites nationally to serve as a hub for training first responders and other workers dealing with potential infectious disease emergencies.

The federal training program is one of several new initiatives in DHVI’s ongoing battle to defeat emerging infectious diseases around the world.

For almost 30 years, DHVI has been an international leader in the fight against emerging infectious diseases on a broad range of fronts. Its

100,000,000  
Plague of Justinian  
541-542

## Death Toll From History's Worst Infectious Disease Outbreaks

50,000,000  
Black Plague  
1346-1350

39,000,000  
HIV/AIDS  
1960-2014

20,000,000  
1918 Flu  
1918-1920

10,000,000  
Modern Plague  
1894-1903

1,000,000  
1 Hong Kong Flu  
1968-1969

284,000  
2 Swine Flu  
2009

6,631  
3 Haiti Cholera  
2011-2014

4,877  
4 Ebola in West Africa  
2014

774  
5 SARS  
2002-2003

1 2 3 4 5

SOURCE: National Geographic

investigators conduct both the discovery science research that illuminates new avenues for disease prevention and treatment, and the translational research to turn those discoveries into vaccines to be made available to affected or threatened populations.

“Emerging infections are a part of life on earth,” says DHVI Director Barton Haynes, MD, Frederic M. Hanes Professor of Medicine and Immunology and Global Health. “They will continue to happen, and when they do it’s very important to have units like DHVI that have state-of-the-art facilities and programs to respond to them.”

### TRAINING FIRST RESPONDERS

The Ebola team’s expert response in 2014 convinced Gregory Sempowski, PhD, the director of the RBL, to nominate Duke as one of the host sites for the new first responder training program.

“That was the catalyst,” Sempowski says. “Scott and the whole team did an amazing job, safely managing the patient, getting rid of the waste, decontaminating everything, including the ambulance. So when I saw the request for applications for the new training program, I said, ‘That’s a slam dunk. Let’s do it.’”

In early 2016, the National Institute of Environmental Health Sciences (NIEHS), in collaboration with the Centers for Disease Control and Prevention and other federal agencies, named Duke one of the core sites for the worker training program.

The three-year Duke Infectious Disease Response Training (DIDRT) Consortium is based out of the RBL, a research lab and repository for dangerous and potentially lethal bacteria, viruses, and other microbes classified as Biosafety Level 3, including West Nile virus, yellow

fever, and other agents.

“This new training program takes the expertise we’ve gained over the last 10 years and expands that knowledge as we train other worker populations,” says Alderman, the DIDRT program manager. “Our goal is to reach worker populations that are at risk for exposure during infectious disease outbreaks, and prepare them to perform their work duties confidently and safely.”

DIDRT will coordinate training at Duke and at four satellite sites in other parts of the country. The program will train first responders such as police, fire, and EMS; custodial workers; air transport workers; and laboratory personnel. One aspect will involve “train the trainer sessions,” in order to expand the reach of the instruction exponentially over time.

Safely handling potentially dangerous infectious agents requires extreme care and attention to detail. Exposure can occur through the most innocuous of mistakes, such as incorrectly putting on or taking off protective gear, and the Duke training will cover every detail and conceivable eventuality.

“There are so many opportunities for exposure,” Alderman says. “What do you do if a passenger coming off a plane from a potentially affected country vomits in the terminal with other passengers all around? What do you do if you’re actively handling a potentially infectious agent and a fire alarm goes off? When you’re dealing with infectious agents, the simplest things, such as incorrectly removing your gloves, can be dangerous. Our training emphasizes all of these risks and how to safely avoid exposure.”

The program’s instructors will go into the field to train workers in their own workplaces. The training will be hands-on; workers will don protective gear

“What we’re trying to get to is a world without AIDS. Our goal is to eliminate the disease, and a vaccine is the final piece of the puzzle.”

Barton Haynes

Barton Haynes, MD, directs the Duke Human Vaccine Institute, which works to develop new approaches to prevent and treat HIV/AIDS and other infectious diseases around the world.

and practice simulations and procedures until they have them down.

“If you don’t practice the task repetitively in training, you’re much less likely to perform it well in the real workplace,” says Alderman. “And in an exposure situation, you have to do it well. The stakes, for both the employee and the community, are simply too high.”

#### FASTER AND CHEAPER TESTING

While the training program is a key new aspect of DHVI’s work, the institute’s core mission remains to research, develop, and test innovative new diagnostics, vaccines, and therapeutics to prevent and treat global diseases. That work became considerably more streamlined in the first part of 2016 with another initiative, when DHVI opened its own Current Good

Manufacturing Practice (CGMP) facility to produce experimental vaccines for phase I clinical trials in humans.

Developing experimental vaccines is often a laborious process of creating, testing, and modifying one formulation after another, hopefully ever edging closer to an effective combination. Having its own CGMP facility gives DHVI the ability to produce small amounts of these vaccines onsite, greatly speeding the process of testing and refining them.

“The School of Medicine built us a CGMP, and we have our clinical team to do our own trials,” Haynes says. “We hope this will make the process faster, and much cheaper. Now we can make the amounts of vaccine we need to iteratively test them in successive clinical trials and not waste time and money. We don’t need large amounts of vaccine right now, because we’re not at the point of producing a final product. We’re working to get to the product. And once we get the





KEN HUTH

The Duke Human Vaccine Institute earlier this year opened its Current Good Manufacturing Practice facility, where scientists produce vaccines and other therapeutics for testing.

right formulation, then we can put it out there and several pharmaceutical companies will eventually make the vaccine doses the world needs.”

Thomas Denny, Msc, MPhil, chief operating officer for DHVI, says the vaccine manufacturing operation puts Duke in select company.

“Having a CGMP facility as part of DHVI makes us one of the most globally advanced vaccine institutes in the country,” Denny says. “It positions the DHVI teams to advance our HIV vaccine development efforts while having the infrastructure to respond to other emerging public health threats.”

#### APPROACHING THE GOAL LINE ON HIV

**A**mong other things, the CGMP will hasten DHVI’s progress toward the primary goal the institute has had in its sights ever since it began in 1990: to develop a vaccine that will eliminate HIV/AIDS from the planet.

HIV is a uniquely adaptable virus that has proven extremely resistant to vaccine efforts. DHVI’s efforts to end HIV/AIDS

involve a great many researchers and avenues of investigation, but over the years, Haynes has homed in on what he and many other researchers are convinced is the answer: a class of proteins called broadly neutralizing antibodies.

A small percentage of HIV-infected individuals develop broadly neutralizing antibodies on their own. These antibodies can protect against many strains of HIV, but attempts to induce the antibodies via vaccine have thus far failed because the immune system halts the process, in a phenomenon called immune tolerance.

Haynes and his team have defined the pathways that both the virus and the broadly neutralizing antibodies take when they rarely do develop in HIV infected individuals. The researchers have managed to trace in fine detail the molecular process by which the immune systems in some patients avoid immune tolerance and make the protective antibodies.

The task now is to design a vaccine that will reproduce that sequence of events and make the antibodies in people who have not yet been infected. If Haynes and his team can do that,

he says, the battle will be won.

“After 12 years of basic research in this area, we’ve learned so much and made progress, and now we know exactly what we have to do,” says Haynes. “To get across the final goal line, we have to do small iterative human clinical trials to fine-tune an effective vaccine. That’s why the CGMP facility is so important.”

Fred Porter, PhD, has been recruited from Glaxo-Smith-Klein as the senior director of product development of DHVI by Denny and Haynes to lead vaccine production efforts.

