

Temple Health

WINTER 2019

Magazine



Organ Transplantation

A Deeply Rooted Temple Tradition

IN THE DNA OF DEANS

DO DEANS IMPRINT THEIR OWN MEDICAL EDUCATION ON STUDENTS?

HELP FOR HEART FAILURE:

THE LVAD





AGENDA

Temple Health Magazine

EDITOR

Giselle Zayon
giselle.zayon@tuhs.temple.edu

DESIGN & ART DIRECTION
B&G Design Studios

WRITERS & CONTRIBUTORS
JoAnne DeSanto-Bonewicz
Karen Brooks
Grace Cushing
Christopher Guadagnino
Meredith Mann
Jennifer Reardon
Andrew Smith
Jeremy Walter

BUSINESS MANAGER
Younndia Rush

ADMINISTRATION
Alan N. Rosenberg
Senior Vice President/
Chief Administrative Officer

Christopher
Guadagnino, PhD
Interim Lead, Communications

Jessica Lista
Director, Alumni Relations

CONTACT US
Office of Communications
3509 N. Broad Street
Philadelphia, PA 19140
215-707-4839

TEMPLE HEALTH
TempleHealth.org
1-800-TEMPLEMED

Lewis Katz School of Medicine
Temple University Hospital
Temple University Hospital
Episcopal Campus
Temple University Hospital
Northeastern Campus
Fox Chase Cancer Center
Fox Chase Cancer Center
at Buckingham
Fox Chase Cancer Center
Medical Group
Jeanes Hospital
Temple Health Oaks
Temple Health Center City
Temple Health Elkins Park
Temple Health Ft. Washington
Temple ReadyCare
Temple Physicians, Inc.
Temple University Physicians
Temple Transport Team

Temple Health refers to the health, education, and research activities carried out by the affiliates of Temple University Health System, Inc. (TUHS), and the Lewis Katz School of Medicine at Temple University. TUHS neither provides nor controls the provision of health care. All health care is provided by its member organizations or independent health care providers affiliated with TUHS member organizations. Each TUHS member organization is owned and operated pursuant to its governing documents.

Points of View

What we see depends on our vantage point, who we are, and what we've been conditioned through experience to see — or not see. This holds true for individuals, communities, and organizations of all kinds — including academic medical centers.

What we see at Temple Health inspires us to extend our mission in academic medicine beyond the traditional boundaries of education, research, and patient care.

In addition to developing programs that draw patients, students, and faculty from near and far, Temple serves as the primary caretaker of one of America's poorest urban communities. The Philadelphians in our immediate service area have a 20-year lower life expectancy than their neighbors just a few miles away.

Simply put, Temple Health has no choice but to recast its scope of work, engaging with community partners to address hunger, social isolation, violence, addiction, and other intractable problems our constituents face.

Is this mission onerous and expensive? Yes.
Sometimes it's heartbreaking.
But it is also heart-making.
Missions of meaning and necessity are a privilege to embrace.

Larry R. Kaiser, MD, FACS

Senior Executive Vice President for Health Affairs, Temple University
The Lewis Katz Dean at the School of Medicine
Professor of Surgery, Lewis Katz School of Medicine
President & CEO, Temple University Health System



FEATURES

10 Organ Transplantation

A Can-Do Attitude and Commitment to Quality Keep Temple's Transplant Program on the Advance

BY GISELLE ZAYON

16 In the DNA of Deans

Do Medical School Deans Imprint *Their* Alma Maters on Students?

BY GISELLE ZAYON

DEPARTMENTS

22 Inside Story

The Writing of Students & Staff

26 Change Agent

Curtis Miyamoto, MD, FACP:
Cultural Competency

28 Quest

A. Koneti Rao, MD, FACP, FAHA:
Blood Disorder Breakthroughs

30 Tools of the Trade

The LVAD: Help for Heart Failure

32 Timeline

Legends in Psychiatry at Temple

40 So Noted

Quotes & Quips

41 Artful Ending

The Extracellular Matrix

IN EVERY ISSUE

1 Agenda

By Larry Kaiser, MD, FACS

4 Currents

News Roundup

36 Impact

Alumni Award Winners &
Philanthropists



LEFT: MARK SMITH; TOP RIGHT: JOSEPH V. LABOLITO; BOTTOM LEFT: RAUL ARIAS; BOTTOM RIGHT: KATIA BULBENKO

ON THE COVER: Organ transplantation, rooted in the ancient process of grafting in horticulture, has come a long way. Photo illustration by Ann Cutting.

CURRENTS

Space Medicine

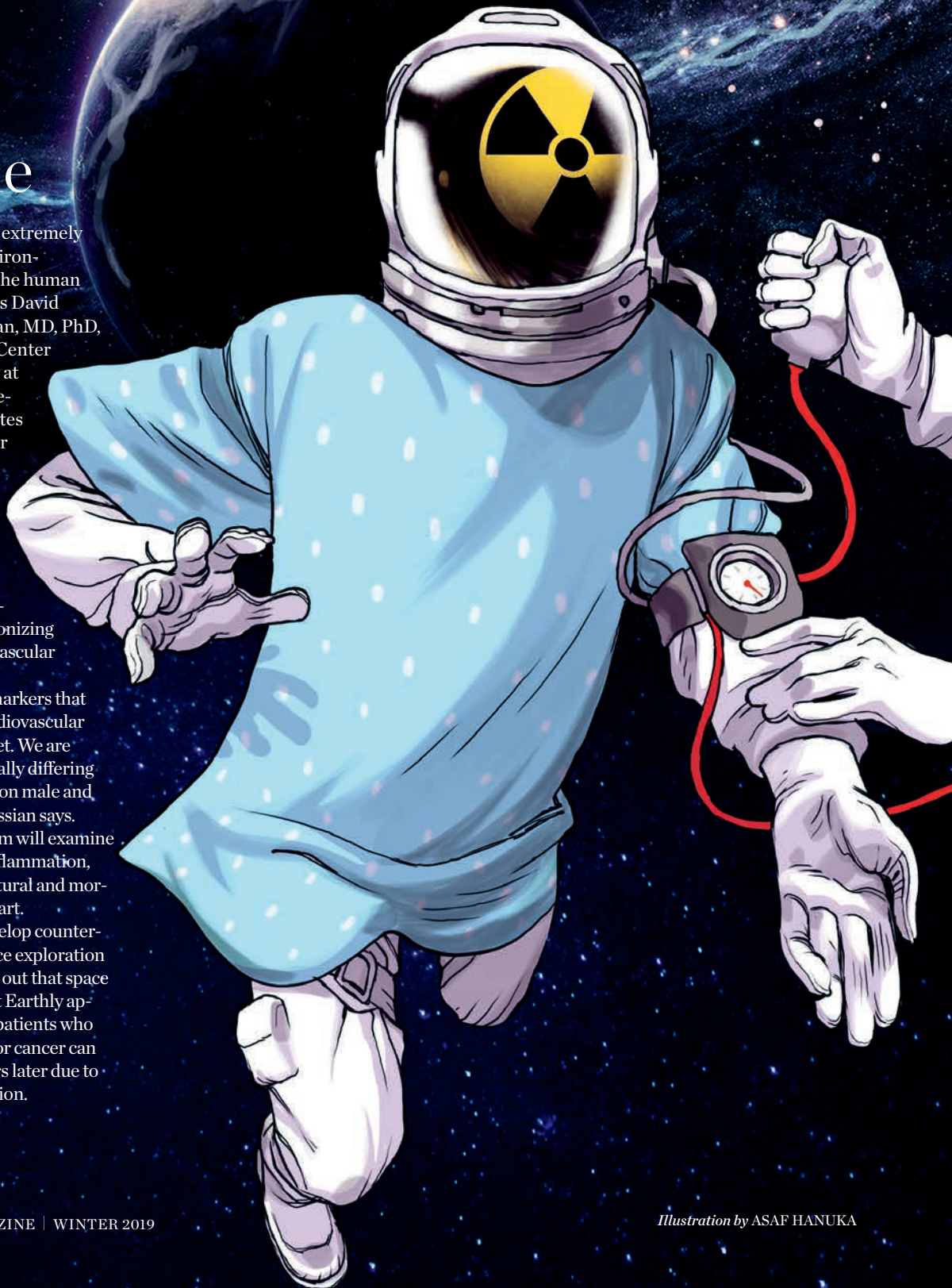
“Space is an extremely harsh environment for the human body,” says David Goukassian, MD, PhD,

Associate Professor in the Center for Translational Medicine at Temple, one of just seven researchers in the United States selected by NASA to answer questions about astronaut health and performance during long-duration missions in deep space.

One of Goukassian’s goals for his NASA-funded research program is to determine exactly what levels of ionizing radiation can lead to cardiovascular disease in astronauts.

“We want to identify biomarkers that predict the symptoms of cardiovascular trouble before its actual onset. We are also looking into the potentially differing impact of ionizing radiation on male and female heart health,” Goukassian says. With NASA funding, the team will examine the effects of radiation on inflammation, oxidative damage, and structural and morphological changes in the heart.

NASA’s objective is to develop countermeasures to make deep-space exploration safer, but Goukassian points out that space research can have important Earthly application, too. For example, patients who undergo radiation therapy for cancer can develop heart problems years later due to the impact of ionizing radiation.



