

2 **A COMPLICATED LEGACY**  
High school students learn about Henrietta Lacks' enduring impact.

3 **NEW WAYS TO MEASURE HOSPITALS**  
Changes in prominent rating systems make it difficult to predict hospital rankings.

7 **RECOGNIZING CMV'S THREAT**  
Cytomegalovirus, the most common congenital infection, can cause hearing loss and learning problems in children.

**INSIGHT****IT ALL ADDS UP**

Mathematical models provide a new means for researchers to understand biological systems like the brain.

# Dome

A publication for the Johns Hopkins Medicine family

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## The Road to HOPE

HIV-positive transplants continue Johns Hopkins' legacy of HIV and AIDS progress.

**A**NDREW CAMERON'S CELLPHONE RANG as he drove to work on March 18. It was 6:30 a.m., the sky beginning to brighten. Cameron, a liver transplant surgeon at The Johns Hopkins Hospital, got calls like this about 100 times a year. A New England woman had died; her grieving family wanted her organs to live on. But this time was different: The woman had human immunodeficiency virus—HIV.

For the next two days, infectious diseases specialist Christine Durand gathered information about the donor to ensure that her liver and kidneys were suitable for transplant.

On March 20, Cameron performed the nation's first transplant of an HIV-positive liver. The same day, Johns Hopkins kidney transplant surgeon Niraj Desai performed the nation's first HIV-positive kidney transplant.

Only HIV-positive patients can receive HIV-positive organs.

Although the surgeries were no more complicated than usual, "we knew there was more to it," Cameron says. The milestone represents the triumph of science over stigma.

Both organ recipients are home and healthy, their doctors say. Their lifesaving surgeries were possible because Dorry Segev, another Johns Hopkins transplant surgeon, pushed to reverse a 1988 federal law forbidding the use of HIV-infected organs for transplant. At that time, AIDS was new, poorly understood and almost always fatal.

The HIV Organ Policy Equity (HOPE) Act, which became law in November 2013, allows HIV-positive organ transplants. For the first time, it also allows people with HIV to volunteer to become organ donors.

The hard-earned policy reform highlights the progress made since the bleakest early days of the AIDS epidemic 35 years ago.

Earlier this year, under Segev's leadership, The Johns Hopkins Hospital became the first hospital approved for such surgeries.

### Peering into the Dark

**J**OHNS HOPKINS CLINICIANS were among the first to move past the fear of treating deathly ill patients and begin to understand AIDS and the virus that causes it, HIV. Epidemiologist B. Frank Polk began studying AIDS in 1982, when it was still known as GRID—gay-related immunodeficiency disease. Reported deaths were in the single digits, but Polk's prediction that the disease would "be a big one" proved correct. In 1984, 3,665 Americans died of AIDS; a decade later, the disease claimed 32,330 U.S. lives.

When Johns Hopkins began outpatient treatment at the Moore Clinic in 1983, "there was a huge stigma attached to this disease," says Thomas Quinn, an infectious disease specialist at Johns Hopkins since 1981. "There was no treatment. Fear permeated not just the general public but also clinicians who were afraid of getting infected."

Johns Hopkins forged ahead. Pediatrician Nancy Hutton started a pediatric HIV program in May 1985. Obstetrician-gynecologist Jean Anderson created the HIV Women's Health Program in 1987.

In 1988, Johns Hopkins Hospital President Robert Heyssel opened the nation's second inpatient AIDS unit, after one in San Francisco. "The nurses ran that unit. They knew the patients, knew the families and knew the street drugs," recalls John Bartlett, infectious diseases chief from 1980 to 2006.

Johns Hopkins research showed the devastating reach of the disease among injecting drug users in Baltimore, propelling the city to establish a lifesaving needle exchange program in 1994.

When antiretroviral therapy, a combination of drugs to suppress the HIV virus, was introduced in 1996, it saved even more lives and

(continued on page 4)

FRANCESCO BONGIORNI



Learn more about the strategic priority for people online at [hopkinsmedicine.org/strategic\\_plan](http://hopkinsmedicine.org/strategic_plan).



# Change of Attire

RONALD R. PETERSON  
PRESIDENT, THE JOHNS HOPKINS  
HEALTH SYSTEM  
EXECUTIVE VICE PRESIDENT,  
JOHNS HOPKINS MEDICINE



It's time for the president of The Johns Hopkins Hospital to switch from a business suit to a white coat.

For more than a decade, the leadership of The Johns Hopkins Hospital focused intensely on the physical redevelopment of our academic medical center while building infrastructure to support patient safety and quality and developing robust clinical information systems.

It is now incumbent on the next generation of leadership to leverage those facilities, infrastructure and IT systems to improve the patient experience and quality of patient care, enhance value through care delivery redesign, and ultimately achieve much-needed performance improvement.

We now require a savvy leader with a strong clinical background—that white coat—as well as good business sense. That's why I am so delighted that Redonda Miller, an exceptional physician who also has a master's degree in business administration, was chosen to be my successor as president of The Johns Hopkins Hospital. She assumed that role on July 1. (See interview on page 6.)

Her challenges are many:

- What can The Johns Hopkins Hospital do to advance population health and redesign patient care to reduce costly hospitalizations and preventable hospital readmissions?
- How can The Johns Hopkins Hospital foster creation of multidisciplinary precision medicine centers of excellence?
- How can we use personnel in smarter ways and leverage technology to do more than we do today with greater efficiency and at a lower cost?
- How do we enhance the collaboration among our six hospitals, our outpatient centers and our other care-providing groups?

Our society—as well as government and private insurers—demands that we do things more cost-effectively. We're beyond the point where “the suits”—my type—can easily direct that change within the academic medical center. A 1992 graduate of the school of medicine, Dr. Miller has spent more than 20 years here demonstrating exemplary medical prowess, accumulating considerable administrative experience, and developing a sterling reputation among her clinical and administrative colleagues. Her accomplishments augur well for her future as an inspiring, high-energy and effective leader.

The “cultural fit” of her appointment is also as perfect as that of her white coat. She embraces the Johns Hopkins Hospital spirit. And she already knows the right people to call to get things done.