Despite the development of retroviral drugs that can effectively treat and in many cases prevent the disease, some 36 million people worldwide are still infected with HIV. HIV/AIDS remains the deadliest infectious disease in the world, claiming some 1.6 million lives per year. The societal, financial, and human toll is enormous.

“What we’re trying to get to is a world without AIDS,” says Haynes. “Our goal is to eliminate the disease, and a vaccine is the final piece of the puzzle.”

#### PLENTY TO DO

**D**HVI was born out of the AIDS crisis of the 1980s, and HIV/AIDS remains at the heart of much of its work. If Haynes and the institute do get across that goal line and develop a vaccine that wipes out AIDS, what then? Will DHVI have enough of a mission to carry on?

“One thing we’ve learned over the last thirty years is that

**“Zika is a major new epidemic, and we are working hard to rapidly respond to this new threat by understanding how the virus is passed from mothers to their babies and exploring ways to prevent the fetal effects.”**

Sallie Permar



Air purifying respirators, part of the protective equipment worn in the presence of possible infectious agents.

there is always another emerging infection,” says Haynes. “Microbes are a part of who we are. We can’t live without the good bugs, the organisms that make up our microbiome, and we also have to live with infectious microbes that make people sick.”

In just the last 15 years, the world has been through epidemics including SARS, West Nile Virus, and Ebola. Last year, the Zika virus broke out, causing tragic birth defects throughout South and Central America and continuing to threaten the United States. DHVI has a new program in Zika virus research led by Sallie Permar, MD, PhD, associate professor of pediatrics and a specialist in

diseases transmitted from mothers to their babies.

“Zika is a major new epidemic, and we are working hard to rapidly respond to this new threat by understanding how the virus is passed from mothers to their babies and exploring ways to prevent the fetal effects,” says Permar.

Next year, or the one after that, some other contagion will arise somewhere in the world. And all along, like a deadly undercurrent, the less exotic but equally tragic scourges of HIV/AIDS, influenza, malaria, tuberculosis, and other infectious diseases exact their annual toll of suffering and death.

The DHVI will continue to play a leading role in the battle to defeat these terrible diseases, new and old. DHVI investigators are doing basic research and vaccine development to address a host of infectious diseases, some newly emerging and others that have been scourges for centuries.

“We study not only emerging infectious diseases, but also what I call re-emerging infectious diseases,” says Sempowski. “Some diseases, like tuberculosis, that we thought were no longer a serious problem come back to haunt us, often because they develop drug resistance.”

By combining the scientific, intellectual, and creative power of one of the world’s leading academic institutions with an organizational structure similar to that of a biotech company, DHVI is able to move quickly and efficiently to turn research findings into vaccines and therapeutics for testing in clinical trials.

“That’s what DHVI is about: performing world-class basic research and having the infrastructure—with our basic science labs, regional biocontainment center, and vaccine manufacturing facilities—to make vaccines and therapeutics and move them along the translational pipeline,” says Haynes. “Emerging infections aren’t going away. Unfortunately, we’ll always have plenty to do.”





# Unique Clinic Offers Care, Support for Transgender Youth and Others Facing Gender Issues

Adrian Chamberlin, 17, considers himself one of the lucky ones. Unlike many transgender teens, he has the support of his family and friends. The Raleigh, North Carolina, teen experienced depression like many others in his situation; however, since coming out to his family last year, he's happier now than he has been in a long time.

"I needed to tell my family because I was keeping this whole chunk of my life apart from them," he says. "I felt like I was lying to them. I finally came out to them, and it was such a good response. It's been great being able to be open about who I am."

Being open to everyone about his identity was a big step for Adrian, who was born a girl. But that was only the beginning. Finding his way in the world as a transgender male will be a long process requiring lots of education, guidance, and support, not only for him but also for his parents and sister.

Having friends who are also transgender—both online and in real life—offered Adrian an additional layer of support, but he and his parents knew he needed more. However, they weren't exactly sure what "more" should entail.

They learned from Adrian's gender therapist of a resource only a few miles away in Durham: the Duke Center for Child and Adolescent Gender Care. The clinic, which first

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*by Bernadette Gillis*



KEN HUTH

Clinic Director Deanna Adkins and pediatric urologist Jonathan Routh often consult with one another while treating patients at the Duke Center for Child and Adolescent Gender Care. They are part of a larger interdisciplinary team that helps children and their families cope with the physical and mental concerns that come with being transgender or being born with conditions that make it hard to assign sex at birth.

opened in 2015, serves two groups of children: those who are transgender and those born with conditions affecting internal and external sex organ development, called differences in sex development (DSD). The clinic is the first of its kind in North Carolina and only one of a few located in the Southeast.

The multispecialty clinic is made up of providers from an array of disciplines at Duke, including endocrinology, social work, urology, pediatric surgery, child and adolescent medicine, psychiatry, psychology, and pastoral care. Their goal is to work together to provide evidence-based, patient- and family-centered care.

Located on the second and third floors of Duke Children's, the clinic is open one full day and one half day each month. Patients come from North Carolina, South Carolina, Virginia, Georgia, and Florida. The clinic served 127 patients during its first year, and administrators anticipate nearly doubling that number next year.

#### TRANSGENDER TREATMENT

For the clinic's transgender patients, treatment focuses on gender dysphoria, a condition that occurs when a person's internal sense of gender does not match their physical sex and gender assigned at birth. Those with the condition often describe feeling as though they were born in the wrong body and become

**“But the problem doesn't go away. Only the symptoms of depression and anxiety ameliorate a little bit. They never ameliorate completely until the biological part is addressed.”**

**Deanna Adkins**

increasingly uncomfortable with their bodies as they approach puberty.

All transgender patients receive counseling, most often in their own hometowns. The gender care team at Duke aims to work closely with the children's therapists and other providers.

“Most of them we're treating because they have significant depression and anxiety from the mismatch between their gender identity and their assigned sex or their physical appearance,” explains clinic director Deanna Adkins, MD. “That depression and anxiety causes them to be at significant risk for suicide.”

According to some sources more than 40 percent of young transgender people have contemplated suicide.

Adrian knows firsthand the struggles of gender dysphoria. Even though his experience coming out was a positive one, he hasn't been immune to all of the challenges that come with being transgender. He credits the gender clinic at Duke with helping

## Medical School Administrators, Faculty Oppose HB2

him to understand the available options for transitioning and helping to improve his overall quality of life.

“They helped me to make plans on how to adjust my life and help me to physically transition,” Adrian says. “Otherwise I probably wouldn’t have been able to do it.”

In addition to counseling, care for transgender patients includes hormone therapy for those 16 and older. Those under 16 are treated with hormone blockers, which delays puberty.

Blocking puberty until age 16 plays a major role in helping the children transition successfully, says Adkins, who is also an assistant professor of pediatrics. It buys them time—keeping body dysphoria at bay and decreasing the chances of depression, anxiety, and suicide—until they are old enough to begin to transition physically. It may also allow them to have fewer surgeries as adults.

“In the past, people have tried to treat the depression and anxiety with traditional depression and anxiety medications, and they still do,” Adkins says. “But the problem doesn’t go away. Only the symptoms of depression and anxiety ameliorate a little bit. They never ameliorate completely until the biological part is addressed.”