PEOPLE
EMPLOYED
BY
TEMPLE HEALTH

9,893

Lung Care: A National First

Temple is the first medical center in the U.S. to use the Zephyr® Endobronchial Valve, a device newly approved by the FDA for the treatment of severe emphysema. Temple is also the first center to be authorized to train physicians in its use and application in patient care. Physicians representing leading academic medical centers and hospitals throughout the United States are now attending the Temple-led training sessions in Philadelphia.

On June 29, 2018, the FDA granted pre-market approval to the Zephyr® Valve under its breakthrough devices designation, following publication of clinical research showing that the Valve successfully reduced shortness of breath and improved lung function and quality of life for patients with severe emphysema, with benefits lasting at least one year. The Zephyr® Valve is manufactured by Pulmonx Corporation.

“This is a turning point in our capabilities to treat severe emphysema using a minimally invasive bronchoscopic option,” says Gerard Criner, MD, FACP, FACCP, who served as Principal Investigator for the Valve Study. Criner is Director of the Temple Lung Center — a major hub of patient care, education, and research.

JOSEPH V. LABOLITO



LGBTQ Task Force leaders (L-R): Ben Moore, Heather Clauss, MD, and Robert Bettiker, MD

LGBTQ-Friendly, Officially

Temple University Hospital is now one of 418 health care providers nationwide and 19 in Pennsylvania to earn the “LGBTQ Healthcare Equality Leader” designation. The certification is awarded by the Human Rights Campaign Foundation, America’s largest civil rights organization working to achieve equality for lesbian, gay, bisexual, transgender, and queer people.

“We serve one of the most diverse patient populations in the nation, and we are committed to creating an inclusive and compassionate care environment for LGBTQ and gender

non-conforming people,” says Verdi J. DiSesa, MD, MBA, President and CEO of Temple University Hospital, Chief Operating Officer of Temple Health, and Senior Vice Dean for Clinical Affairs.

“Our LGBTQ task force — led by Robert Bettiker, MD; Heather Clauss, MD; and Ben Moore — includes more than 170 members staffing nine subcommittees focused on improving policies, education, and services to help foster a welcoming environment for LGBTQ patients, students, staff, faculty, and visitors,” DiSesa says.

Baby-Friendly, Officially

The Baby-Friendly Hospital Initiative, a global program sponsored by the World Health Organization (WHO) and the United Nations Children’s Fund (UNICEF), has named Temple University Hospital a Designated Baby-Friendly birth facility. This honor recognizes hospitals and birthing centers that offer an optimal level of care for breastfeeding mothers and their babies. With this designation, Temple has become one of only 500 designated Baby-Friendly hospitals and birthing centers in the United States.

Cop on the Beat

There's a new weight watcher in town: your heart. "We are finding that the heart can 'talk' to fat, altering pathways in heart muscle cells that change how fat responds to certain conditions," says Walter Koch, PhD, the William Wikoff Smith Endowed Chair in Cardiovascular Medicine at Temple — a leading heart researcher.

Koch's research shows that the heart secretes substances that can regulate distant tissues and organs — acting like an endocrine organ, a role previously unrecognized for the heart. With a \$1 million merit award from the American Heart Association (AHA), he'll delve more deeply into this phenomenon.

"The goal of AHA's merit award program is to support visionary leaders who are undertaking

high-risk projects whose outcomes could revolutionize the treatment for cardiovascular disease in the era of precision medicine," says Ivor Benjamin, MD, President of the American Heart Association. Koch is one of only two researchers in the U.S. to receive the merit funding for 2018.

A nationally recognized leader in translational research, Koch is best known for elucidating the role of GRK2 in heart failure. As principal investigator of several multi-million dollar NIH grants over the years, he has overseen numerous advances in cardiac research.

Koch also serves as Chair of Pharmacology and Director of the Center for Translational Medicine at Temple. The American Heart Association has funded more than \$4 billion in cardiovascular research since 1949.



Institutional Honors

TEMPLE UNIVERSITY HOSPITAL



- Healthgrades's 2018 Distinguished Hospital Award for Clinical Excellence (awarded to the top five percent of U.S. hospitals).
- The Joint Commission's 2018 Certified Comprehensive Stroke Center designation, the highest level achievable.
- The Centers for Disease Control's 2018 "Recognition Status" for Diabetes Prevention.
- Vizient's Supply Chain Excellence Award.
- The American Heart Association's 2018 Get With The Guidelines® Resuscitation Silver Quality Achievement Award for treating in-hospital cardiac arrest.

FOX CHASE CANCER CENTER



- For the fifth consecutive time, the American Nurses Credentialing Center's Magnet Designation for Nursing, the highest national recognition for nursing, held by just nine percent of all U.S. hospitals.

- The American Nurses Association's 2018 All-Pro Nursing Team Award.

JEANES HOSPITAL



- The Leapfrog Group's 2018 Top Safety Score, one of 750 hospitals to receive the "A" rating in the U.S.
- Healthgrades's 2018 Distinguished Hospital Award for Clinical Excellence, awarded to the top five percent of U.S. hospitals.
- American Heart Association/ American Stroke Association Stroke Gold Plus certification — the highest national designation.



Thomas Fekete, MD, MACP

New Leaders

Jeffrey Farma, MD, FACS, Co-Director of the Melanoma and Skin Cancer Program at Fox Chase, a faculty member since 2009, has been promoted to Chief of the Division of General Surgery. As noted on page eight, Farma is a leader of the Society of Surgical Oncology, the premier international organization dedicated to advancing cancer surgery.

Thomas Fekete, MD, MACP, has been appointed Chair of the Department of Medicine at Temple. A faculty member since 1984, Fekete has held various leadership roles over the years — most recently serving as Chief of the Section of Infectious Diseases. Fekete is a Master of the American College of Physicians, a Diplomate of the American Board of Internal Medicine and its Infectious Disease Board, and a Fellow of the Infectious Diseases Society of America.

Michael Young, MHA, FACHE, has been named Chief Operating Officer of Temple University Hospital. A seasoned executive, Young has served as CEO at Pinnacle Health System (Harrisburg, PA); Grady Memorial Hospital

(Atlanta, GA); Erie County Medical Center (Buffalo, NY); and Lancaster General Hospital & Health System (Lancaster, PA).

Cecelia Schmalbach, MD, MSc, FACS, has been named the David Myers, MD, Professor and Chair of Otolaryngology-Head and Neck Surgery. Schmalbach comes to Temple from the Indiana University School of Medicine, where she was Professor of Otolaryngology-Head and Neck Surgery and Vice Chair of Clinical Affairs. The newly endowed Chair honoring Dr. David Myers, a former Chair of Temple Otorhinology, was established by Temple alumnus Eugene N. Myers, MD '60, FACS, FRCS Edin (Hon.), and his wife, Barbara.

Mariusz A. Wasik, MD, has been named Associate Director of Fox Chase Cancer Center with a concurrent appointment as Chair of Pathology. As pathology chair, he succeeds Arthur Patchefsky, MD, who served in the role since 1994 and who remains on faculty. Wasik, a hematopathologist, comes to Temple from the University of Pennsylvania.

HOSPITALS: TEMPLE HEALTH MARKETING; FEKETE: JOSEPH V. LABOLITO

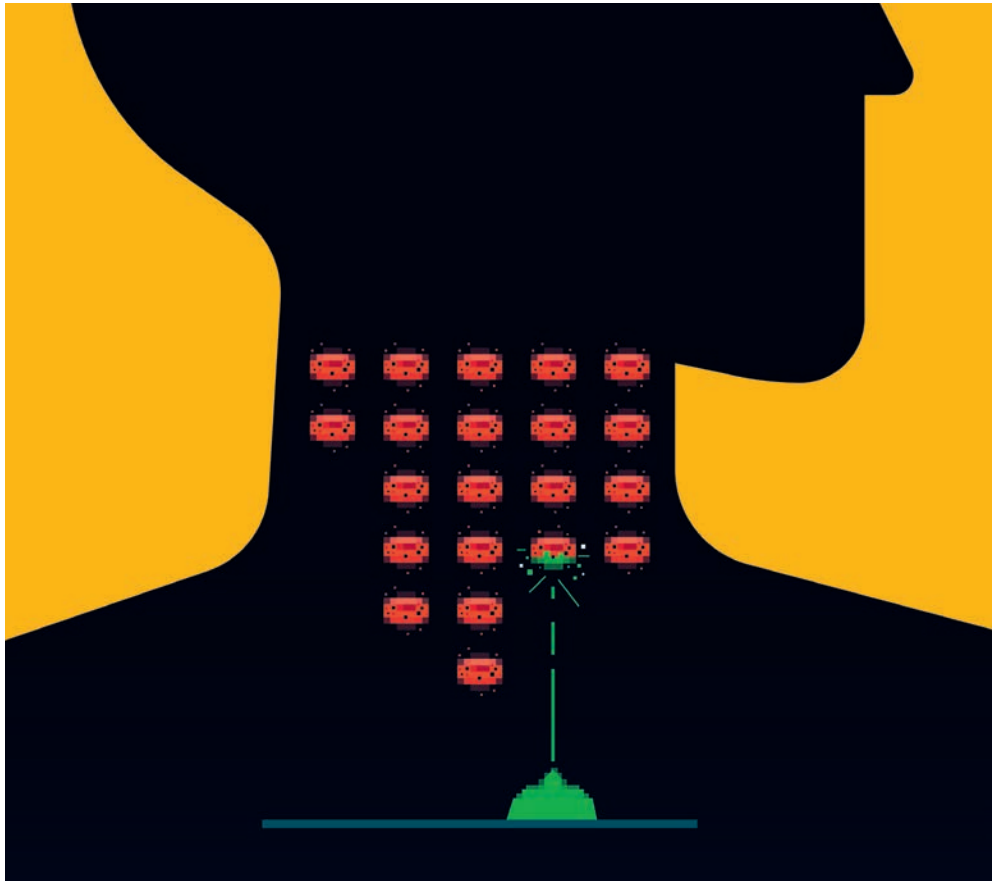
FOX CHASE
CANCER CENTER

2,282
EMPLOYEES

100
LICENSED
BEDS

265
ACTIVE CLINICAL
TRIALS

105K
OUTPATIENT
VISITS



Laser That Larynx

“**T**he larynx contains the critically important structures we use for breathing, eating, and speaking. Because these are delicate structures, it is essential to use minimally invasive diagnostic and treatment techniques,” says Ahmed Soliman, MD, Director of Temple’s Voice, Airway, and Swallowing (VAS) Center.