As announced, I remain president of the Johns Hopkins Health System and executive vice president of Johns Hopkins Medicine. I look forward to working with Dr. Miller and helping her however I can. I'm sure I'll learn a lot from her, too.



Dunbar High students packed Turner Auditorium to learn how HeLa cells continually advance scientific discoveries.

# The Complicated Legacy of Henrietta Lacks

Baltimore high school students learn about HeLa cells, ethics and opportunities.

**A**LTHOUGH HENRIETTA LACKS DIED 65 YEARS AGO, her cells live on, propelling scientific advances around the world.

About 200 Baltimore high school students learned about her life and contributions during the second annual Henrietta Lacks High School Symposium in Turner Auditorium on May 11. The event attracted students and teachers from Paul Laurence Dunbar High School, the National Academy Foundation School, Mercy High School and Vivien T. Thomas Medical Arts Academy.

Lacks, who lived in the segregated Baltimore community of Turner Station, was a 31-year-old mother of five when she died of cervical cancer at The Johns Hopkins Hospital on Oct. 4, 1951. She received state-of-the-art care but “was diagnosed too late, and the treatment did not work,” says Dan Ford, vice dean for clinical investigation at the school of medicine.

Cancer cells taken from Lacks were the first to live and multiply outside the human body. Their remarkable ability to keep dividing means HeLa cells can be used in investigations across the globe and even in space. About 80,000 research papers reference HeLa cells, says Ford.

The consent form signed by Lacks, typical for the time period, gave doctors permission to treat her but did not mention research. Lacks never knew her cells had been harvested. Her family was not told that HeLa cells propelled scientific advances, including the polio vaccine, cancer therapies and in vitro fertilization.

Speakers at the symposium included bioethics professor Nancy Kass. Now, she said, “research has to be voluntary,” with subjects deciding whether to participate based on conversations with researchers.

Students discussed how factors including race, gender and income may have harmed Lacks and still contribute to health disparities in Baltimore. They were encouraged to lessen those disparities by pursuing careers in science and medicine.

Kahlid Fowlkes, a Dunbar High School senior, spoke of his plans to become a surgeon. “On television, I never saw a person who looks like me wearing a white lab coat,” he said. Fowlkes will attend Morehouse College with financial help from a \$40,000 Henrietta Lacks scholarship from Johns Hopkins, given to one Dunbar student a year.

The story of Lacks and her HeLa cells was documented in *The Immortal Life of Henrietta Lacks*, a 2010 best-seller by Rebecca Skloot. An HBO movie based on Skloot's book is being produced by Oprah Winfrey, who will play Lacks' daughter Deborah.

—Karen Nitkin



## Henrietta Lacks Memorial Lecture

**T**he seventh annual Henrietta Lacks Memorial

Lecture will take place on Oct. 1, 2016, in Turner Auditorium, beginning at 9 a.m. Damon Tweedy, assistant professor of psychiatry at Duke University Medical Center and author of *Black Man in a White Coat: A Doctor's Reflections on Race and Medicine*, will deliver the keynote address. This free event is sponsored by the Johns Hopkins Institute for Clinical and Translational Research and is open to the public. Advance registration is required.



Learn more at  
[ictr.johnshopkins.edu/lecture](http://ictr.johnshopkins.edu/lecture).



# Rating Hospital Rankings

Different measurements and results can confuse consumers.



Peter Pronovost

**H**OW SAFE IS YOUR hospital? Is it good? One of the best?

Seeking the answer can be like walking through a carnival fun house, with its wavy mirrors. Look in one direction, and you might see a bobble-head version of yourself. Turn the other way, and your legs look like stilts. It's still a reflection of you, but it's one that naturally highlights certain aspects while downplaying others.

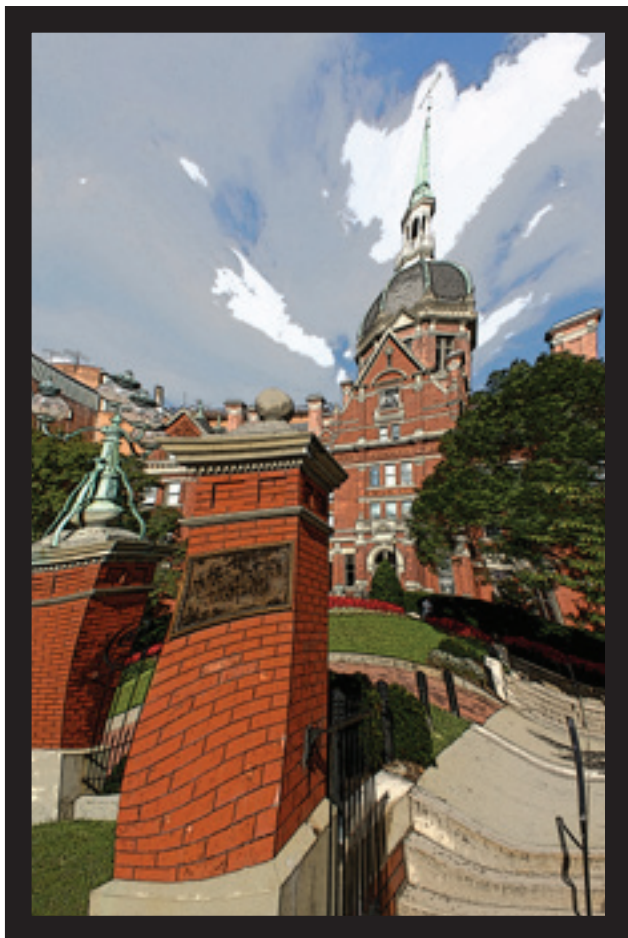
Similarly, a hospital that looks top-notch in one rating or ranking system may be middle of the pack when seen in another.

The differences in these rating systems can befuddle patients seeking to find the true top performers.

Last year, researchers from Johns Hopkins and other institutions reported that across four prominent ratings—issued by *U.S. News and World Report*, *Consumer Reports*, Leapfrog Group and Healthgrades—just 10 percent of hospitals deemed high performing on one were also high performers on another. Zero hospitals were high performers in all four.