Adkins adds that once the biological concerns are addressed, outcomes are overwhelmingly positive. She says a few studies have shown that 75 percent to 80 percent of patients treated hormonally experienced complete amelioration of their symptoms,

Transgender issues have been at the forefront of political debates in North Carolina due to the passing of the controversial Public Facilities Privacy & Security Act, also known as House Bill 2 (HB2).

The law requires individuals to use restrooms that correspond to the sex listed on their birth certificates when in government buildings. It prevents transgender individuals who have not surgically transitioned from using public restrooms of the gender with which they identify. The law also prevents municipalities from establishing laws that protect members of the lesbian, gay, bisexual, transgender, and queer/questioning community from discrimination.

The North Carolina legislature passed the law in March 2016, and it was signed by Gov. Pat McCrory.

Soon after the passing of the law, Duke administrators took a stance against HB2. President Richard Brodhead, PhD; Provost Sally Kornbluth, PhD; and Chancellor for Health Affairs Eugene Washington, MD, MSc, issued a statement that read in part: “We deplore in the strongest possible terms the new state law, HB2.” They added that the law “runs counter to the ideals of Duke University—and, we believe, to those of our great state. We urge a full repeal of HB2.”

Nancy Andrews, MD, PhD, dean of the School of Medicine, shared a message with faculty, staff, and students expressing her disappointment with the passage of the law, outlining the school’s position: “HB2 stands in direct opposition to our principles and mission. We are unequivocally committed to a culture of inclusion, equity, and mutual respect within our community and for our patients across all dimensions of diversity, including gender, gender identity, gender expression, and sexual orientation.”

Deanna Adkins, MD, director of the Duke Center for Child and Adolescent Gender Care, was among a group of endocrinologists from Duke, UNC, and other medical centers in North Carolina that publically decried HB2. The group

wrote a letter that appeared in the *Charlotte Observer*, and in April, they sent a letter to Gov. McCrory asking him to repeal the law. In the letter, Adkins and the other physicians explained why the law presents an unnecessary hardship for a vulnerable segment of their patient population.

The letter states: “A law that defines biological sex as ‘the physical condition of being male or female, which is stated on a person’s birth certificate’ is inherently flawed and potentially harmful to a group of children that we care for in our pediatric practices. As professional experts in the field of chromosomes and genital anatomy, we provide professional consultation

**“HB2 stands in direct opposition to our principles and mission. We are unequivocally committed to a culture of inclusion, equity, and mutual respect within our community and for our patients...”**

**Nancy Andrews**

to our colleagues on babies in whom assigning sex may not be possible at the time of birth.”

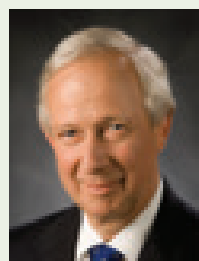
The physicians went on to express that for certain children “gender assignment at birth is challenging” and “severe hormonal imbalances at birth may also result in gender assignments at the time of the birth that may require reassignment later in life.”

Adkins says since the passing of HB2, her adolescent transgender patients at the gender care clinic at Duke have expressed concerns about their safety.

“At their schools, most had already set up proper bathroom privileges and protocols that were amenable to all involved,” she says. “Now all of those things got thrown out of the window. A lot of them are getting harassed and bullied.”

Adkins says she now advises patients to enlist a “bathroom buddy” to accompany them to the bathroom to help prevent harassment or attacks.

Richard Brodhead



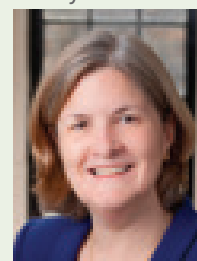
Sally Kornbluth



Eugene Washington



Nancy Andrews



and they were able to stop taking anxiety and depression medications whether they underwent surgery or not.

#### COORDINATED CARE

As with all of the clinic's transgender patients and their families, initial treatment at the gender care clinic begins with consultations with Adkins and the clinic's social worker, Kristen Russell, CSW.

During the consultations, Adkins and Russell assess where the child is with his or her transition. They get a baseline for how they're coping with anxiety and body image issues, and they check hormone levels. They also spend time talking with parents.

Although Adrian's parents, Nancy and Dave Chamberlin, supported their son's transition, they still had a lot of concerns and uncertainties.

Initially, they were reluctant to attend the consultations. However, in the end, they found the talks—particularly their time with Russell—to be informative and helpful.

“For me transitioning meant surgery, and I wasn't anywhere near wanting him to have surgery,” Nancy says.

“But once we got there that was not what it was about. It was about hormone shots. While there are a couple of permanent changes, he could stop hormone shots at any time.”

Dave says the consultations “made me a lot more comfortable, helped me come to grips with things.” He adds, “I had kind of put my head in the sand—not ignoring Adrian's desire to be male but just not really trying to understand it better. They provided the perfect environment for me to sort things out. It helps to have one place to go where you have your social needs and physiological needs all rolled into one.”

Adrian is currently getting testosterone shots, which he will have to have for the rest of his life. As for his next steps, he knows his transition will involve surgery, but he has yet to decide exactly when that will happen. For now, he is happy to have a team of caring professionals to help support and guide him.

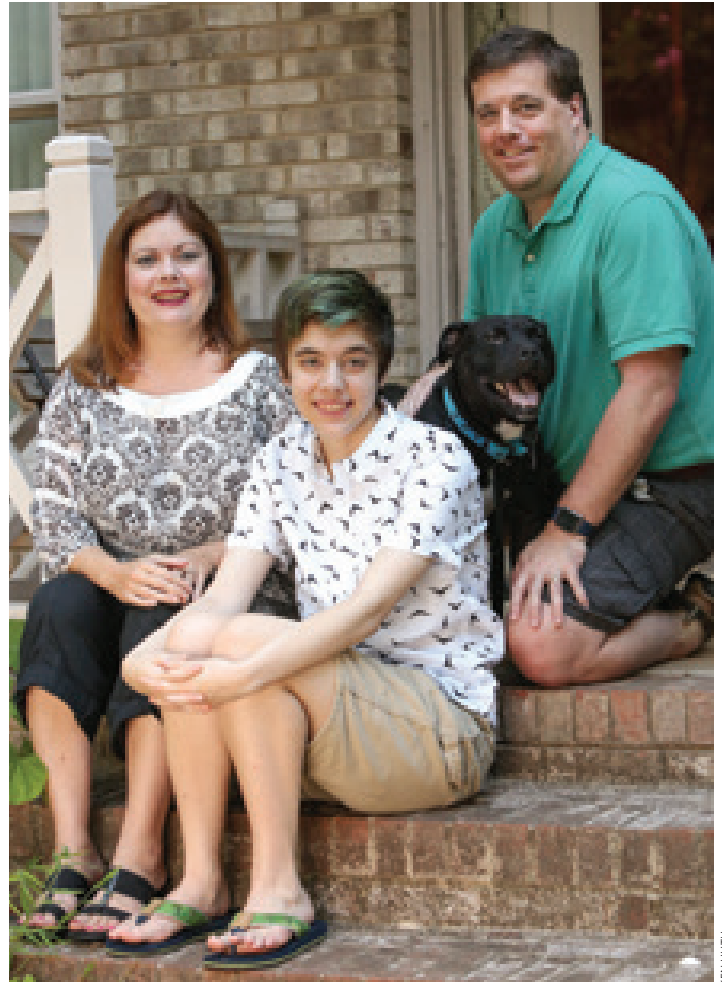
“It made me feel great to know that people are on my side who just want to help me. I haven't had bad experiences with doctors, but a lot of them just don't understand what being transgender entails.”