To this end, the Center uses sophisticated technology available only at select medical centers nationwide — such as the potassium titanyl phosphate (KTP) laser.

“We use the KTP to remove a variety of lesions including papillomas and early cancers of the glottis, growths with a robust blood supply,” Soliman explains. “The high-frequency laser destroys the lesion *and* the blood vessels that feed it, which limits further growth and spread.”

Treating such lesions with traditional

surgery could result in bleeding and scarring, or involve primary radiation treatment — generally entailing six weeks of treatment, five days per week.

“The KTP laser enables a swifter treatment and recovery time,” says Soliman, President of the Pennsylvania Academy of Otolaryngology-Head and Neck Surgery. Another benefit of the KTP laser is that, between pulses, the tissue cools, reducing the risk of scarring that can adversely affect the voice.

With an expert team and a clinical network spanning the Philadelphia metro area, the VAS Center addresses head and neck ailments both common and rare.

“We also provide tailored treatment for coaches, singers, actors, clergy — people who use their voices in their work,” says Barbara Ebersole, BFA, MA, CCC-SLP, the Center’s Director of Speech Pathology.

SSO VIPs

The Society of Surgical Oncology (SSO), the leading international organization dedicated to advancing the field of cancer surgery, has recognized three leaders at Fox Chase Cancer Center:

Richard Bleicher, MD, FACS, Professor of Surgical Oncology, has been appointed Vice Chair of SSO’s Breast Fellowship Program Directors Committee.

Jeffrey Farma, MD, FACS, Associate Professor of Surgical Oncology; Director of the Fox Chase Surgical Oncology Fellowship Program; and Chief of the Division of General Surgery, has been named Vice Chair of SSO’s Complex General Surgical Oncology Program Directors Committee.

Robert G. Uzzo, MD, FACS, Chair of Surgical Oncology, has been honored with the SSO 2018 Medal for making significant contributions to the surgical oncology field.

150

TEMPLE
PHYSICIANS IN

39

SPECIALTIES
MADE PHILADELPHIA
MAGAZINE’S
“TOP DOCTORS”
LIST, 2018

Recognized

Crystal Denlinger, MD, FACP, Chief, Division of Gastrointestinal Medical Oncology at Fox Chase Cancer Center, won the 2018 National Comprehensive Cancer Network's Rodger Winn Award — recognizing leadership, drive, and commitment to the development of evidence-based guidelines.

Arthur Feldman, MD, PhD, Laura H. Carnell Professor of Medicine, won the Judges' Choice Award at the American Heart Association's 2018 Heart Science Forum Innovation Challenge, a competition for early-stage solutions for cardiovascular disease.

Enrique Hernandez, MD, FACOG, FACS, the Abraham Roth Professor and Chair of Obstetrics and Gynecology at Temple, received the Cristol Award of the Philadelphia County Medical Society, recognizing his years of dedication and service to organized medicine. Hernandez served as President of the Society 2004-2005.

Nirag Jhala, MD, Professor of Pathology and Laboratory Medicine and Director of Anatomic Pathology/Cytology at Temple, was recently elected President of the Pennsylvania Association of Pathologists.

Larry R. Kaiser, MD, FACS, Temple Health's CEO, and **Verdi DiSesa, MD, MBA**, Temple Health's COO, have been named to *Becker's Hospital Review's* list of "100 Great Leaders in Healthcare," 2018. Taking the lead in transforming health care in the U.S., these individuals are working to improve the quality of care and to solve the toughest problems in health care today.

Bennett Lorber, MD, MACP, Temple's recently retired Durant Professor of Medicine, is one of four medical school faculty in the U.S. to receive the Association of American Medical College's Alpha Omega Alpha Robert J. Glaser Distinguished Teacher Award

— a national recognition for teachers with distinguished careers in medical education.

Robert H. Lux, CPA, FHFMA, Temple University Health System's newly retired Chief Financial Officer (37 years of service), was named one of 2018's top "150 Hospital and Health System CFOs to Know," *Becker's Hospital Review*.

Stephen Permut, MD, JD, Professor of Family and Community Medicine, is the recipient of the Medical Society of Delaware's 2018 Tilton Award for medical achievement — honoring his contributions to patient care, medical education, and legislative affairs.

Henry Pitt, MD, Temple Health's Vice Dean and Chief Quality Officer, has been invited to join the Guiding Committee for the Health Care Payment Learning and Action Network, a public-private partnership sponsored by the Centers for Medicare and Medicaid Services.

Jennifer Barsky Reese, PhD, Assistant Professor in the Cancer Prevention and Control Program at Fox Chase Cancer Center, has been named a Putnam Scholar by the Academy of Communication in Healthcare.

Howard Rudnick, MD, MHA, FACP, Medical Director of Occupational Health at Temple University Hospital, has been named President of the Pennsylvania Occupational and Environmental Medicine Society.

Anna Skalka, PhD, Senior Advisor to the President at Fox Chase, has received the Sigma Xi William Procter Prize for Scientific Achievement — awarded to a scientist who has not only made an outstanding contribution to science, but has communicated its significance to scientists in other disciplines.

William Van Decker, MD, Temple's Director of Nuclear Cardiology, received the 2018 American Society of Nuclear Cardiology's Distinguished Service Award — recognizing his efforts in health policy to the Society and the field of cardiology.

—
Enrique Hernandez, MD, FACOG, FACS



Organ Transplantation

A Deeply Rooted Temple Tradition

Documented in Egyptian hieroglyphs — and applicable to horticulture and surgery — the ancient concept of grafting has come a long way.

A graft is something living that is fastened to another living thing, with the intent of supporting, enhancing, or changing that life.

In the context of transplant surgery, the term “harvest” once referred to the process of removing a donated organ from a deceased donor. Today the preferred term is “procure.” “The term ‘graft,’ however, is still used to refer to the transplanted organ itself,” explains Antonio Di Carlo, MD, CM, FACS, FRCS, Chief of Abdominal Organ Transplant Surgery at Temple.

Donated organs are precious, scarce things. More than 114,000 people are waiting for one. While approximately 35,000 organ transplants are performed annually, every year about 5,000 potential organ grafts (from deceased donors) go unused. Sometimes organs are damaged during procurement or transport. Others aren’t used because they come from donors with diabetes, hypertension, or another condition that raises concerns about the organ’s ability to function normally.

An organ’s suitability for transplantation, however, is in the eye of the beholder. “At Temple, transplant surgeons see potential in organs that less-experienced surgeons might not,” says Verdi DiSesa, MD, MBA, the CEO of Temple University Hospital — a cardiothoracic surgeon who has performed hundreds of heart transplants himself.

By GISELLE ZAYON

Photo illustrations by ANN CUTTING



Organs categorized as “extended criteria” or “marginal”

by the United Network for Organ Sharing (UNOS) may not be accepted by all transplant centers. But imperfect organs can save lives.

“These organs could give another decade of life to someone with end-stage organ failure,” says Yoshiya Toyoda, MD, PhD, Chief of Cardiovascular Surgery and Surgical Director of Thoracic Transplantation.

Sometimes their only defect might be a damaged blood vessel — often easily fixed with a microsurgical repair.

At Temple, patients may be offered repaired organs. And since they know that the transplant waiting list is 114,000 names long — with another added every 10 minutes — they say yes, go ahead.

“Temple’s transplant outcomes are consistent with the national averages — and in many cases surpass them — which is impressive considering the higher-risk profile that many of our patients have,” DiSesa says.

ALL-IMPORTANT OPTIONS

Organs for transplantation are allocated to patients by UNOS. Using criteria such as blood type, tissue type, organ size, the severity of the patient’s condition, length of time on the list, and the distance the organ must travel, UNOS alerts transplant centers to the availability of organs that match patients on waiting lists.

“We are given a recommendation, but ultimately, we decide what organs — and which patients — to accept,” Di Carlo says.

Some centers won’t approve older patients for transplantation, but former New York Yankee Joseph Hindelang was 71 when Temple gave him a new heart in 2017.

Approving a liver transplant for a patient with significant alcohol-related liver disease — or a patient with the hepatitis virus — might sound ill-advised, but in Di Carlo’s care, they can do quite well.

“Temple is known for setting broader transplant eligibility criteria than most. But really it’s just in our blood to say yes,” Di Carlo says.

He’s excited that Temple’s pancreas transplant program, leading the way in Philadelphia, “is giving patients with type I and type II diabetes new options for a healthier life.”

One call from a patient or a referring physician to a Temple transplant specialist will get a transplant evaluation underway. Temple employs 25 transplant coordinators and other professionals who help patients navigate the transplant evaluation process. It’s valued guidance.