This summer, the Centers for Medicare and Medicaid Services (CMS) is expected to issue its first round of hospital overall quality ratings, with each getting anywhere from one to five stars. As *U.S. News* editors wrote in April, it “will be no surprise if none of the five-star hospitals is on the *U.S. News* Honor Roll.”

Expect things to get murkier. Even from one year to the next, a rating system can change its methods and sway the results. Johns Hopkins’ rankings in *U.S. News* have always benefited from our stellar reputation among physicians. Yet within both specialty and overall hospital



rankings, *U.S. News* has been reducing the weight given to reputational scores while increasing the influence of other metrics, such as patient safety. Additionally, this summer’s *U.S. News* Honor Roll may be the first to factor in common care ratings in areas such as heart failure and knee replacement surgery. These ratings debuted as a separate measure last year.

Perhaps the variation in ratings shouldn’t be surprising: There are no standards for how valid a measure has to be. The measures that are rolled into these ratings are often flawed, distorting the picture of hospital quality. Commonly used patient safety indicators (PSIs), which track prevent-

able harms, such as blood clots, are based on notoriously imperfect billing data, not on clinical documentation. In a recent study by Armstrong Institute researchers, we found that out of 21 PSIs, just one met the scientific criteria for being a true indicator of hospital safety.

The variation in performance is also influenced by the accuracy of the data. And unlike financial data, there are no standards for auditing quality data to ensure accuracy.

So what should we do as a health system, in the face of hospital ratings confusion and measurement madness?

From a scientific and policy standpoint, we have engaged with government agencies, ratings organizations and researchers about the need to ensure that measures are valid and the data are accurate. Last year, we found that CMS data—which *U.S. News* and other organiza-

tions analyze for their ratings—had an unintended bias against Maryland hospitals, damaging both our patient safety and mortality scores. Unlike hospitals in all other states, which report detailed pay-for-quality data to CMS, Maryland hospitals report to a state agency but send only basic data to the federal government.

One result: Complications that patients experienced outside our hospitals were deemed hospital-acquired because CMS had not required us to report present-on-admission data. For example, of 29 Johns Hopkins Hospital patients whose pressure ulcers were identified as hospital-acquired, the more detailed clinical record showed that all but one had the ulcer before admission.

After making our case, *U.S. News* has said that, moving forward, it will use state data to analyze PSIs. Yet many other quality and safety measures, such as mortality, hospital-acquired infections and readmissions, should also be calculated using state data.

Regardless, we must be willing to challenge ourselves to do better. Despite the statistical “noise,” we must review these measures and rankings for the signals—areas that indicate true improvement opportunities. Your clinical department may keep a patient safety and quality performance dashboard, tracking the measures that it deems most important to your patients. Familiarize yourself with the dashboard, understand the measures and find ways to get involved in improving them.

For most of us, the truest reflection of our quality—and the only one we can influence—involves caring for the patients we see every day. We must always put their well-being first, whether we stop to give them directions in the hallway, comfort them through bad news or ensure that they know exactly how to take care of themselves when they go home. And every day, we must seek to continuously learn and improve.

*Peter Pronovost is director of the Johns Hopkins Armstrong Institute for Patient Safety and Quality and senior vice president for patient safety and quality at Johns Hopkins Medicine.*

To see how Johns Hopkins Medicine is doing on safety and quality measures, visit [hopkinsmedicine.org/armstrong\\_institute](http://hopkinsmedicine.org/armstrong_institute).

## PEOPLE

# #TimeForBaltimore

Queen of kids’ chess is Johns Hopkins doc.

Thirteen years ago, when she found there were no kids’ chess organizations in Baltimore, Linda Lee started her own.

Today, the Johns Hopkins gastroenterologist and director of the Center for Integrative Medicine serves on the board of the nonprofit she founded to promote chess in Baltimore City Public Schools. The Baltimore Kids Chess League now has nearly 1,000 members in more than 50 schools across the city.

Lee says the game increases kids’ ability to concentrate and to handle complex problems. See how Lee makes #TimeForBaltimore: [hopkinsmedicine.org/dome](http://hopkinsmedicine.org/dome).

—Patrick Smith



BRADY ANDERSON



## HIV and AIDS at Johns Hopkins: The Timeline



**1982:**  
Johns Hopkins epidemiologist B. Frank Polk begins to study GRID—gay-related immunodeficiency disease—even though reported deaths are still in single digits. “This is going to be a big one,” he predicts.



**1983:**  
The Johns Hopkins Hospital begins outpatient treatment.



**1987:**  
Jean Anderson, obstetrician-gynecologist, creates the Johns Hopkins HIV Women's Health Program.



**1988:**  
Calling AIDS treatment a “moral imperative,” Robert Heyssel, president of The Johns Hopkins Hospital, opens an inpatient ward.

## The Road to HOPE

(continued from page 1)



**“WE ARE ENCOURAGED BY THESE FIRST SUCCESSFUL TRANSPLANTS AND HOPE TO EXTEND THIS POSSIBILITY TO OUR OTHER PATIENTS ON THE WAITING LIST.”**

—CHRISTINE DURAND, INFECTIOUS DISEASES SPECIALIST

turned a death sentence into a chronic disease. Patients with HIV can now keep the virus at bay—and dramatically reduce the risk of infecting others—with one to three pills per day. And PrEP, or pre-exposure prophylaxis, is a new prevention method in which people who do not have HIV take a pill every day to reduce their risk of becoming infected.

But even streamlined regimens can be challenging, particularly for people who are poor or unstably housed, says Errol Fields. The pediatrician and other Johns Hopkins experts are working to cut a diagnosis rate that stubbornly hovers around 50,000 U.S. cases per year, while researchers zero in on strategies that could lead to a cure.

### A Chance to Participate

**P**EOPLE WITH HIV NOW LIVE long enough for their livers and kidneys to wear out—the damage accelerated by cancer, cirrhosis, hepatitis C and therapies for HIV. About 30 percent of people with HIV suffer kidney damage, says nephrologist Derek Fine. A transplanted kidney adds years of life and ends uncomfortable and time-consuming dialysis.