An estimated

**235**

transgender patients will be seen during the clinic's second year

The waitlist to be seen is three months long



After teenager Adrian Chamberlin (center) came out as a transgender male last year, he and his parents, Nancy and Dave, reached out to the Duke Center for Child and Adolescent Gender Care for help with Adrian's transition.

#### DIFFERENCES IN SEX DEVELOPMENT

In addition to treating transgender children and teens, the Duke Center for Child and Adolescent Gender Care also provides much-needed services for children with differences in sex development (DSD). These patients are usually infants who are born with conditions affecting their internal and external sex organ development. The dated term for these conditions is “intersex,” but the term is now being reclaimed by some gender activists.

DSD is a broad term that covers a variety of medical conditions. Many conditions are diagnosed when the child is identified at birth as having ambiguous genitalia or genitalia that are discordant with their genetic sex.

The most common DSD condition is 46, XX congenital adrenal hyperplasia (CAH). These babies are born girls



**“They helped me to make plans on how to adjust my life and help me to physically transition. Otherwise I probably wouldn’t have been able to do it.”**

**Adrian Chamberlin**

biologically, but because their adrenal glands are making too much steroid, their genitalia have a masculinized appearance at birth. For example, they may have a clitoris that looks like a penis, or the labia may be fused, resembling a scrotum.

Treatment for DSD depends on which condition the baby has. Sometimes they are treated with surgery, or, as is the case with transgender children, treatment may involve a hormonal component. Regardless of the treatment, most result in consequences that parents and the children will have to deal with for years to come.

The major concern for parents is making the choice whether to proceed with surgical correction. “It’s one of the biggest things the parents have to struggle with,” says Jonathan Routh, MD, an associate professor of surgery and a pediatric urologist at the gender clinic.

“One of the big questions they have is, ‘Do we fix this with the surgery?’ There is a controversy whether ethically you can operate on a child’s genitals before they are old enough to say, ‘Yes I want to have surgery done.’”

The parents of babies with CAH often face the dilemma of whether to allow their child to undergo a surgery to correct a fused vagina and urethra. Without the surgery, the child will not have a properly functioning vagina or urethra. But with surgery, they may be left with a desensitized clitoris, which will become a major concern once the child becomes an adolescent and later in adulthood.

“The goal is to have a long conversation with mom and dad,” Routh says. “There are potential consequences—negative and positive—whichever road you choose. If the parents decide they want to have the surgery performed, we will discuss it with our ethicist and our team, and we will perform the surgery. But if

there is a hint of a doubt, we will not perform the surgery.”

Routh stresses that addressing mental health concerns for children with DSD—much like with transgender children—is crucial.

“That is the cornerstone of what we provide for these kids,” he says. “Any urologist can do a surgery for a kid with congenital adrenal hyperplasia. That’s relatively straightforward. Any endocrinologist can give a hormone blocker to an adolescent who is transgender. The tough part comes in trying to treat them as a composite human with mental health needs.”

Because of the unique and sensitive concerns of children with DSD, Routh says the best way to address all of their concerns is through a multidisciplinary approach like the one offered at the gender clinic.

“The surgical questions are the easy part of the equation,” he says. “The hard part is everything that goes up to the surgery or deciding to not do the surgery. I can’t do that on my own. I have to have a team of other professionals that provide a different input into the process than I can give. Without that support, these patients aren’t getting fully treated.”

#### LOOKING AHEAD

Routh, Adkins, and other providers at the gender clinic anticipate the demand for their services to increase substantially. They estimate 235 transgender patients will be seen during the clinic’s second year. Currently the waitlist to be seen is three months long, but they are working to decrease the wait.

Other goals for the coming year include creating a family advisory panel that will be made up of parents who will advise the clinic on how best to serve families.

Adkins says the clinic has started conducting clinical research. For instance, they recently received funding for a study that will examine the intersection of transgender, body image, and eating disorders.

Routh says the clinic’s ultimate goal is to help all their patients live healthy and fulfilling lives despite their differences. “The hope is that because we’ve done a good job taking care of them, it never enters into their consciousness that they are different or that they have to struggle with this.”

## 1940s

Harry T. McPherson, T'46, MD'48, is retired and lives in Chapel Hill, North Carolina with his wife, Jane Harmeling McPherson, T'51, G'72.

## 1950s

Simmons I. Patrick, MD'50, HS'50-'54, reports that he has reached the age of 90. Now retired, he practiced at Kinston Radiology in Kinston, North Carolina, for 40 years. He served as president of North Carolina Radiology, and was a fellow, member of the Board of Chancellors, and fellow emeritus of the American College of Radiology. In 1990, he was named to the Order of the Long Leaf Pine, one of the most prestigious honors conferred by the state of North Carolina, for his work bringing improvements in medicine to the people of eastern North Carolina. After his first wife died in 1979, he remarried and now lives in Kinston with his wife, Patsy. He has five children, six grandchildren, and four great-grandchildren.

James T. Higgins, T'56, MD'59, is retired from academic medicine. He and his wife Laurie live in Burlington, Vermont, where they moved in 2015. Their daughter Linden lives in Burlington; their son Tom lives in Medford, Oregon; and their daughter Chandler lives in Santa Fe, New Mexico. The couple has five grandchildren, ages 13 to 21.

Norman Shealy, MD'56, DC, received the Bronze Bear Award from Missouri State University. He is CEO of the International Institute of Holistic Medicine, and he has recently demonstrated a process to regrow telomeres, a structure at the end of DNA strands. He lives in Fair Grove, Missouri, and has three grown children: Brock, who is vice president of a Japanese energy company; Craig, a professor at James Madison University; and Laurel, an attorney.

James C. Hurlburt, MD'58, HS'58-'60, '62-'64, lives in Orlando, Florida. He has five children and 17 grandchildren.

Charles E. Rackley, MD'58, HS'58-'60, '63-'64, DC, is a professor of medicine and director of the Preventive Cardiology Lipid Disorder and Coronary Regression Program at Georgetown University. He practices five mornings per week and teaches physical diagnosis to second-year medical students. He and his wife Betsy live in Washington, D.C.

## 1960s

Paul C. Cronce, T'54, MD'60, is professor emeritus of dermatology at Emory University. He recently moved to King's Bridge Retirement Center in Atlanta, Georgia, from his Atlanta home of 50 years. He practiced dermatology at Alden Dermatology Associates, PA, in Buckhead and taught Emory University students and residents at Grady Memorial Hospital until his retirement. He has one son in Georgia and two sons and two grandsons in California.

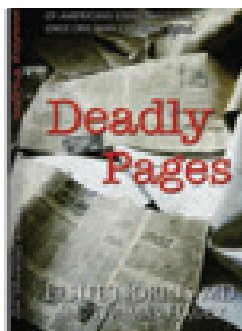
Richard L. Reece, T'56, MD'60, has written 12 books, 4,000 blogs, and 1,300 tweets on health reform and its consequences. He believes an information-driven two-part health system is rapidly emerging: one part government, corporate and centralized; the other private, dispersed, and independent. He and his wife, Loretta, a former Massachusetts General nurse, live in Old Saybrook, Connecticut. They have two sons: Spencer, an Episcopal priest and internationally renowned poet, and Carter, who works at Brooks Brothers in New York City.