Efficient yet intense, transplant evaluations include careful review of the patient’s medical history and a litany of new exams and sophisticated diagnostics. Patients and families meet with transplant surgeons, medical specialists, nurses, social workers, psychologists — each contributing unique expertise.

“Numerous factors influence transplant outcomes — medical, logistical, psychological — and each must be explored,” DiSesa explains.

Within days, patients get an answer. But it’s rarely a simple yes or no.

“Our patients receive a customized set of recommendations,” DiSesa says. “We provide full supportive therapy, immediate consultations for related conditions, and aggressive management of concomitant disease. We weigh the risks and benefits of transplantation against those of alternative approaches — and strive to recommend what’s best for the individual patient.”

Sometimes it’s a surgery to optimize a patient’s own organ. Or a novel drug treatment or stem cell therapy.

“Transplantation is not the only treatment option for end-stage organ failure. That’s why patients should seek help at medical centers offering a full range of options,” DiSesa says.

THREE’S A CHARM

Desperate but not hopeful. That’s how Nate Collins of Harrisburg, PA, felt in November of 2017 when he came to Temple for his own transplant evaluation. Two other transplant centers had already turned him down.

Collins, now 44, has a rare form of cardiomyopathy, an incurable condition that degrades heart muscle function.

“Twice I’d been told I was just too sick to survive a transplant, so I wasn’t optimistic,” he says. But attempt number three resulted in a “yes” from the Temple team. For heart number three.

Collins had already had two heart transplants. The first when he was 20 and the second at 28. Both hearts eventually began to fail.

Third heart transplants are rare. Only about three are performed in the United States each year. That’s why his case made front page news in *The Philadelphia Inquirer* on June 17, 2018.

“And it wasn’t just another heart that Collins needed. He needed a new kidney, too, as years of immunosuppression had taxed his own beyond repair,” Di Carlo explains.

On January 21, 2018, just two months after being listed, a suitable donor heart and kidney came Collins’s way.

Today, nearly a year post-transplant, Collins is doing well. He is enjoying life with his wife and young son.

Immune response is a pivotal issue in transplantation, and his body seems to be accepting his new heart and kidney well.

IN THE BALANCE

According to Olga Timofeeva, PhD, an unrestrained immune system can destroy an organ in a matter of days — even a well-matched one.

Timofeeva is Director of Temple’s Molecular Pathology Laboratory. With Steven Geier, PhD, she also co-directs Temple’s Immunogenetics Laboratory.

Together they lead a team of technologists and specialists who, along with pharmacists and transfusion medicine specialists, provide round-the-clock support for the transplant program.

“Our goal is to ensure high-quality transplant results,” Timofeeva says.

To this end, the team produces a comprehensive profile of the immune system of each patient awaiting transplant, with

Third heart transplants are rare. Only about three are performed in the United States each year.
“And it wasn’t just another heart that Collins needed. He needed a new kidney, too.”



sophisticated tests like Human Leukocyte Antigen (HLA) typing and testing for pre-existing anti-HLA antibodies.

“With this information, when an organ comes along, we can say, okay, this patient does or does not have antibodies against this donor,” Timofeeva explains.

The transplant surgeons rely on the advice that Timofeeva and Geier give.

“We must be very accurate. You don’t want to deny somebody a lifesaving transplant — or give them an organ more compatible with somebody else,” Geier says.

When an organ is found for a patient, immune system preparation begins before surgery, with immuno-induction, which removes from the recipient’s blood specific immune cells that can damage the transplanted organ.

“This reduces the risk of organ rejection during the early post-transplant period,” Timofeeva explains. “Then, after surgery, we watch to see if the patient is developing antibodies specific to the new organ — and if so, the patient’s immunosuppressive treatment may be adjusted.”

It’s a balancing act. Under-suppression will lead to organ rejection, while over-suppression will leave the patient vulnerable to potentially lethal infections.

Balance, however, can generally be achieved. As Geier explains, today’s drugs do a good job of preventing rejection while causing fewer side effects than the steroids used in transplantation’s early days.

“In fact, today’s drugs are so good, they even permit us to transplant a less than ideally matched organ. Of course you want to stay away from organs to which patients have strong antibodies, but an exact match is not usually the goal. The goal is getting patients transplanted early and safely,” Geier says.

ON THE CLOCK

Time is make-or-break — for patients — and for organs from deceased donors, too.

Cut off from blood and oxygen, these organs have a short

shelf life — especially given the methods by which they are stored and transported, which haven’t changed much since transplantation’s early days. Once procured from the donor, the organ is flushed with a preservative solution, then stored on ice in a cooler for transport to the surgical team.

Ice slows down the rate at which tissues degrade. But wouldn’t organs last longer with a transport technology that mimics the conditions of life?

Right now Toyoda is testing just such a device especially designed for lungs: The Organ Care System™ Lung, a small, portable machine that keeps the lung warm, “breathing,” and perfused with blood.

“Temple is conducting a clinical trial to determine if the machine will, in fact, improve the function of donated lungs, thereby increasing the number that are useable,” Toyoda says. “Today, only about 15 percent of donated lungs are actually used each year. If widely adopted, a technology like this could increase the percentage.”

No question: procured organs and patients awaiting them deserve more time. But aren’t patients who *aren’t* on the transplant list just as important?

“Absolutely,” says cardiologist Eman Hamad, MD, FACC, FHFSa. “We do all we can to extend life and improve quality of life for patients in *both* categories.”

As Medical Director of Mechanical Circulatory Support, Hamad recommends devices like the HeartMate3™ to help the failing heart. (For more on the HeartMate3™, see page 30.)

Temple sometimes enlists special technology for other kinds of organ failure — such as extracorporeal membrane oxygenation (ECMO) for patients with end-stage lung disease and single-pass albumin dialysis for patients with failing livers.

“The technology gets better all the time. Surgical techniques for transplantation have advanced, too,” DiSesa says.

SURGERY AND AFTER

Most thoracic surgeons use the antero-axillary approach for lung transplantation. This technique — pioneered by Toyoda — makes cutting and rewiring the sternum unnecessary. It also spares important muscles and major arteries and veins. Less-invasive procedures mean faster recoveries. Additionally, Toyoda's techniques (for both lung and heart) re-perfuse organs quickly, helping improve clinical outcomes.

When Di Carlo operates on living donors who are giving a kidney to a patient, his laparoscopic approach means a fast recovery and less pain for the donor. It also means a tiny scar: five millimeters versus the 12- to 15-inch incisions of the open surgical approach.

"We are fortunate to have surgeons who set standards for other surgeons," DiSesa says. "Yet patient welfare also depends on excellent pre- and post-surgical management — both short- and long-term."

Marissa Pietrolungo, RN, MSN, CCRN, says Temple patients get meticulous care. A heart transplant nurse in the Cardiac Intensive Care Unit, she knows what patients and families go through those first anxious hours and days after surgery.

But Temple's done more than a thousand heart transplants.

"Experience means foresight," Pietrolungo says. "We know what to look for. At the slightest sign of trouble, we're quick to respond. We're also quick to bond with our patients and families."

Emotions run high when you're sharing every milestone with patients and families. Those first breaths after the breathing tube comes out, the first time getting out of bed to sit in a chair.

"We get close and stay close, often long after patients leave the hospital. Physicians, nurses, pharmacists, nutritionists, social workers — we're all pulling together to keep patients healthy, to enhance their quality of life," Pietrolungo says.

The native kidneys of the recipient of an organ graft of any kind are vulnerable to the effects of immunomodulatory drugs. Therefore, nephrologists like Serban Constantinescu, MD, PhD, follow all patients after transplant surgery — not just patients who have gotten a kidney transplant.

In addition to serving as Medical Director of Kidney Transplantation at Temple, Constantinescu is Co-Principal Investigator of the Transplantation Pregnancy Registry International (TPRI), a unique resource for transplant patients.

"A transplant is a second chance at life — and we help patients take full advantage. For some, that means parenthood," he says.

TPRI has collected data on more than 1,500 women who have become pregnant after a transplant. "This has enabled us to develop medical management guidelines for transplanted patients who want to have families. Years ago, pregnancy wasn't advisable for transplant recipients, but it's much safer today, provided certain principles of care are followed," Constantinescu explains.

TRANSPLANT MECCA

Founded in 1991 by the late Vincent Armenti, MD, PhD, a kidney transplant surgeon at Temple, TPRI is now based at Gift



of Life, the organ procurement organization that serves the greater Philadelphia region.

"TPRI is a great example of the unique transplant resources in Philadelphia — a city that is very transplant friendly, very transplant aware," says Larry Kaiser, MD, FACS, Temple Health's CEO.

In fact, the *Philadelphia Business Journal* recently called Philadelphia a "transplant mecca." With 50 million registered organ donors, Philadelphia leads the nation.

"A Philadelphia hospital — Temple — performed more lung transplants last year than any other hospital in the United States," says Kaiser, a thoracic surgeon who founded the University of Pennsylvania's lung transplant program (in 1991) and performed the region's first lung transplant himself.

Temple placed first in this year's statewide "Donate Life" Pennsylvania donor advocacy challenge — making Kaiser proud.

"Transplantation is deeply embedded in Temple's history and culture, in its programs in education, research, and patient care," he says.

With research initiatives ranging from new transplantation

Emotions run high when you're sharing every milestone with patients and families. Those first breaths after the breathing tube comes out, the first time getting out of bed to sit in a chair.