The goal now is to give more people opportunities to receive HIV-positive organs. Johns Hopkins doctors are studying how organ recipients cope with strains of the virus that are different from their own. They are teaching other transplant centers the protocols for staying infection-free during HIV-positive surgeries.



Renata Sanders, front, and Allison Agwu, to the left, lead the Pediatric and Adolescent HIV/AIDS Program, which helps young people with HIV stick with treatment and helps those without HIV avoid infection.

Back row, left to right, nurse practitioner Mary Ann Knott-Grasso, pediatrician Errol Fields, nonmedical case worker Jacqueline Thompson and medical social worker Nancy Campbell.

Learn more about the Pediatric and Adolescent HIV/AIDS Program at [hopkinsmedicine.org/dome](http://hopkinsmedicine.org/dome).

## HIV and AIDS, By the Numbers

In 1994, AIDS was the leading cause of death in Americans ages 25 to 44, with nearly 51,000 deaths nationwide.

**51,000**

By 2012, U.S. AIDS deaths had dropped to 13,712.

**13,712**

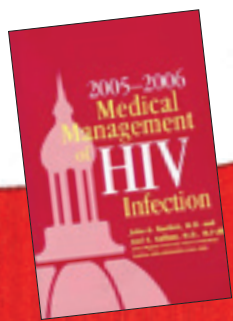
**1.2 million**

More than 1.2 million adults and adolescents are living with HIV in the U.S.

**1,401**

**385**





**1991:**

First edition of *Medical Management of HIV Infection*, a leading resource that is updated frequently. It is written by John Bartlett, Joel Gallant, Paul Pham and other Johns Hopkins researchers.



**1999:**

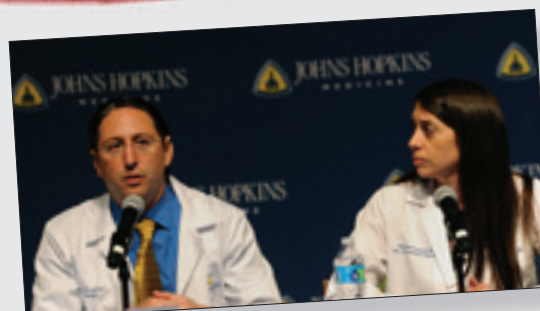
Johns Hopkins researchers Brooks Jackson and Laura Guay show that a single dose of nevirapine dramatically reduces mother-to-infant transmission of HIV, making this type of intervention affordable globally.

**Nov. 21, 2013:**

The HOPE (HIV Organ Policy Equity) Act of 2013 is approved by a Congress that passes just 57 laws that year.

**March 20, 2016:**

Johns Hopkins teams perform the nation's first-ever HIV-positive to HIV-positive liver and kidney transplants. Patients respond well.



**Redoubling Efforts to Extend Life**

You might consider abdominal transplant surgeon Dorry Segev to be the textbook physician-scientist: Not only is the 45-year-old physician admired for his surgical and teaching skills, but his groundbreaking research into ways to expand organ allocation is changing the lives of thousands of people around the world.

In 2007, a mathematical model Segev helped to develop paved the way for legislation that allows living donors across the nation to participate in kidney paired donations, dramatically increasing the number of donors who can be matched with patients awaiting kidney transplants. More recently, his research and government advocacy led to passage of the HOPE (HIV Organ Policy Equity) Act, legislation that also allows more people to donate organs.

A professor of surgery at the school of medicine, Segev spent three years helping to draft and push through the HOPE Act. Passed in 2013, it was one of only 57 bills to survive the most unproductive Congress in the history of the United States. Early support came from Johns Hopkins anesthesiologist and U.S. Rep. Andy Harris.

The legislation was based on a landmark paper Segev published in 2011 in the *American Journal of Transplantation*. At that time, medical centers were forbidden to transplant any HIV-positive organs; people with HIV who were waiting for transplants could only receive organs that were HIV-negative.

Segev outlined the case for overturning the ban on using HIV-positive organs for HIV-positive recipients. His research estimated that each year, roughly 1,000 HIV-positive patients would be eligible for lifesaving kidney and liver transplants from 500 HIV-positive donors.

Allowing those transplants would also shorten wait times for all

patients. Their addition could bump HIV-negative patients up the waiting list if HIV-positive patients who were ahead in line opted for them.

Additionally, the HOPE Act allows people living with HIV to sign up as organ donors—an important step toward ending the stigma associated with the infection.

Last January, The Johns Hopkins Hospital became the first in the U.S. approved to perform HIV-positive to HIV-positive transplants. Two months later, under Segev's leadership, surgeons successfully transplanted the nation's first HIV-positive kidney and livers, extending life for two recipients living with HIV.

The next step, Segev says, is HOPE in Action—a Johns Hopkins-led initiative to help other medical centers qualify to perform HIV-positive transplants.

"We didn't want to just stop with the bill or limit the work to Johns Hopkins," he says. "We're sharing what we've learned with everyone else in the country."

Current law not only permits organs from deceased HIV donors to be used for transplants but also allows live organ donation; however, more research is needed to show that it's safe for people with HIV to donate while they are alive.

"We've nearly completed the study to identify the characteristics of living donors that would make them most able to donate," Segev says. "We will be working to roll out a research protocol to make that happen."

—Linell Smith

And they're assessing the risks and benefits of allowing people who are living with HIV to donate a kidney or a portion of their liver—as people without HIV do.

That opportunity would mean a lot to Juliano Innocenti. He contracted HIV in 1997, when he was a 17-year-old ballet dancer in New York City. He managed to stay healthy by lucking into a study that treated HIV before it became full-blown AIDS, a now-standard protocol. Leaving dance, he worked in HIV prevention programs and fundraising campaigns in the U.S. and overseas. He has been an acute care nurse at The Johns Hopkins Hospital since 2014.

Now, thanks to the HOPE Act, Innocenti can volunteer to be an organ donor. When he learned that the nation's first HIV-positive transplants would take place in his own hospital, he sent Segev an email.