John Feagin, MD'61, DC, retired in 2015 from his career as an orthopaedic surgeon. He spent 24 years in the U.S. Army, 10 years in private practice, and 10 years as a Duke faculty member. He lives in Teton Village, Wyoming. He is a distinguished graduate of the U.S. Military Academy at West Point. He has three children who are all Duke graduates—Randie Feagin, T'83, Nancy Denman Feagin, E'87, and Robert Terrell Feagin, T'96. He has three grandchildren.

William A. Gay, Jr., MD'61, DC, is retired from his career as a cardiac surgeon and is professor emeritus at Washington University School of Medicine. He and his wife Frances A. Gay live in St. Louis, Missouri.

David S. Walton, MD'61, is in private practice as a pediatric ophthalmologist and is professor of ophthalmology at Harvard Medical School. He writes that he has been "earning the trust of parents and their children for 45 years." He has six children and lives in Boston, Massachusetts.

Donald C. Mullen, MD'62, HS'61-'69, retired from his career in cardiovascular and thoracic surgery in 1977. He earned a master's in divinity degree from Princeton in 1991 and has just published a book, *A Radical Change of Direction: Memoir of the Spiritual Journey of a Surgeon*. It is available at [westflowpress.com](http://westflowpress.com) or on [amazon.com](http://amazon.com). He has performed volunteer work in more than 20 countries and was mayor of Highlands, North Carolina, from 2005 to 2009. He has been married to Patricia Few Armstrong Mullen for 59 years. They live in Newman, Georgia.



Leslie C. Norins, MD'62, DC, has published a fiction thriller titled *Deadly Pages*, about a terrorist plot to attack the United States with smallpox. The terrorists plan to spread the deadly pathogen by contaminating the printing ink of the *New York Times*. In a book review, former CIA director Porter Goss writes, "This assessment of the danger of smallpox seems credible to me, and the means of delivery through the *New York Times* is creative. Chem/Bio warfare is a serious threat that requires constant attention." The book can be ordered at [deadlypages.com](http://deadlypages.com). Norins and his wife Rainey live in Naples, Florida.

John S. Poindexter III, MD'64, lives in Richmond, Virginia, and is retired. He is an active churchgoer. He has one son, John S. Poindexter IV, who is studying engineering.

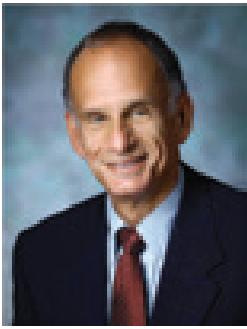
John P. Shock, MD'66, an ophthalmologist and founding director of the Jones Eye Institute at the University of Arkansas for Medical Sciences (UAMS), received the Lifetime Achievement Award at the first Health Care Heroes awards luncheon hosted by *Arkansas Business Magazine*. Health Care Heroes honors individuals, companies, and organizations that are making a significant impact on the quality of health care in Arkansas. Shock's professional achievements include inventing the phacofragmentation and irrigation of cataracts technique and the associated device, the J. Shock Phacofragmenter. He led the UAMS Department of Ophthalmology to rapid and sustained growth, and in 1985 established the Arkansas Lions Eye Bank and Laboratory, which supplies corneas to patients across Arkansas. Shock is semi-retired and lives in Little Rock with his wife Nancy.

## 1970s

Desiree Carlson, MD'76, DC, will receive a Lifetime Achievement Award from the College of American Pathologists at the Fall 2016 annual meeting in Las Vegas, Nevada. Carlson is chief of pathology at Signature Health-care, Brockton Hospital in Brockton, Massachusetts. She and her husband Steven P. Sullivan live in Brant Rock, Massachusetts.

Wes Jones, T'72, MD'76, HS'76-'79, HS'81-'83, DC, practices gastroenterology at the Cape Fear Center for Digestive Diseases, PA, in Fayetteville, North Carolina. He and his wife Lucy live in Fayetteville.

John D. Hunter, MD'76, DC, now retired, volunteers as a lecturer, preceptor, and researcher at the Sullivan Center and School of Nursing at Clemson University. He also spends time with his dogs and hiking, boating, and playing tennis. He and his wife Kristin live in Seneca, South Carolina. They have two adult children: J. Blake is an attorney, and Andrew is a vice president of accounting at Comcast.



Bruce A. Perler, T'72, MD'76, has begun his term as chair of the Society for Vascular Surgery. He recently completed his term as president of the SUS Foundation, which supports research to improve the quality of vascular patient care. Perler is the Julius H. Jacobson II, MD, Professor of Vascular Surgery at Johns Hopkins University School of Medicine; vice-chair for clinical operations and financial affairs for the Department of Surgery; and chief emeritus of the Division of Vascular Surgery and Endovascular Therapy at Johns Hopkins Hospital. Perler and his wife Patti have two children: Mason is a software engineer in Boston, and Rachel is a senior at Yale University. The Perlers live in Ruxton, Maryland.

## 1990s

Todd C. Brady, PhD'98, MD'99, has been appointed to the board of directors of Spring Bank Pharmaceuticals, Inc., a clinical-stage biopharmaceutical company. Brady is CEO and president of Aldeyra Therapeutics, Inc. He and his wife **Andrea**, L'99, live in Carlisle, Massachusetts.

house staff

## 1960s

George Meredith, MD, HS'68, has just published his second e-book, *On Improving Obstructive Sleep Apnea Surgery*, which is available via Kindle. The book outlines techniques that aim to reduce postoperative morbidity and increase perioperative safety, while increasing operative success rates. He lives in Virginia Beach, Virginia.

## 1980s



Kent W. Small, MD, HS'85-'88, has discovered a new gene mutation in the eye disease known as North Carolina Macular Dystrophy (MCDR-1), a hereditary form of macular degeneration. The journal *Ophthalmology of the American Academy of Ophthalmology* reported in its January 2016 issue that, "this one of the most important studies in our field in the past several decades." Small was an invited speaker at the 2016 Global Ophthalmology meeting in July, and at the American Academy of Ophthalmology meeting in October. He is president of Molecular Insight LLC in Los Angeles, California. He and his wife Frances have two daughters.

## 2000s

Michelle Pearce, PhD, HS'05-'08, recently published *Cognitive Behavioral Therapy for Christians with Depression*. The book is a practical guide for mental health professionals and pastoral counselors who want to learn how to use Christian-specific cognitive behavioral therapy tools to treat depression in their Christian clients. Pearce is an assistant professor and clinical psychologist at the Center for Integrative Medicine at the University of Maryland School of Medicine in Baltimore. She is also director of the Death, Dying, and Mourning: Applied Thanatology online graduate certificate program.

Simon Khagi, MD, HS'15-'16, recently completed training in neurological oncology at the Preston Robert Tisch Brain Tumor Center at Duke, and has been named director of the brain tumor program at the UNC Lineberger Comprehensive Cancer Center. He also is an assistant professor in medicine and neurosurgery at the University of North Carolina-Chapel Hill School of Medicine.