1: Eman Hamad, MD, FACC, FHFSA; 2: Steven Geier, PhD (front left) and Olga Timofeeva, PhD (front right) with their team; 3: Antonio Di Carlo, MD, CM, FACS, FRCSC (left) and Yoshiya Toyoda, MD, PhD; 4: Serban Constantinescu, MD, PhD; 5: Marissa Pietrolungo, RN, MSN, CCRN

techniques to stem cell therapies to a patented therapy using cannabinoids to prevent the rejection of grafts, Temple is pushing the envelope for patients with end-stage organ failure.

In 2014, Temple and St. Luke's University Health Network forged a partnership that brings Temple's transplant services to Pennsylvania's Lehigh Valley, a growing region north of the greater Philadelphia area. Patients and physicians alike appreciate this ease-of-access.

According to Amy Goldberg, MD, Chair of the Department of Surgery, Temple is a mecca for physicians who want to specialize in the surgical and medical aspects of transplantation. Many have trained in this specialty over the years.

"We educate patients and families, too," says Goldberg, founder of an innovative communications program that leads families of brain-dead patients to consider donating their deceased loved one's organs.

"We are pioneers in transplantation," she says. "The development of transplantation at Temple has been a natural progression from Philadelphia's first heart transplant in 1984 to the robust enterprise we have today."

All told, Temple has performed over 2,800 organ transplants, making it one of the most experienced programs in the world.

"Temple has special aptitude for tough, complex cases — and the capacity to create individualized protocols for patients with specialized needs," Goldberg says.

In addition to dozens of surgeons and medical transplant specialists, Temple employs a large team of nurses, laboratory

specialists, pharmacists, social workers, nutritionists, organ procurement coordinators, financial coordinators, and other specialists focused entirely on transplantation.

But the number of professionals devoted to transplantation is actually much larger. "Transplantation requires an institutional commitment. Everyone who works at Temple is on the team," Goldberg says.

CAN DO

Better antirejection drugs, improved diagnostics, superior surgical techniques, and meticulous follow-up care make transplantation significantly safer and more effective than the pioneering procedures that made global headlines 50 years ago.

Today, after a transplant, two-thirds of patients return to work. They also raise families, run marathons, and climb mountains, like Temple lung transplant patient David Skalski, who's planning to scale Mt. Kilimanjaro.

But marathons and mountains aren't for everyone.

Donnie Pinson, who received a kidney at Temple in 2013, longs simply to "dance with my granddaughter at her graduation party."

Nate Collins, with heart number three and kidney number one, just wants to keep a playdate with his son.

And thanks to the skill and dedication of the Temple transplant team, now they can. 

For more information about organ transplantation, call 800-TEMPLE-MED.



IN THE DNA OF DEANS

Thirteen Alumni-Deans with One Priority

By GISELLE ZAYON

Something happened to Robert Folberg, MD '75, in the summer of 1972, between his second and third years of medical school.

He'd spent that summer shadowing Wallace Clark, Jr., MD, Temple's Chair of Pathology. Folberg worked in Clark's lab and followed him on patient rounds.

"Wally Clark was world-famous. He developed the first widely used scale for assessing melanomas, Clark's Levels," Folberg says.

"One day we examined a patient, a man in his late twenties with a family, someone I could relate to. He had a suspicious lesion. Clark recommended a biopsy and ordered other tests," Folberg recalls.

"It was my task as a student working in the lab to classify the tumor. And the cancer was as serious as serious could get.

"I was upset by the reality that, likely, nothing could be done to help this young patient. Clark, this busy, world-class expert put everything aside to help me.

"What do you do, I basically asked him, for a patient for whom nothing can be done?"

"After making arrangements to do all that *can* be done," Clark said, "I lock myself in the men's room and I cry."

First Priority

Thirteen graduates of the Lewis Katz School of Medicine have served as deans of American medical schools. Folberg is one of them. In 2008 he became Founding Dean of the Oakland University William Beaumont (OUWB) School of Medicine.

"OUWB is a unique medical school," says Folberg. In fact Folberg pointedly shapes it

to resemble "a high-performing liberal arts school, not a Temple or a Penn."

Every dean pursues a unique mission and vision. But surely there's something "Temple" that Folberg and the dozen other alumni-deans have passed on to the 15,000+ physicians they've educated.

We spoke about this with Alfred Michael, Jr., MD '53, who was dean at University of Minnesota medical school from 1996 to 2002.

Michael cut straight to the chase. "I could have been dean sooner. But I kept pushing off the deanship, because I thought the most important thing was taking care of people who were sick," he said.

Patients come first. This is the fundamental premise of medical education shared by the 13 deans.

"The essential meat of medicine, taking care of sick people, came through loud and clear at Temple," says Michael. "Clinical medicine is in Temple's DNA."

Changing and Constant

The first Temple medical graduate to become dean of an American medical school was Michael's dean, William Parkinson, MD 1911.

"Parky" became dean of his alma mater in 1929 and led the school — along with Temple University Hospital — for 30 years.

Three-decade tenures are unheard of today. So are autocracies.

"Parky was the chief financial officer, the admissions committee, the curriculum-planner — he had direct control of everything," says Michael. "But deans cannot possibly function that way today. The 21st-century dean is a CEO, overseeing tiers of associates and assistants."



M. Prince Brigham, MD '50
(1923-1980)
Dean, Lewis Katz School of Medicine, 1978-1979

M. Prince Brigham, MD '50, was extolled for leading Temple's medical school with the same decency he demonstrated when welcoming the nation's first blind medical student to campus. Sadly, however, Brigham died less than two years into his deanship. "Dr. Brigham represents those qualities that are the reasons we want to be physicians: simple dignity and total understanding of the human condition," said the tribute to him in the Class of 1981 yearbook.



Erich Brueschke, MD '65
Dean, Medical College of Rush University, 1994-1999

Raised on a ranch in South Dakota, Erich Brueschke, MD '65, joined Rush University Medical College in 1974.

Two decades later he was named Dean. Among the first group of certified family practitioners, Brueschke is former Editor-in-Chief of *Disease-a-Month* and *Primary Cardiology*, the *World Book Rush Presbyterian St. Luke Medical Encyclopedia*.



Robert Bucher, MD '44

(1920–1998)

Dean, Lewis Katz School of Medicine, 1959-1969;

Dean, University

of South Alabama College of Medicine, 1971-1974

“The physician is an ambassador without portfolio — with dedication and commitment that rise above human differences,” said Robert Bucher, MD '44, who guided new construction on campus while attracting unprecedented levels of research funding to the school. Bucher remained Dean for a decade, left for a brief tenure at the National Institutes of Health — then became Dean of the University of South Alabama College of Medicine.



John M. Daly, MD '73, FACS

Dean, Lewis Katz School of Medicine, 2002-2011

Before his deanship at Temple, John M.

Daly, MD '73, was Chief of Surgical Oncology at the University of Pennsylvania Hospital, then Chair of Surgery at New York Hospital-Weill Cornell Medical Center. During his tenure at Temple, he established interdisciplinary research centers; recruited dozens of new chairs, center directors, and chiefs (plus hundreds of faculty); led a complete revision of the school's curriculum; and mounted a campaign to build Temple's new medical education and research building — the largest capital investment in University history.



Richard N. Fine, MD '62

Dean, Stony Brook University School of Medicine, 2005-2009

Recipient of the 2013

Lifetime Achievement Award of the International Pediatric Transplant



Robert Folberg, MD '75

Dean, Oakland University William Beaumont School of Medicine, 2008-Present

Recognized for innovation in medical education, Robert Folberg, MD '75, became Founding Dean of the Oakland University William Beaumont School of Medicine in 2008. “My goal is to produce physicians at the top of their game scientifically but with a decidedly human approach,” says Folberg, a uveal melanoma expert and an Executive Editor of the *American Journal of Ophthalmology*.

Medical education has been complicated by market competition, changing patterns of reimbursement, and shrinking opportunity for research funds. Today's deans field fly balls unknown in Parkinson's day. And answer to a multitude of stakeholders.

“Divided loyalties are practically built into the job description,” Michael says. “The role is so changed that one looks back in admiration at the more simplified structure of yesterday.”

Indeed, Temple's 13 alumni-deans have witnessed the establishment of the National Institutes of Health and the Centers for Disease Control and Prevention, the promulgation of Medicare and Medicaid, the creation of the Liaison Committee on

Medical Education — not to mention the development of managed care, diagnosis-related groups, and a thousand advances in medical knowledge and technology.

Erich Brueschke, MD '65, became Dean and Vice President for Medical Affairs at Rush University in Chicago in 1994, when health care costs were rising at twice the rate of inflation. The Clinton health reform plan didn't pass, but in 1996, HIPAA did, along with CHIP. Even so, more than 40 million Americans had no health insurance.

“This was also the era of the AIDS epidemic, the nursing shortage, and the so-called oversupply of physicians and hospital beds,” Brueschke recalls. Medical education almost became a distraction in the face of

FOLBERG: COURTESY OAKLAND UNIVERSITY; BUCHER: TEMPLE UNIVERSITY ARCHIVAL MATERIAL; DALY: JOSEPH V. LABOLITO; FINE: COURTESY STONY BROOK UNIVERSITY



such complexity. But at Rush, Brueschke found a way to reframe it.

“I unified all the functions of the medical school and clinical operations around a common purpose: the good of the patient,” he says.