"It said, 'Thank you so much. What an amazing accomplishment this is!' I told him how important it is for me, how many times I had thought about being an organ donor.

"When you get a chance to participate in something you were not allowed to participate in, it's a pretty fantastic feeling."

—Karen Nitkin



Acute care nurse Juliano Innocenti hopes to be a live donor of an HIV-positive kidney or portion of his liver.

**"IT WOULD BE AMAZING TO KNOW THAT I WAS ABLE TO DO SOMETHING SO IMPACTFUL FOR SOMEONE AND HIS OR HER FAMILY."**

—JULIANO INNOCENTI

In Maryland, 1,401 adults and adolescents were diagnosed with HIV in 2013, the most recent statistics available. That year, Baltimore logged 385 new HIV cases.

**third highest**

The Baltimore region has the third highest estimated HIV diagnosis rate of major U.S. metropolitan areas, behind the Miami-Fort Lauderdale region and the New York metropolitan area.

Source: Maryland Department of Health and Mental Hygiene

**"EVERY POTENTIAL HIV-POSITIVE DONOR IS A POTENTIAL LIFE SAVED."**

—DORRY SEGEV





# Q&A with Redonda G. Miller

Redonda G. Miller is the 11th president, and first woman, to helm The Johns Hopkins Hospital. A native of Ohio, she came to Johns Hopkins for medical school in 1988 and never left. After graduating and completing residency training, she served in many leadership positions, including assistant dean for student affairs for the school of medicine, vice chair of clinical operations for the Department of Medicine and senior vice president for medical affairs for the Johns Hopkins Health System.

Miller reports to former hospital president Ronald R. Peterson, who retains his titles as president of the Johns Hopkins Health System and executive vice president of Johns Hopkins Medicine.

*Dome* caught up with Miller, 49, in early June. By midmorning, she had already received four invitations to speak at events. “People are excited about a woman being president,” she explained. Only 18 percent of hospital chief executives are female, according to a 2013 report from Rock Health.

Miller spoke about her favorite Johns Hopkins memory, how she spends her free time and her plans to make “near perfection” even better.

## You belong to an elite club—one of just 11 presidents of The Johns Hopkins Hospital. What does that legacy mean to you?

First of all, I’m very honored. I remember celebrating the 100-year anniversary of The Johns Hopkins Hospital during my second year in medical school. I never would have guessed that I would be president.

## You’ve been at Johns Hopkins for 28 years. Why have you stayed?

When I matriculated to medical school, my intent was to go back to Ohio and practice cardiology or oncology in my hometown of Wheelersburg. At every transition point, whether it was picking a residency or choosing where to start my faculty career, I would find myself asking, “Why would I leave when I’m already at the best place?” And there was my answer.

There is a universal drive for excellence among everyone. But more importantly, that drive for excellence occurs in a setting of collegiality. Other places may have one or the other, but not both.

## What do you like to do when you’re not at work?

My spare time is devoted to being “mommy” to our two daughters [Francesca, 11, and Bianca, 7]. My bosses are supportive of family. They encourage me to go to all the important events, which I try to do. I may not make it to every rehearsal, but I see the school play. I love to travel with the family, and I watch a lot of Ohio State Buckeyes football.

## What is one of your best Johns Hopkins memories?

My favorite memory is meeting my husband [Albert Polito, pulmonary medicine chief at Mercy Medical Center]. I was an internal medicine resident, and he was a pulmonary fellow. We were on the same medical intensive care unit team, and the rest is history.

## What was one of your biggest challenges?

In 2009, just three or four weeks after I became vice president of medical affairs for the hospital, we had an unexpected Joint



Commission visit. We were cited for not having a process to provide professional practice evaluations for medical staff. We had 60 days to develop a peer review program for roughly 2,500 physicians. I remember the entire team pitching in to meet this requirement. It was such a collaborative effort.

## You have said you plan to continue clinical practice. Why?

Seeing patients will keep me grounded and help me remember why I’m here. It will also better inform any decisions I need to make.

## What are some of your goals as hospital president?

We have amazing people, and our institution is world-renowned. It may seem dif-

ficult to improve on near perfection, but we can always find areas in which we can do better. I would like us to focus more on the patient experience. Our patients already receive the highest quality of care. I want to make sure every aspect of their experience is a good one.

Another goal is to ensure that both our front-line providers and nonclinical staff members know how much they are valued and appreciated. The employees are really what make Johns Hopkins great.

Finally, I want to continue building on the good work that’s being done in our community, particularly after last year’s unrest. Baltimore is our home. Providing training programs and jobs is an essential step toward economic advancement.

—Interview by Karen Nitkin



Hope Byers and Christopher Terndrup’s bold, barefooted performance earned them the top award at the United Way event.

## Dancing with the Hopkins Stars Swept Viewers Off Their Feet

**M**ONTHS OF GRUELING PRACTICE, RIGOROUS REHEARSALS AND A FEW stepped-on toes culminated in the return of Dancing with the Hopkins Stars, a fundraising event for United Way. Held on June 2 in Turner Auditorium, the second annual event raised more than \$50,000 for the organization.

Amid continuous cheering, nine couples performed a variety of dance routines, from waltzes to salsa. After each performance, judges shared comments and scores. Later, the audience was invited to vote for their favorites in real time on their cellphones.

Two couples succeeded in taking home the top mirror-ball prizes. Hope Byers, institutional communications manager for Johns Hopkins Medicine, and Christopher Terndrup, senior resident in internal medicine and urban health at the school of medicine, won for best performance, with an electrifying Afro-Latin dance routine. Karla Alwood, a nurse practitioner in the school of medicine, and Kenneth Grant, vice president of general services for The Johns Hopkins Hospital, raised over \$8,000 to take the top fundraising prize. (To see the other couples, visit [hopkinsmedicine.org/dome](http://hopkinsmedicine.org/dome).)

Emcees for the event were Bill Nelson, director of the Johns Hopkins Kimmel Cancer Center; Ted DeWeese, vice president of interdisciplinary patient care for Johns Hopkins Medicine and The Johns Hopkins Hospital’s radiation oncologist-in-chief; and Sandy Johnson, training and education coordinator for general services at The Johns Hopkins Hospital.