# Basic Science Day

Monday, November 7, 2016

9:30 AM-5:30 PM

Great Hall, Trent Semans Center

## A Celebration of Basic Science Research at Duke University School of Medicine

FEATURING: Robert J. Lefkowitz, MD Distinguished Lecture 2016  
BY: Brian Kobilka, MD

**"STRUCTURAL INSIGHTS INTO THE DYNAMIC PROCESS OF G PROTEIN COUPLED RECEPTOR ACTIVATION"**

Lectures and Poster Session • Boxed lunches provided

Pre-registration is required: [medschool.duke.edu/Basic-Science-Day](http://medschool.duke.edu/Basic-Science-Day)



KEYNOTE SPEAKER:

**Brian Kobilka, MD**  
2012 Nobel Laureate in Chemistry  
Professor of Molecular and Cellular Physiology  
Stanford University School of Medicine

**David G. Allen, MD'67, HS'67-'69**, of Pinehurst, North Carolina, died May 23, 2016. He was 75. After medical school, Allen spent two years in the U.S. Air Force and then completed an oncology fellowship at the University of Michigan. He went on to join the Pinehurst Medical Clinic, becoming the sixth physician in the group. He was the first board-certified oncologist in Moore County and practiced oncology full time until 2011. In 1979, he helped establish Sandhills Hospice, now FirstHealth Hospice and Palliative Care. For this work, Gov. Jim Hunt awarded him with the Order of the Long Leaf Pine in 1981.

**Franklin E. Altany, MD'52**, one of Charlotte's premier plastic surgeons, died May 8, 2016. He was 89. He served in the U.S. Navy as a hospital apprentice during World War II. He attended the University of Mississippi, graduated from St. Vincent's College in Latrobe, Pennsylvania, and earned a medical degree at Duke. Altany opened a Charlotte medical practice in 1958. He was an avid golfer and enthusiastic supporter of Duke University and its sports programs.

**Robert M. Arthur, MD'54**, of Henrico, Virginia, died October 14, 2015. He was 87. Arthur attended Virginia Episcopal School, graduated Phi Beta Kappa from UNC-Chapel Hill, and received a medical degree from Duke University School of Medicine. He served in the U.S. Army as a medical aide to General John "Blackjack" Pershing. He completed an internal medicine residency at Charity Hospital in New Orleans, after which he began a long career with the VA Hospital System. He finished his career as chief of medical education.

**Ben V. Branscomb, T'45, MD'47**, of Birmingham, Alabama, died July 4, 2016, at the age of 92. He is widely considered to be a founder of modern pulmonary medicine. He was the first pulmonary physician at the National Institutes of Health in Maryland, where he illuminated fundamental aspects of breathing, resulting in his being the first to publish on the flow volume loop. In 1963, Branscomb tested over 200 U.S. congressmembers on the Capitol steps with his "Loop Machine." Resulting publicity introduced the terms emphysema and chronic obstructive pulmonary disease to American households, and did much to raise awareness about cigarette harm. He was founder and longtime chair of the University of Alabama-Birmingham Pulmonary Division, retiring as Distinguished Professor Emeritus in 2006.

**Zebulon L. Bowman, T'75, MD'78**, died Feb. 14, 2016, in Houston, Texas. He was 62. Bowman worked as a physician for over 40 years and was board certified in ophthalmology. As a member of the American Medical Association, he was greatly respected and beloved by colleagues and patients. He was very interested in genealogy and spent many years researching his and his wife Rebecca's family trees.

**James W. Carruth Jr., MD'64**, of Pensacola, Florida, died July 8, 2016. He was 76. Carruth practiced ophthalmology in Pensacola for 33 years. He was a former president of the medical staff at Baptist Hospital and former president of the Escambia County Medical Society. He served on the board of Baptist Hospital and various committees. He was a Knight in the Fiesta and a member of the Order of Tristan and Rebellaires. Carruth also was a member of the Five Flags Rotary Club, which honored him with the Paul Harris Fellowship Award.

**Jack H.T. Chang, T'65, MD'69**, died February 22, 2016 in Denver, Colorado. He was 73. Chang was born in Shanghai, China, and fled the Communist Revolution, coming to the United States with his family in 1950. Following surgical residencies in Denver and Pittsburgh, he joined a pediatric surgery practice in Denver in 1976. In 1980, he joined the faculty at the University of Texas Southwestern Medical School in Dallas, where he, along with colleagues, began the first pediatric-only liver transplant program in the United States. In 1985, he returned permanently to Denver and established Rocky Mountain Pediatric Surgery, helped found the Rocky Mountain Hospital for Children at Presbyterian/St. Luke's Hospital, and remained an innovator in his field of medicine for decades.

**Tim E. Cooper Jr., MD'59**, of Charlotte, North Carolina, died March 11, 2016. He was 82. Cooper was a veteran of the U.S. Army, serving as a battalion and brigade surgeon at Fort Hood, Texas. He performed an internal medicine residency at Henry Ford Hospital in Detroit, Michigan. Cooper co-founded Whitesides and Cooper Medical Practice and was the founder of Randolph Internal Medicine, retiring in 2007. He held a number of offices in a variety of medical and philanthropic agencies.

**Roy H. Dippy, MD, HS'64**, of Orlando, Florida, died March 19, 2016, at the age of 85. He served as a lieutenant in the U.S. Navy, traveling to Antarctica and Cuba. He received a medical degree in 1956 from Emory University School of Medicine in Atlanta. He then completed an internal medicine residency at University Hospital in Oklahoma and a fellowship in hematology and oncology at Duke University Medical Center. After moving to Florida in 1964, he went into practice, becoming the first hematologist in Orlando.

**Mark J. Eisen, MD, HS'83**, of Chapel Hill, North Carolina, died May 12, 2016. He was 63. After post-doctoral studies in Germany, he established a homeopathic family practice in Chapel Hill until 2011. While in college, he was introduced to anthroposophy, a spiritual philosophical movement that grew into a passion for him. He was active in anthroposophic communities nationwide, forged close friendships with community members, and was involved in the founding of the Emerson Waldorf School in Chapel Hill.

**Alfred L. Ferguson, MD, HS'66-'69**, of Greenville, North Carolina, died February 8, 2015. He was 79. Ferguson served in the U.S. Air Force in Anchorage, Alaska as head of the outpatient clinic at Elmendorf Air Force Base. He then performed a three-year residency in nephrology at Duke. In 1969, he moved to Greenville to practice internal medicine and started the first dialysis center in Eastern North Carolina. He practiced medicine until 1992, when he became disabled. He was an active member of the Greenville Rotary Club, which awarded him a Paul Harris Fellowship. Ferguson served as a volunteer internal medicine physician for many years with the East Carolina University football team and set up the first first-aid stations at the stadium.

**Edward Garner Flickinger, MD'73**, of Nashua and Glen, New Hampshire, died June 25, 2016. He was 69. Flickinger attended UNC-Chapel Hill as a Morehead Scholar. While at Duke University School of Medicine, he was inducted into the Alpha Omega Alpha Honor Society. He trained at University Hospitals of Cleveland, Ohio, and was on staff at Metro General Hospital in Cleveland. His career also included serving as professor of surgery at East Carolina University in Greenville, North Carolina, and vice chairman of general surgery at the University of Rochester. He attended the Rochester Institute of Technology's Saunders College of



Business, where he received an MBA while serving as chief of surgery at Rochester General Hospital in Rochester, New York. He was on the staff as a general surgeon at Memorial Hospital in North Conway, New Hampshire, and more recently on staff at Southern New Hampshire Medical Center in Nashua.

**William "Bill" Gough III, MD, HS'79-'82**, of Asheville, North Carolina, died August 27, 2016. He was 67. Gough practiced rheumatology in Asheville for 33 years at Asheville Rheumatology and Osteoporosis Center. He graduated from the University of Pennsylvania cum laude and from the University of Rochester School of Medicine with distinction in research. He served his internal medicine residency at Duke University School of Medicine, followed by a fellowship in rheumatology. As a teenager he was an Eagle Scout.