“And in medical education, the good of the patient depends on teaching students and residents to translate theory into action. The *practical application* of medical knowledge: that’s what Temple taught. That’s how you make great doctors,” Brueschke says.

David Wilkes, MD ’82, Dean of the University of Virginia School of Medicine, agrees.

“Do you want a medical student who can interpret every nuance of a blood gas but couldn’t do arterial puncture if her life depended on it? At Temple, we learned both, and then some,” he says.

“Our professors effused respect and immediacy,” Wilkes recalls. “I remember how patients were instantly drawn to Blase Carabello and Arnold Gash — both cardiologists and Temple med alums, by the way. They had an amazing command of medicine. And focused on you as if you were

the only person they ever cared about.

“And the model physician, the one *everyone* wanted to become, is Bennett Lorber — a masterful teacher and clinician,” Wilkes says.

A faculty member since 1971, Bennett Lorber, MD, MACP, the Thomas Durant Professor of Medicine, is beloved by generations of students — much the way earlier graduates loved Durant, who served on Temple’s faculty from 1936 to 1977.

One Durant fan is Manuel Martinez Maldonado, MD ’61, MACP.

“I was a kid from Puerto Rico as a medical student in the late 1950s — a little bit lost. But Dr. Durant and all my professors were good human beings who truly cared,” Martinez Maldonado says.

These “kind and intellectually acute” role models inspired Martinez Maldonado “to be accessible and available — no matter what was on my plate.”

And when he was Dean of Puerto Rico’s Ponce School of Medicine (from 2000 to 2006), he had a very full plate indeed.

Since 2002, seven medical schools in the United States and Canada have been put on probation by the LCME, the accrediting organization for medical education. Ponce was one of them.

“In addition, Ponce had no clinical practice to attract clinicians. And it had high debt,” the former dean says. Talk about headaches.

John Daly, MD ’73, FACS, another alumnus-dean, can relate. In 2002, six months before he became dean at Temple, the medical school was put on probation — primarily for the outdated condition of its facilities.

Daly immediately mounted a \$160-million campaign to build Temple’s ultra-modern medical education and research building, which opened in 2008. He also led the effort to update the curriculum and to secure additional scholarship funds — all key to renewed approbation by the LCME in 2004.

Both deans steered their schools to reaccreditation — while keeping watch over patients, students, faculty, and alumni.

As Martinez Maldonado puts it, “Somehow I was able to resolve Ponce’s problems while still remaining available to everyone who needed me.”

Getting Real

In 1959, when Parky stepped down as Temple’s dean, another alumnus, Robert Bucher, MD ’44, took his place.

Bucher was ahead of his time. Under his

Association, Richard Fine, MD ’62, chaired the Department of Pediatrics at Stony Brook University for 10 years prior to taking the helm as Dean. Fine initiated the dialysis and transplant program at Children’s Hospital in Los Angeles and established the division of pediatric nephrology at UCLA. Former Editor-in-Chief of *Pediatric Transplantation*, Fine has edited 11 textbooks.



Vincent Fulginiti, MD ’57

(1932-2013)

Dean, Tulane University School of Medicine, 1989-1993

Vincent Fulginiti, MD ’57, was a passionate bioethicist and vaccination advocate. He administered smallpox vaccine in India with the World Health Organization in the 1960s. His research — involving smallpox, measles, polio, and infectious complications of childhood liver transplants — earned him Fulbright and Markle scholarships. After founding the Department of Pediatrics at the University of Arizona, Fulginiti served as Dean of the Tulane University School of Medicine. In 1993 he became Chancellor of the University of Colorado Health Sciences Center. He was Chief Editor of *JAMA Pediatrics*.



Martin Goldberg, MD ’55, MACP

(1931-2013)

Dean, Lewis Katz School of Medicine, 1986-1989

Martin Goldberg, MD ’55, MACP, held leadership posts at the University of Pennsylvania and the University of Cincinnati before returning to Temple as dean. The top graduate of his medical school class and an authority in kidney disease and electrolyte metabolism, Goldberg was an early advocate of evidence-based medicine and computer-assisted research, education, and clinical care.



Manuel Martinez Maldonado, MD '61, MACP
Dean, Ponce School of Medicine, 2000-2006

A member of the National Academy of Medicine, Manuel Martinez Maldonado, MD '61, MACP, is a former Editor of the *American Journal of Medical Sciences* and author of five books of poetry and five novels. In addition to serving as Ponce's dean, he held leadership positions at Baylor College of Medicine; Emory University School of Medicine; the Oregon Health Sciences University; and the University of Louisville.



Manson Meads, MD '43, FACP (1918-2001)
Dean, Wake Forest School of Medicine, 1963-1971

After serving his residency and fellowship at Harvard, Manson Meads, MD '43, joined the faculty at Wake Forest in 1947, moving his family to Thailand in the mid-1950s to help establish the nation's first modern medical training center. He returned to chair Wake Forest's Department of Preventive Medicine, and was named Dean there in 1963, ultimately serving as Director of Wake Forest Medical Center.



Alfred Michael, Jr., MD '53
Dean, University of Minnesota Medical School, 1996-2002
 A founding member of the American

Sub-Board of Pediatric Nephrology, Alfred Michael, Jr., MD '53, led a world-class pediatric nephrology program at the University of Minnesota and served as Chief of Pediatrics for a decade before becoming Dean of its medical school and a University Regent's Professor. A past president of the American Society of Nephrology, Michael is a Fellow of the American

watch, Temple taught patient-centered medicine. He wanted students to see health care disparities, to understand the social determinants of health. None of these terms existed back then. Faculty taught them organically.

"I was assigned to a group of students that followed patients from hospital admission through outpatient care. We also visited patients at home," recalls Brueschke, a student when Bucher was dean.

"Dr. Bucher defined the physician as 'an ambassador without portfolio — one whose dedication and commitment rise above human differences,'" Brueschke recalls.

Affected by the impoverished conditions he saw during medical school, Brueschke gravitated toward primary care. (In fact, he was in the first group of American physicians to be certified in family medicine.) Temple was also top-of-mind when he helped create the Rush Community Service Initiatives Program — which is still going strong, with Rush medical students serving more than 10,000 Chicagoans annually.

"At Temple, our eyes were opened to the importance of public health and preventive medicine," Martinez Maldonado says.

As Wilkes puts it, "We learned service as the soul of medicine."

For his part, Michael spent years volunteering in Minneapolis clinics that serve "largely undocumented immigrants with no options for health care and no insurance — can't get even Medicaid." He also supports a children's clinic in Port Salut, Haiti, one of the poorest parts of the world.

"I believe that the basic ill of society is poverty," Michael says.

Honorably Humble

Before Michael somewhat begrudgingly moved to the dean's office at the University of Minnesota, he'd been Chair of Pediatrics there for a decade — having created one of the best pediatric nephrology programs in the world. He's also a founder of the American Sub-Board of Pediatric Nephrology.

Coincidentally, another alumnus-dean is a pediatric nephrologist, too: Richard Fine, MD '62, who established world-class children's kidney programs at both Children's Hospital Los Angeles and UCLA. Fine, who won the Lifetime Achievement Award of the International Pediatric Transplant Association in 2013, went on to become Dean of Stony Brook University School of Medicine. And, like Michael, had been Chair of Pediatrics there for a decade first.

Decidedly Human

Temple's 13 alumni-deans have made their mark. They've created world-renowned clinical programs, led medical societies, edited major journals and texts.

One dean was Chief Editor of *JAMA Pediatrics* and the *American Journal of Diseases of Children* — and chair of both the Academy of Pediatrics' "Red Book" Committee and the U.S. Public Health Service National Vaccine Advisory Committee: Vincent Fulginiti, MD '57, Dean at Tulane School of Medicine (1989-1993).

Another dean created one of just a handful of Level III biodefense laboratories in the United States and the Vaccine and Gene Therapy Center at Oregon University. He also edited the *American Journal of Medical Sciences* — and published novels and poetry: Martinez Maldonado.

Two deans earned Mastership in the American College of Physicians, an honor attained by only one percent of all internists in the country: Martinez Maldonado and Martin Goldberg, MD '55, Temple's Dean from 1986 to 1989.

"But these are humble, selfless people who understand there's no place in medicine for the pretentious or aloof," says Wilkes, who has an impressive dossier of his own.

While the schools led by the 13 deans are all quite different, the conviction that patients come first is the unifying factor, the common theme.

"This is what we learned in the formative period, in the incubator of medical school," Michael says.

At OUWB, Folberg's aim is "to produce physicians at the top of their game scientifically, but with a decidedly human approach. The public demands that physicians not only have knowledge, but also be skilled communicators, compassionate people, respectful of diversity," he says.

A world-renowned ophthalmologic pathologist, Folberg combined the influence of two mentors. The ocular part was inspired by Guy Chan, MD, who went on to chair Temple Ophthalmology, and the pathology part came from Wally Clark.

"Wally showed me that a pathologist can be actively involved in patient care, not sequestered in a lab somewhere," Folberg says.

"If you look at the OUWB commencement video, you will see a vestige of Temple in my academic hood: the cherry and white colors," Folberg says.

William "Waldo" Nelson, MD, Temple's longtime Chair of Pediatrics (and author of the still best-selling *Nelson Textbook of*



David S. Wilkes, MD '82

Dean, University of Virginia School of Medicine, 2015-Present

Co-founder and chief scientific officer of ImmuneWorks, Inc., a biotech company focused on immune-mediated lung diseases, David Wilkes, MD '82, has been a permanent member of study sections at the NIH. He served as Executive Associate Dean and Vice President for Research at the Indiana University School of Medicine before becoming Dean of the University of Virginia Medical School in 2015, where he's working to promote a culture of "openness, honesty, fairness, transparency, and accountability."