You can still donate to the 2016 dancers’ United Way charities of choice and see the complete results by visiting [hopkinsmedicine.org/unitedway/dwth](http://hopkinsmedicine.org/unitedway/dwth).

—Stephanie Price and Katelyn Sachs



To see a video from the event, visit [bit.ly/HopkinsDancingwiththeStars2016](http://bit.ly/HopkinsDancingwiththeStars2016).



# Why You Need to Know About Cytomegalovirus

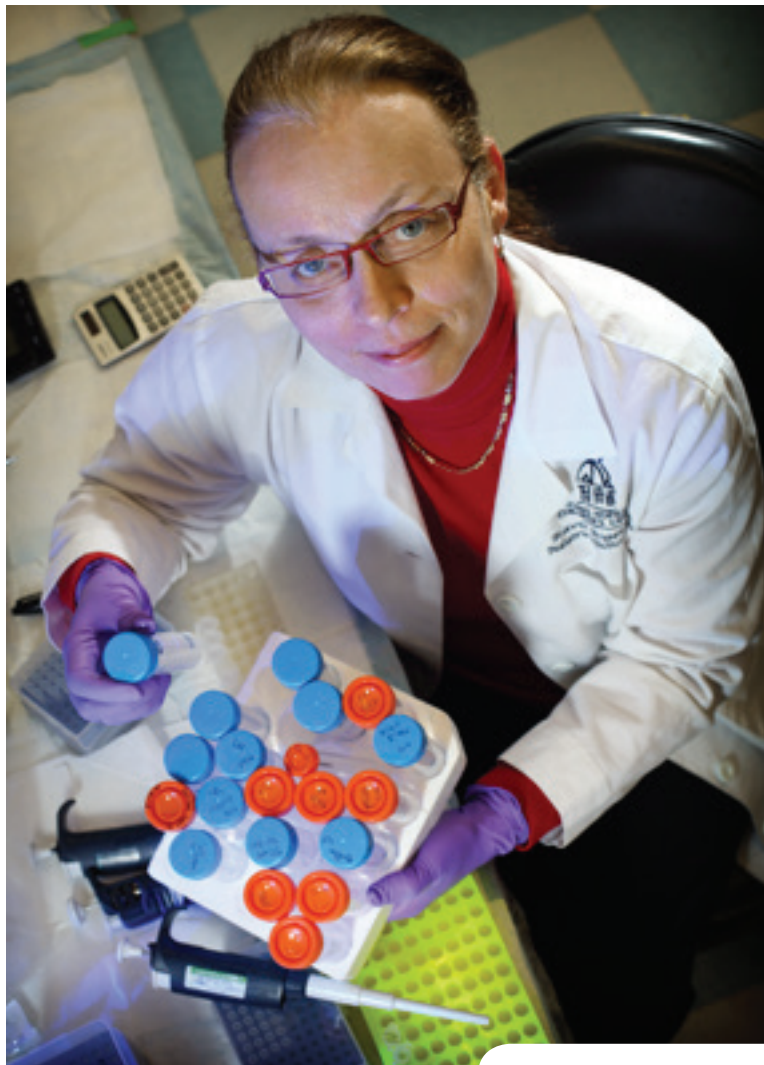
A common but underrecognized infection can affect newborns' hearing and brain development.

ONE DAY LAST FEBRUARY, after rounds at the Johns Hopkins Children's Center, Ravit Boger was on her way home when she received an urgent call to return. A couple who had vacationed in a Zika virus-affected country learned that their newborn had an abnormal brain ultrasound. The mother had a flu-like illness during pregnancy.

Boger, a pediatric infectious diseases specialist, recalls the mother's panic when they met. But after examining the baby, she explained to the parents that their baby probably didn't have Zika. That's because in almost every case presenting with similar symptoms, cytomegalovirus (CMV) is the culprit. Still, erring on the side of caution, Boger ordered blood work for Zika, as well as CMV and other congenital infections.

Two days later, test results came back positive for CMV. The parents were concerned to learn about a new virus and its impact on the baby's hearing and brain development—potential effects Boger had already explained to them. They wondered aloud, “How is it possible that an educated couple like us has never heard of CMV?”

**ROUGHLY ONE OF EVERY 150 NEWBORNS IN THE U.S. IS BORN WITH CMV. IT'S THE MOST COMMON CONGENITAL INFECTION IN THE NATION.**



Ravit Boger tests novel treatments for CMV.

The comment gave Boger pause. “It was a wake-up call to me in the midst of the Zika publicity that CMV is largely unknown,” she says.

Yet, roughly one of every 150 newborns in the U.S. is born with CMV. It's the most common congenital infection in the nation. A member of the herpes viruses, cytomegalovirus is usually harmless, says Boger. However, when transmitted during pregnancy, about one in 10 will develop permanent problems with hearing or learning. Though symptoms may not be apparent at birth, they can surface over time.

CMV also causes serious complications in people with weakened immune

systems, particularly in patients receiving organ or bone marrow transplants.

Boger says that although almost everyone is exposed to the virus, it typically remains dormant and harmless. “As we age,” she explains, “80 to 90 percent of us will have developed antibodies to CMV.” Indeed, most healthy children and adults infected with CMV don't even know it because symptoms are mild—low-grade fever and swollen glands.

But reactivation or getting infected with a new strain of CMV during pregnancy is potentially harmful to the fetus and newborn. The virus can be spread by close contact with a person who has the virus in his or her saliva, urine or other body fluids.

Once a baby is diagnosed after birth, CMV requires treatment to lower the risk of long-term consequences. Currently, intravenous ganciclovir or oral valganciclovir are the primary antiviral treatments for CMV. The drugs suppress the virus, says Boger, but they can't eliminate it. In the absence of vaccine for CMV, the best form of prevention is hand-washing.