**Neil E. Green, MD, HS'70-'74**, a world-renowned pediatric orthopaedic surgeon from Hilton Head Island, South Carolina, and formerly of Nashville, Tennessee, died July 9, 2016 at age 75. Neil served in the U.S. Air Force, then joined the faculty at Vanderbilt University Medical Center, where he recently retired after 38 years of service. While at Vanderbilt, he was vice chairman of the Orthopaedic Department, director of the residency program, and chief of the Division of Pediatric Orthopaedics. He also served as chair of the Vanderbilt Hospital Medical Board. The American Orthopaedic Association honored him as the Alfred Shands Guest lecturer. The Neil E. Green Lectureship was recently instituted at Vanderbilt.

**Tao-shih Hsieh, PhD**, died August 4, 2016. He was professor emeritus in the Department of Biochemistry at Duke. He was a leader in the DNA topoisomerase field. He discovered the first eukaryotic type II DNA topoisomerase and contributed to our understanding of the mechanisms and functions of that class of enzyme, including their involvement in transcription, genetic recombination, mitochondrial maintenance, and the mechanism by which reverse gyrase permits the DNA double helix to exist in hyperthermophiles. He received a BS from National Taiwan University and a PhD from the University of California at Berkeley and completed a postdoctoral fellowship in biochemistry at Stanford University before joining the Duke faculty as an assistant professor in 1981. He was a Distinguished Research Fellow and served as director of the Institute of Cellular and Organismic Biology at the Academia Sinica in Taiwan. In 2013, he was inducted as a fellow of the World Academy of Sciences.

**Dennis Eblen Darnell Jones, MD'68, HS'72**, of Greenville, North Carolina, died August 25, 2016. He was 75. Jones graduated from Duke University School of Medicine in 1968 and completed an obstetric and gynecology residency at Duke in 1972. He served as a major in the U.S. Army Medical Corps in Fort Leavenworth, Kansas, from 1972-1974, receiving the Army Commendation Medal for Meritorious Service. From 1974 through 1977, he was an assistant professor at Penn State's Milton S. Hershey Medical School in Hershey, Pennsylvania. He moved to Greenville in 1977 to become the second obstetric and gynecology clinical faculty member at the East Carolina University (ECU) School of Medicine. From 1984 to 1998 he led the OB/Gyn Department as professor and chairman. From 1998 to 2005, Jones was the director of graduate medical education at the ECU School of Medicine. He also served the Accreditation Council for Graduate Medical Education from 1998-2007 as a field staff representative, where he reviewed over 425 residency programs across the nation. A published medical researcher, Jones was also an examiner for the American Board of OB/Gyn for 15 years.

**Jane Merrill Kraus, MD'48**, of Johnstown, Pennsylvania, died April 30, 2016. She was 92. She earned degrees at the University of Alabama and Duke University School of Medicine, where she was Alpha Omega Alpha. She performed a pathology residency at University Hospitals of Cleveland, Ohio. She loved to read everything, especially the *New Yorker*, and enjoyed sports, including Duke and Cleveland Cavaliers basketball, the Cleveland Indians, and the NCAA Tournament Pool. Among her survivors is her son **William E. Kraus, MD'83, HS'88**, a professor of cardiology and director of clinical translation at the Duke Molecular Physiology Institute.

**Charles "Nick" Livengood III, MD'72, HS'81**, died May 9, 2016. He was an associate professor in the Department of Obstetrics and Gynecology at Duke and served as the medical director of Duke University Hospital's Sexually Transmittable Infections Laboratory for more than two decades. After earning his medical degree at Duke, he completed residency training in internal medicine at the University of Missouri before returning to Duke for residency training in obstetrics and gynecology and serving as administrative chief resident. He served on the Duke medical faculty for 35 years and was chief of the Gynecology Service in the Department of Surgery at the Durham VA Medical Center from 2005-2016.

**Eugene M. Long II, MD'63, HS'63-'64**, of Elon, North Carolina, died August 17, 2016. He was 79. Long was a retired obstetrician/gynecologist and a veteran of the U.S. Air Force. He graduated from Davidson College in 1959 and then attended Duke University School of Medicine. He moved to Birmingham, Alabama, in 1964 for medical residency. From 1969 to 1971, Long served as a major in the U.S. Air Force in Tucson, Arizona. He then moved to Burlington, North Carolina, to set up practice and to be near family. He practiced at Alamance Clinic for Women for the first 10 years and then practiced at Kernodle Clinic until he retired in 2004.

**Enoch A. Ludlow, MD'54**, died June 3, 2015. He was retired from family practice. He founded a practice that is now known as Canyon View Medicine Group. He lived in Spanish Fork, Utah and was married to Caroline W. Ludlow.

**Harry J. Metropol, T'53, MD'56**, of Columbia, South Carolina, died May 27, 2016. He was 86. Metropol completed his undergraduate degree at Duke in three years, graduating magna cum laude and a member of Phi Beta Kappa. After medical school, he completed an internship at Albany Medical Center and then served as a captain in the U.S. Army Medical Corps for two years. He went on to complete a surgery residency at Bowman Gray School of Medicine in Winston-Salem, North Carolina. He then opened a private practice in thoracic and general surgery in Columbia, where he practiced for more than 40 years. He also served as chief of staff of Providence Hospital and as chief of surgery of Baptist Medical Center.

**William L. Page, MD, HS'58-'59**, died February 29, 2016, in Sarasota, Florida. He was 87. After graduation from Trinity University, he enlisted in the U.S. Air Force for four years. In addition to a residency at Duke University Hospital, he spent time at the University of Texas Medical School in Houston and Ohio State University Hospital. He returned home to Sarasota to practice medicine, including 16 years as a physician with the Department of Veterans Affairs.

**John M. Reed, MD'60**, of Sacramento, California, died March 13, 2016, at the age of 81. He graduated from Davidson College and Duke University School of Medicine and completed internship and residency in general surgery at Massachusetts General Hospital in Boston and the University of California-Davis Medical Center in Sacramento, respectively. He served in the U.S. Public Health Service during the Vietnam War as a surgeon in a provincial hospital in Nha Trang, South Vietnam. After returning to the United States, he started a private practice in general surgery, which he maintained for over 30 years. He was chairman of the Department of Surgery at American River Hospital in Carmichael, California and a senior staff surgeon at Mercy San Juan Hospital.

**John D. Snyder HS'75-'78**, of San Francisco, California, died after a cycling accident on July 20, 2016 while on holiday in France. He was 67. Snyder was a noted authority on gastrointestinal disorders, infant nutrition, and international children's health. He served on the World Health Organization's International Roster of Experts in Pediatric and Maternal Health. He worked for three years on enteric diseases in several developing countries for the Centers for Disease Control, which inspired him to pursue pediatric gastroenterology fellowship training at Massachusetts General Hospital in Boston. In 1992, he began work at the University of California-San Francisco. In 2007, he moved to Children's National Health System in Washington, D.C. to become chief of the Division of Gastroenterology, Hematology, and Nutrition.

**Harry "Ben" Stone III, MD'65, HS'66-'70, DC**, of New Bern, North Carolina, died May 16, 2016. He was 77. After graduating from Duke University School of Medicine, he performed an internship at the University of Virginia in Charlottesville and a residency at Duke. He served in the U.S. Air Force as chief of otolaryngology and surgical services at Nellis Air Force Base in Las Vegas, Nevada. He practiced medicine as an ear, nose, throat, and allergy specialist and surgeon for 24 years in New Bern. Stone was instrumental in establishing New Bern's first speech and hearing center, served as chief of staff at Craven County Hospital, and was named a fellow by the American Academy of Ophthalmology and Otolaryngology in 1973.