Association for the Advancement of Science, a NIH Merit Awardee, and an Established Investigator of the American Heart Association.



William Parkinson, MD 1911
(1896-1971)
Dean, Lewis Katz School of Medicine, 1929-1959

During 35 years of service, William N. Parkinson, MD 1911, transformed Temple's medical center single-handedly. In addition to personally managing the school's budget, student admissions, and faculty recruitment — all the major functions of the school — "Parky" organized a \$1.5 million campaign to build the school's first dedicated medical education building (increasing class size from 60 to 100). He also expanded Temple University Hospital's capacity (from 350 to 500 beds) and supported the creation of Temple's Health Sciences Center. The Temple he retired from in 1963 looked nothing like the one he'd graduated from in 1911.

Pediatrics) inspired Michael to go into pediatrics. "Temple's great commitment to the clinical practice of medicine is a well-articulated strength," Michael says.

Medical students and patients aren't so different, really. Their needs are similar. They need to be treated with respect. They need to be heard. They need to be understood for their history and recognized for their potential. M. Prince Brigham, MD '50 — another alumnus-dean — certainly did all these things for a Temple medical school applicant named David Hartman.

In 1972, after rejection by nine medical schools despite remarkable academic accomplishment, Hartman, the nation's first blind medical student, enrolled at Temple — thanks to Brigham. Hartman

went on to become a prominent psychiatrist — and Brigham to become Temple's Dean. Sadly, however, he died less than two years into his deanship.

In its yearbook, the Class of 1981 wrote a tribute to Brigham that says, "Dr. Brigham represents those qualities that are the reasons we want to be physicians: simple dignity and total understanding of the human condition."

"At Temple, we learned that a doctor must be a role model without acting out a role — in other words, that a doctor must be *sincere*," Martinez Maldonado says.

Sincere enough, Folberg learned, even to cry. 

For more about medical education at Temple, visit medicine.temple.edu

Stories of the Human Side of Medicine

“ALONG WITH THE PHYSICIAN’S TOUCH, stories are at the core of the patient-physician relationship,” says Michael Vitez, Pulitzer Prize-winning author and Director of Temple University’s Narrative Medicine Program. “Stories like these, written by physicians and students at the Lewis Katz School of Medicine, have the power to heal, inspire, build relationships, and change the world,” Vitez says.

Fear of Failure

On Friday, May 4th, at precisely 11:58 in the morning, I submitted my neurology final and trudged out of the lecture hall.

Palms damp and heart pounding audibly in my chest, I tried to make sense of the past three hours. The test had been 100 questions. Despite my hours of studying, I had only known 40 answers. For the remaining 60, I had struggled choosing between similar sounding terms. What controlled the reward pathway? *The orbitofrontal prefrontal cortex, or the inferior orbital-temporal cortex?*

Seventy percent, the mark of “average” for most of my schooling, was now the bar for pass/fail, and I wasn’t sure I would make the cut-off. In the hyper-caffeinated, cortisol-driven heat of the moment, my prognosis looked poor.

I had botched things before, of course. My driver’s permit test the first time I took it. Research projects, and job interviews, and more parallel parking attempts than I care to admit. But this was the first time in medical school that the feeling had affected me so deeply. I felt suffocated by the thick blanket of failure. When it finally condensed and settled deep in my stomach, I found the nagging ache impossible to ignore.

It wasn’t the consequences of the failure that bothered me. The test had made it clear that there was more to

learn, but I had expected that since day one of medical school. I knew I would supplement my book knowledge with years of clinical training. And while failing the test meant repeating the course over the summer, I knew I could get through it. This failure wasn’t permanent, it was a stepping stone — admittedly a really-hate-to-be-stepping-here stepping stone — but one that I could and would cross.

What I feared was *sharing* my failure. I feared telling my peers about my guess-timates and nausea. I feared “Oh, I’m sure you didn’t fail,” the pauses, the eyes looking down, and the uncomfortable, embarrassed empathy of first-year med students. “Oh like . . . actually failed?”

I feared failure’s connotation as a tar pit, one that pulls you down and fossilizes you in your worst moments. I feared residency panels holding me up like a bug in amber. *And that, everyone, is why you must work very, very hard in your neurology unit.* I feared the conclusions that people would draw — that I hadn’t worked hard enough. That I wasn’t smart enough. That I wasn’t supposed to be in medicine. And, of course, I feared that they would be correct.

So I didn’t share my feelings. I went home, did some laundry, cleaned my room, then cleaned it again. By the time scores were released, I had generated a

two-page list of topics to study over the summer, including the physiology terms that had tripped me up. If I had to retake the neurology final, I was determined to ace it.

A few weeks later, I came across an article written by Temple med graduate, Erin Barnes, MD ’17. In it, she describes her Binder of Successes, her method of dealing with physician burnout. She documents her accomplishments, storing them in a binder for review on difficult days. I found myself thinking back to the test. Would a binder have helped me?

After reading her piece, I began assembling a different type of binder. I call it my CVF, my Curriculum Vitae of Failures. I’ve considered changing the name, but I don’t want to lose the visceral reaction that it provokes. Addressing our aversion to failure is the whole point.

For the moment, my CVF is still in my head. A hypothetical file complete with an Education section of rejected college applications, an Employment section of job applications I never heard back from, a Personal section of first dates. It contains Little League games that I botched and sports teams that I didn’t make — a portfolio of times I just wasn’t good enough.

A CVF can’t get you into medical school. But isn’t the story of failure — the story of perseverance to move past failure — at least as powerful as a snapshot of success?

What if we talked about our lives this way? About all the things we’ve tried, the trials we’ve overcome, the times we’ve had the wind knocked out of us and have taken another breath.

What if the physicians at the top of the medical ladder were comfortable sharing their CVFs and embracing their mistakes? What if the medical students at the bottom realized that failure isn’t something to hide from or demonize — but something that contains valuable lessons.

And what if we embraced those lessons? Imagine the doctors we could become.

— JOE CORCORAN
MD Class of 2021



Coat of Hope

The first moment I received my new white coat when I was a brand-new medical student, I noticed its tag, which stated “Made in Haiti.” This made me smile. This coat could have been made by my grandmother, a Haitian-born woman with a knack for sewing. I felt as if this coat had been made just for me.

The coat continues to have sentimental meaning for me. Since the moment I received it, it has served as a reminder of the great responsibility that comes with wearing it. It reminds me of the look on my parents’ faces when they first saw me

wearing it. It reminds me of the pride that I feel in them, too — two Haitian immigrants who were not only able to dream their own dreams, but were also able to encourage me to achieve my own.

I have heard countless stories of other people like me, black women, the children of immigrants who did not feel they were capable of becoming doctors because they did not see the visual representation of themselves in these positions in the world.

Putting on this coat — that was created in Haiti — makes me think of my parents. They created the environment for me to believe that I was just as

capable as anyone else of achieving the dream of going to medical school, a dream I had talked about for as long as I can remember. I feel pride in wearing this coat. I also feel a responsibility to those who look at me and have hopes of pursuing the same dream.

When I wear this coat, I serve as an example of what I did not see growing up. This coat symbolizes hope. When I wear it, I know I can use the knowledge and the skills that I acquire during medical school to make a difference in the lives of the people I meet throughout my career.

— DANOUCKEKA GELIN
MD Class of 2020



A Good Death

I was a brand-new doctor, in my first week of residency after med school, working overnight in the ICU. I called home to check on my mom, who for years had been dealing with breast cancer. The cancer had reached her lungs and made breathing more difficult.

“I think you need to come home,” my sister said, her voice cracking. “Now.”

Within an hour, I was frantically driving the three hours to reach Mom. She died the next morning. This happened before I knew what end-stage

cancer looked like. No one had helped us understand that death was so near or prepared us for this moment.

I think my mother knew. I think how lonely it must have been for her to bear that burden all alone.

Physicians walk a fine line between being honest and being a source of possibility, of hope. It’s easy to want to lean into the hope: It makes us feel good to give good news rather than face the hard truths. But when we as doctors let go of the realities of illness, when we can’t face the truth ourselves, we let patients and their families down, often

when they need us most.

Because of my mother’s death, I shifted my focus in medicine to confront this very problem — to change the culture at the end of life. As a palliative care physician at Temple University Hospital, I care for patients with life-limiting, often fatal illnesses. I work hard to help their surgeons and specialists recognize these realities and to share the patients’ expectations and goals in a kind and honest way. I also help the patients and families understand their circumstances, so they can make choices that are right for them.

Frankly, we still have a long way to go in changing the culture. Too many times in our hospital, I've seen this scenario play out: Doctors start with a goal of pushing mortality's limits — to cure this or shrink that, to try the latest high-tech answer. But somewhere on this yellow brick road, patients get stuck. Maybe they're too frail, or can't eat like they used to, or are dependent on a ventilator to breathe or on medication to keep their hearts beating. Instead of starting the conversation by explaining that this is what end-stage disease looks like, physicians become defiant, refusing to let go of the possibility that there may be something else around the corner — a burst of yet-untapped energy, a therapy that hasn't been tried, a chance the patient may get better. We often keep pushing without knowing if our patients want to keep pushing.