“Some infected newborns are never diagnosed with CMV or are diagnosed late, when they already have hearing loss,” says Boger. “If we could diagnose earlier, it would be helpful because we have treatment that does have some impact. Though they have side effects, they've

## Top 3 Things You Need to Know About Cytomegalovirus

- Most common congenital infection (contracted during pregnancy)
- Most common congenital cause of hearing loss and possible cause of learning disabilities
- Critical cause of infection and complications in patients receiving transplants or with weakened immune systems

Source: Ravit Boger/the Centers for Disease Control and Prevention

been shown to prevent progression of hearing loss.”

Boger, an almost 20-year Johns Hopkins veteran, is working with colleagues in her CMV lab to better understand how the virus works and how it can be inhibited. She is hopeful about developing a more targeted combination therapy to effectively suppress the virus.

Still, it troubles Boger that no federally mandated screening program exists to detect CMV in newborns. Although the test is relatively inexpensive—\$50 to \$100—and parents may request it, most don't know about CMV. Meanwhile, she says, “If we can raise awareness about CMV's hazards and the need for greater funding, it will go a long way to help develop better treatments—and hopefully, a vaccine.”

—Judy F. Minkove



Listen to a podcast with Ravit Boger about CMV at [podcasts.hopkinsmedicine.org/2016/05/20/may-23-2016-more-than-zika](https://podcasts.hopkinsmedicine.org/2016/05/20/may-23-2016-more-than-zika), and learn about her lab efforts at [bogerslab.johnshopkins.edu](http://bogerslab.johnshopkins.edu).

## BIOMEDICAL DISCOVERY

# What Johns Hopkins Is Doing About Zika Virus

Though Zika virus remains mystifying, researchers at Johns Hopkins are learning more about the disease and its potential effects. Here is how some Johns Hopkins researchers are contributing to this effort:

- **Rita Driggers**, medical director of maternal-fetal medicine for Sibley Memorial Hospital and associate professor of gynecology and obstetrics at the school of medicine, recently published a case study that highlights brain changes that take place in a fetus infected with Zika virus. The study also suggests that Zika virus remains in the blood of a pregnant woman much longer than previously expected after her fetus has become infected.
- Pediatric neuroradiologists **Thierry Huisman** and **Andrea Poretti** are collaborating with physicians and scientists in Brazil to understand the spectrum

of brain defects and injuries in children with microcephaly associated with prenatal Zika virus infection. This collaboration resulted in a recent publication on head CT findings in children with microcephaly and congenital Zika virus infection. The team is evaluating brain MRI findings in children with confirmed prenatal Zika infection. In addition, the team is part of an international consortium that aims to develop an online data-sharing platform for head images of fetuses and newborns with congenital microcephaly and Zika virus infection.

- The laboratories of neuroscientists and stem cell scientists **Guo-li Ming** and **Hongjun Song** simulate and study the effects of Zika virus on developing brains using human brain cells grown in the lab from induced pluripotent stem cells. Their research was the first to suggest that Zika causes microceph-

aly by attacking brain-building stem cells known as neural progenitor cells. More recent work centers on “mini-brains”—tiny, three-dimensional structures with many of the features of developing human brains.

- Neurologist **Carlos Pardo-Villamizar** is the lead investigator for the Neuroviruses Emerging in the Americas Study conducted across multiple medical centers in Central, North and South Americas. The study aims to better understand the relationship between mosquito-borne viruses and nervous system diseases, such as Guillain-Barre syndrome. It also seeks to establish a comprehensive registry of medical profiles from patients with new onset of neurological diseases associated with mosquito-borne diseases.



**Leadership Appointments**



**Theodore DeWeese, M.D.**, professor and director of the Department of Radiation Oncology and Molecular Radiation Sciences, will assume additional responsibilities as vice president of interdisciplinary patient care for Johns Hopkins Medicine. In this role, he will enlist other department directors in the development of new multidisciplinary services across the health system. Previously, DeWeese oversaw radiation oncology's integration with Sibley Memorial Hospital and Suburban Hospital.



**Mike Larson, M.B.A.**, vice president of finance and chief financial officer for Johns Hopkins HealthCare, has been named senior vice president of finance and chief financial officer for the Johns Hopkins Health System. In addition to maintaining his role with Johns Hopkins HealthCare, Larson will now oversee the finance activities of the entire health system.

**Superior Stroke Treatment**

**Johns Hopkins Bayview Medical Center** and **Howard County General Hospital** have received the American Heart Association/American Stroke Association's Get With The Guidelines-Stroke Gold Plus Quality Achievement Award with Target: Stroke Honor Roll-Elite. Medical centers must achieve outstanding compliance with the associations' guidelines to receive the Gold Plus Quality Achievement Award. Separate quality measures that have been developed to reduce the time between a patient's arrival at the hospital and proper clot-busting treatment must be met to earn the Target: Stroke Honor Roll-Elite award.

**Sibley Memorial Hospital Kudos**

For the second consecutive year, *Washington City Paper* has voted Sibley Memorial Hospital as the best hospital in Washington, D.C.

**EAST BALTIMORE**

**Blair Anton, M.S., M.L.I.S.**, associate director of information services for the Welch Medical Library, has received the Medical Library Association's 2016 Estelle Brodman Award for the Academic Medical Librarian of the Year. The award, given only when a worthy recipient is identified, recognizes a midcareer academic medical librarian who demonstrates significant achievement, the potential for leadership and continuing excellence.



**Tina Cheng, M.D., Ph.D.**, professor of pediatrics, has been named director of the Department of Pediatrics in the school of medicine, pediatrician-in-chief for The Johns Hopkins Hospital, and director of pediatrics for Johns Hopkins Medicine. She also has been named co-director of the Johns Hopkins Children's Center and will collaborate closely with **David Hackam, M.D., Ph.D.**, chief of pediatric surgery, in managing the center's multifaceted clinical and research centers.

Cheng succeeds **George Dover, M.D.**, who is retiring after a 20-year tenure.



**Alan Cohen, M.D.**, a leader in developing minimally invasive techniques to enhance the safety and efficacy of pediatric neurosurgical procedures, has been appointed chief of pediatric neurosurgery and the Benjamin S. Carson, Sr., M.D., and Dr. Evelyn Spiro, R.N., Professor of Pediatric Neurosurgery. Cohen previously was neurosurgeon-in-chief and chairman of the Department of Neurosurgery at Boston Children's Hospital, as well as a professor of neurosurgery at Harvard Medical School. Cohen's wife, **Shenandoah "Dody" Robinson, M.D.**, an expert in the surgical treatment of epilepsy and spasticity, has also joined the department as a professor of neurosurgery.