**Richard E. Symmonds, MD'46**, of Rochester, Minnesota, died February 7, 2016. He was 93. While a student at Duke University School of Medicine, he was a member of the medical school's basketball team and played in the "secret game," the nation's first interracial basketball game. Symmonds served with the Medical Corps of the U.S. Naval Reserve in San Diego, California, until 1948. He went on to join Mayo Clinic in 1950 as a fellow in obstetrics and gynecology and was appointed to the staff in 1953. He advanced to professor of clinical obstetrics and gynecology in 1970. He served as chairman of the Division of Gynecologic Surgery from 1974 to 1983.

**Joseph A. Tucker, MD, HS'85**, of Mobile, Alabama, died March 23, 2016, following an 18-month battle with brain cancer. He was 60. He earned an undergraduate degree, summa cum laude, from the University of Georgia, where he was a Foundation Fellow and a member of Phi Beta Kappa and Phi Gamma Delta fraternity. He earned a medical degree

from Vanderbilt University, where he received the National Research Award. He completed residency and fellowship training in pathology at Duke and then served on the faculty as assistant professor and chief of the Division of Surgical Pathology. In 1991, he joined the faculty of the University of South Alabama, where, in 2003, he became the Louise Lenoir Locke Professor and chair of pathology.

**Galen Wagner, T'61, MD'65**, of Durham, died July 13. He was 76. He had a long and distinguished career at Duke with deep roots in the Duke Clinical Research Institute. He was director of the Duke Cardiac Care Unit from 1968 to 1981, where he pioneered the world renowned Duke Cardiovascular Databank. He was director of the Duke Cardiology Fellowship Program and assistant dean of medical education from 1977 to 1982. He was a founder, co-director, and director of the Duke University Cooperative Cardiovascular Society. Wagner had a very successful research career, with a particular interest in electrocardiography and acute coronary care.

**William "Merrill" Wilhoit, MD'44, HS'52**, of Pensacola, Florida, died April 28, 2016 at the age of 95. He graduated from the University of Florida with a bachelor's degree in French, German, and chemistry. He earned a medical degree at Duke, where he was commissioned as a lieutenant junior grade in the U.S. Navy Reserve. He served on active duty from July 1945 until May 1947, when he returned to Duke to study psychiatry and neurology. He was recalled by the U.S. Navy to active duty in August, 1950, and served until November 1951. It was during this second tour that Duke awarded him a specialty degree in psychiatry. In 1952, he earned a specialty degree in neurology from Duke. He was recruited by the Medical Center Clinic to serve as the first private practice psychiatrist in Pensacola.

**Henry "Hank" Livingston Wright Jr., MD'44, HS'52**, of Boca Grande, Florida, died May 16, 2016. He was 92. During his undergraduate studies at Auburn University, he was part of the ROTC program. He was inducted into the armed forces and served in England, France, and Austria from 1944 to 1946. He interned in obstetric and gynecology at Duke Hospital in 1952 and served an obstetric and gynecology residency at the Ochsner Foundation in New Orleans, Louisiana. He then practiced obstetric and gynecological medicine at Tampa General Hospital for 20 years. Wright then moved to Boca Grande and was the director of the Boca Grande Health Clinic for 28 years.

**Arthur W. Yount, MD'47**, of North Palm Beach, Florida, died February 24, 2016 at the age of 89. Yount served with the Merchant Marine in the waning days of World War II, then graduated from The Citadel and Duke University. He performed an internship at Letterman Army Hospital in San Francisco, then served in the Korean War as an army captain, where he was awarded the Bronze Star. He completed residency at Emory University and a fellowship at the University of Alabama in Birmingham. In North Palm Beach, where he and his family settled, he was the first internist/cardiologist in the area and practiced there for 50 years.

# A Good Way to Give

**T. Rudolph "Rudy" Howell, MD'58**, vividly remembers his first day at Duke University School of Medicine. Howell had been accepted after applying "on a dare, almost" from some of his classmates at Wake Forest University, and he recalls Wilburt C. Davison, MD, the legendary founding dean of the school, welcoming the incoming class.

"He stood in front of us and said we had been selected from among the most select group of applicants," says Howell. "He said, 'From this day forward you will be called 'Doctor,' and you will be expected to act like one.'"

Howell certainly complied. After earning his medical degree at Duke, he joined the United States Air Force, where he served as a cardiopulmonary specialist, flight surgeon, hospital commander, and chief of Aviation Medicine for almost three decades. He recorded thousands of hours of flying time and was stationed at bases throughout the Far East and the U.S.

After his long career in the military, Howell returned to civilian duty as a pediatric radiologist and chair of the Department of Pediatric Radiology at the Medical College of Virginia (now Virginia Commonwealth University School of Medicine)

and at Children's Hospital in Richmond, Virginia. He retired in 2008. He has been a member of the Southern Medical Association since 1965 and served as its president in 2003-2004.

"Medical school at Duke prepared me completely for the rest of my medical career," says Howell. "My experience there was very positive, and I have a deep appreciation for the university and the School of Medicine."

He and his wife, Cheryl, have expressed that appreciation in numerous ways. Howell has been active in the Davison Club and served as its president from 2000 to 2002. He and Cheryl established the Dr. T. Rudolph and Cheryl Howell Scholarship to support fourth-year medical students with an interest in radiology.

They give back through a Duke program that allows them to dedicate their required annual withdrawals from their Individual Retirement Accounts directly to the Duke fund of their choice.

"A lot of people may not realize that after age 72, you have to take a mandatory withdrawal out of your IRA every year," Howell says. "This arrangement lets us meet that requirement and at the same time contribute to Duke. For us, and probably for a lot of other people, it's a very good way to give."



Rudy and Cheryl Howell

By making a planned gift to any area of Duke Health, donors get the benefit of consulting with **Joe Tynan, JD**, executive director of gift and endowment planning, who has 30 years of experience in charitable gift planning, 20 of them at Duke.

To learn more about making a planned gift, contact Tynan at [joseph.tynan@duke.edu](mailto:joseph.tynan@duke.edu) or **919-385-3114**.

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JARED LAZARUS

## The Match!

A total of 92 students participated in Match Day at Duke this year and are headed to some of the nation's most prestigious programs.

Anesthesiology **7**  
Dermatology **2**  
Emergency Medicine **3**  
Family Medicine **6**  
Internal Medicine **19**  
Medicine/Pediatrics **4**

Medicine/Psychiatry **1**  
Neurology **1**  
Neurosurgery **3**  
Ophthalmology **9**  
Orthopaedics **8**  
Otolaryngology **1**

Pathology **1**  
Pediatrics **5**  
Plastic Surgery **3**  
Psychiatry **3**  
Psychiatry-Pediatrics-  
Child Psych **1**

Radiation Oncology **2**  
Radiology **9**  
Urology **4**

## Where are they going?

- 23** are staying at Duke University
- 8** Johns Hopkins University
- 7** Harvard University
- 6** University of California at San Francisco
- 6** University of Texas Southwestern
- 6** York Presbyterian (Columbia/Cornell)
- 4** University of Washington, Seattle
- 3** Stanford University