**Charles Cummings, M.D.**, distinguished service professor, and professor of otolaryngology-head and neck surgery and of oncology, has received the University of Virginia medical alumni association's 2016 Walter Reed Distinguished Achievement Award. Cummings, a 1961 graduate of UVA's medical school, was director of Johns Hopkins' Department of Otolaryngology-Head and Neck Surgery from 1991 to 2003. During that time, he also served as chairman of the staff of The Johns Hopkins Hospital. He later served as executive medical director for Johns Hopkins Medicine International.



**Sanjay Desai, M.D.**, associate professor of medicine, director of the Osler Medical Training Program and vice chair for education for the Department of Medicine, has been named by the Association of Program Directors in Internal Medicine as a Young Leader to Watch. The designation recognizes exemplary innovation, leadership and contributions to internal medicine residency education.

**Alex Kolodkin, Ph.D.**, professor of neuroscience, has been elected to the 236th annual class of the American Academy of Arts and Sciences. Kolodkin has made important strides in researching how neuronal connectivity is established during development.

**Shari Lawson, M.D.**, assistant professor of gynecology and obstetrics and director of the Division of General Obstetrics and Gynecology at The Johns Hopkins Hospital, has been appointed assistant dean for medical student affairs and director of medical student diversity. As assistant dean of medical student affairs, Lawson, a 2001 graduate of the Johns Hopkins University School of Medicine, will be an adviser and advocate for medical students. As director of medical diversity, she will work to enhance the recruitment and success of a diverse medical student body.



**Paula Neira, J.D., M.S.N., R.N., C.E.N.**, a nurse educator in the Department of Emergency Medicine, will be among the first group of honorees cited by the nonprofit OutServe Servicemembers Legal



**RAINBOW CONNECTION:** Johns Hopkins plans to make a colorful showing at the 41st annual Baltimore Pride Parade on July 23, reprising its "scrubs rainbow" of 2015. Last year, about 150 people from across the institution marched in support of lesbian, gay, bisexual, transgender and queer (LGBTQ) individuals and allies.

Participation this year seems particularly urgent following the massacre in June at Pulse nightclub in Orlando. LGBTQ at JHU will host

a pre-parade sign-making party July 21 from 4 to 6 p.m. ([bit.ly/LGBTsign](http://bit.ly/LGBTsign)). The first 125 Johns Hopkins participants who sign up to march will receive a Johns Hopkins Pride shirt and the opportunity to be part of the scrubs rainbow ([bit.ly/JHUmarch](http://bit.ly/JHUmarch)).

Baltimore's Pride weekend attracts tens of thousands of revelers and includes live music and a high-heel race. Learn more about LGBTQ resources at [hopkinsmedicine.org/lgbt-resources](http://hopkinsmedicine.org/lgbt-resources).

Defense Network for her work ensuring equal treatment in the military of lesbian, gay, bisexual and transgender (LGBT) members. A Naval Academy graduate and former Navy pilot with the rank of lieutenant, Neira is a transgender veteran of Operation Desert Storm, in which she served as Paul, and later became a nurse and an attorney.

**Illie Shockney, R.N., M.A.S.**, administrative director of the Johns Hopkins Breast Center, has been promoted to full professor in the school of medicine as University Distinguished Service Professor of Breast Cancer. The first registered nurse at the school of medicine with a primary faculty appointment, she is also the first to have ascended to the top of the academic ladder. A two-time breast cancer survivor, Shockney has devoted her 33-year Johns Hopkins career to improving the care of patients with breast cancer worldwide.



**Daniel Smith** has been named vice president of finance and chief financial officer for The Johns Hopkins Hospital. Following a dozen years as president/CEO of Johns Hopkins Home Care Group, Smith will also assume shared responsibilities as senior vice president of finance for the Johns Hopkins Health System.

**JOHNS HOPKINS BAYVIEW MEDICAL CENTER**

**Nathaniel McQuay, M.D.**, assistant professor of surgery; **Stephen Milner, M.B.B.S., M.D.**, professor of plastic and reconstructive surgery and director of the Michael D. Hendrix Burn Research Center; and Burn Center nurses **Robert "Craig" Shoemaker, R.N.**, and **Emily Werthman, R.N.**, were recognized at the R Adams Cowley Shock Trauma Center Gala for their expert, compassionate and lifesaving work.

**Marketing and Communications**

**Johns Hopkins Bayview Medical Center's Marketing and Communications** team has won two gold awards for its 18-month cancer awareness calendar, designed to celebrate the medical center's expanded oncology services and the opening of the Johns Hopkins Sidney Kimmel Cancer Center there. The top awards came from the Mid-Atlantic Society for Healthcare Strategy and Market Development (MASHSMD) and from *Marketing Healthcare Today* magazine, which bestows the annual Aster awards that recognize the best in health care marketing. In addition, Johns Hopkins Bayview won a gold Aster award for its Called to Care program for family caregivers, which also received a silver award from MASHSMD and a Merit Award from the Healthcare Advertising Awards. Silver and bronze Aster awards went to **Johns Hopkins HealthCare's** M&C team for special video production and billboard design, respectively, and two silver Aster Awards went to **Johns Hopkins Medicine** for the orthopaedic services website and the biomedical blog.

**JOHNS HOPKINS HOME CARE GROUP**



**Mary Myers, M.S.N.**, the Johns Hopkins Home Care Group's vice president and chief operating officer, has been appointed to succeed Daniel Smith as JHHCG's president/CEO. Myers held several clinical leadership positions throughout The Johns Hopkins Hospital and Johns Hopkins Bayview before joining JHHCG in 2005. In addition, she was appointed by Johns Hopkins' Armstrong Institute for Patient Safety and Quality to serve as the chief quality officer for Johns Hopkins Medicine's home-based services, which she has also led.

**Dome**

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