I know we can do better, be braver, be better prepared ourselves to prepare our patients and their families. With better communication, more transparency and more candor, we can find a way through these impossible situations. That's what I teach our students and doctors, and that's where hope lies. Patients and families want to know what to expect, even if they're afraid to ask. They want to have time to prepare, to focus on forgiveness and farewells, and to define their own ending.

In treating end-stage disease, I see unfair things happen to people every day, but I also bear witness to remarkable love and resilience.

I spoke with a patient named Eileen three weeks after she arrived for surgery to remove her diseased intestine. I knew her family well by then. I met her on day two of her admission, but it took weeks to get to the point where I could have a conversation with her. The surgery team was skilled — but also provided an accurate picture of how tenuous her life was, day to day. We explained that if she continued to seek treatment, she would stay in the hospital, likely die in the hospital. Doctors would be trying to place Band-Aids on a ticking time bomb. After letting it all sink in, she summoned her team and family and said, "I want to go home."

The day she left our hospital, she spoke about being with her grandchildren, and how she wanted to look out

into her yard at her favorite bird feeder and just watch the life around her. Her smile that day as she left — pure and full of relief — startled me. It was so full of hope. She was in charge of her life (and death) once more.

— MARY KRAEMER, MD
Co-Director, Palliative Care,
Temple University Hospital

Editor's Note: "A Good Death" by Mary Kraemer, MD, was first published in Philadelphia magazine, May 2018. Copyright © 2018 Metro Corp. Reproduced with permission.

Soul of Medicine

What I want my children to know, and maybe what everyone should know, is that there is both intense beauty and a powerfully sad reality of medical practice in a safety-net hospital.

The privilege of providing cutting-edge care to people regardless of their ability to pay is the *soul* of medicine. The gratitude of patients who understand how you fought for them is not a feeling that can be purchased with money or experienced on social media.

I cannot imagine a career more meaningful than medicine. I am humbled daily.

You can feel the concern that families have before a loved one's operation. It's a thick fog wrapping them in a grey, damp blanket. And the *relief* families express after an operation ends is like the first breath you take after swimming deep underwater. I never expected to gain so much.

The sadness and unfairness of poverty and its impact on health is too real and too frequent. Try arranging chemotherapy for a homeless mentally ill gentleman who survived emergent colon cancer surgery.

Reliable, safe housing and constant access to food are not givens in Philadelphia. Patients ignoring problems that should have been addressed long ago is heartbreaking. People who do not have means can convince themselves there is nothing wrong, despite pain, weakness, weight loss, and bleeding.

The suffering that lack of access and education cause is profound. I speak of what I see with my kids at dinner. I hope they understand how fortunate we are and how much work remains to be done.

When I accepted my offer to work at Temple University Hospital, a colleague asked me why I wanted to work "up there." Insulting and ignorant. There are so many things I treasure about being a surgeon at Temple. The common mission we share gives meaning to my every day.

"Team" is something we stress a lot in surgery. When we speak of team, we include everyone who plays any role in our patients' experience.

Team includes transporters who smile and speak to patients as they travel through the alien world of a hospital on a stretcher; the men and women in the cafeteria who wish us a "blessed day"; the greeters at the hospital entrances who say "Welcome, doc" to me and who guide worried patients to their destinations. We have nurses and doctors and students and translators; secretaries and radiology technicians and administrators. "Team," at Temple, actually means family.

Some older physicians lament, "American medicine is dying. The best and brightest will follow the money and go into finance." That is far from what I view every day.

Temple's students continuously inspire me. Temple is abuzz with the yearning and energy of trainees in nursing, physical therapy, pharmacy, dentistry, podiatry, and every form of medical and surgical residency. Millennials are driven, compassionate, accepting, and smart. They can also do anything with a phone or computer. Temple students sit with patients, listen, and feel. We are in good hands.

I went into medicine largely because of my father and his early death. He used to tell me, "You can be whatever you want . . . but if you are a doctor, you will always be able to feed your family and do something good for society." He died when I was in high school, and I never explored any other calling.

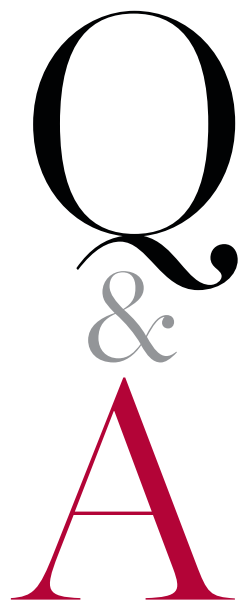
I believe my father was correct. Yet my career at Temple has graced me with far more than a stable income and a hypothetical worthy purpose. Surgery in North Philadelphia has taught me the overwhelming value of caring for each other and the oneness we all share.

I am eternally grateful.

— HOWARD ROSS, MD, FACS, FASCRS
Chief, Division of Colorectal Surgery

Curtis Miyamoto, MD, FACR

CLINICAL CULTURAL COMPETENCY



Can cultural competency in health care really make a difference?

Imagine being sick, seeing a doctor, and undergoing tests — yet never gaining a clear understanding of your condition. Imagine having surgery without knowing exactly what was done or why. This happens. And not because patients lack intelligence — but because differences in language, culture, and attitude can prevent health care providers and patients from communicating clearly and truly understanding one another.

Q: *How would you define a culturally competent provider?*

A: A culturally competent provider recognizes that not all patients are the same — and works to create bridges of communication and understanding. The patient's language might be different. The patient's expectations of care might be different from what we do in the United States. The patient's religious or cultural beliefs might dictate that things be done in certain ways.

Recognizing the profound impact these differences can have on patient outcomes, Temple follows Culturally and Linguistically Appropriate Services (CLAS) standards. Developed by the Department of Health and Human Services, CLAS standards promote health equity through policy, practices, and resources — helping providers respond to the cultural beliefs, preferred languages, and health literacy of the

patients they serve. Moreover, federal regulations require that health care organizations provide language translation services to patients with limited English proficiency.

Q: *Your fluency in Spanish benefits Hispanic patients. It's also enabled you to teach courses in Spanish to physicians all over the world. You also do volunteer work with Japanese and Cambodian communities. Does this mean that you speak Khmer and Japanese?*

A: No, I don't. Certified medical language experts facilitate these conversations. It is not possible to achieve every possible permutation of cultural competency. The point is to be open-minded and prepared to learn.

Q: *In 2012, you and Angel Pagan, Director of Cultural and Linguistic Services, founded Temple's annual course*

in Cultural Competency and Awareness. What was the topic this year?

A: We focused on the Lesbian, Gay, Bisexual, Transgender, and Queer/Questioning (LGBTQ) community, teaching caregivers to serve this diverse population in culturally sensitive ways. It was perfect timing, too, as the event was held shortly after Temple University Hospital was named an LGBTQ Healthcare Equality Leader by the Human Rights Campaign Foundation.

Q: *Temple serves a diverse community. Is this where your cultural awareness began?*

A: It actually began in the 1970s. I attended a large public high school where gangs of white and black students warred. As the only Asian kid in the entire school, I did not fit into either group. But I found ways to associate with *both* groups. I learned that healthy connection is possible.

Another eye-opener for me: I went to medical school in Spain — without speaking a word of Spanish. I learned fast!

Q: *You've been honored with many "Top Doc" citations — plus awards from the American Cancer Society and Susan G. Komen Foundation, among others. You're also Chair of Radiation Oncology at Temple University Hospital (TUH) and Associate Director for Clinical Services for Fox Chase Cancer Center at TUH. What's your proudest achievement?*

A: Learning how to form bonds with all kinds of patients — and helping other providers do the same. Everyone deserves safe, effective health care, delivered with compassion and cultural competency. There is no care in health care if we don't create an environment of inclusivity.



—
Curtis Miyamoto, MD, FACR

Bleeding Disorder Breakthroughs

Since legendary hematologic researcher Sol Sherry, MD, recruited him to Temple in 1979, **A. Koneti Rao, MD, FACP, FAHA**, has studied bleeding and clotting complications in conjunction with a variety of conditions: diabetes, cardiovascular disease, sickle cell disease, and certain cancers. But his research interest in studying inherited platelet disorders has earned him renown as a pioneer in his own right.

Rao, the Sol Sherry Professor of Medicine and Co-Director of the Sol Sherry Thrombosis Research Center at Temple, has devoted most of his career to uncovering the molecular and genetic mechanisms that predispose individuals to platelet disorders.

Tiny cells that circulate within blood, platelets bind together to form a clot when they detect damage. “Without them, you would bruise excessively and would have prolonged bleeding when you got a cut,” explains Rao, who has also served as Associate Dean for Temple’s MD/PhD program and as Chief of Hematology.

Rao and his colleagues have been the first to pinpoint several inherited platelet abnormalities. One of their most significant discoveries involved identifying a mutation in a protein called RUNX1 in a child with a bleeding disorder.

“RUNX1 is a transcription factor, a protein that regulates how genes are expressed in cells — so we expected it to regulate a number of genes downstream,” Rao says. “To figure out which ones, we used expression profiling, an amazing

technology that essentially allows you to look at thousands of genes at once.”

The team found 70 downregulated genes in the patient with the RUNX1 mutation and set out to analyze their roles in platelet function — an effort that has revealed numerous connections to platelet defects.

Rao’s deep dive into RUNX1 with multiple collaborators has spurred some fortuitous findings. For example, in a study published in 2016 in *EBioMedicine*, they describe a property of aspirin that regulates RUNX1 gene expression, noting that RUNX1 levels might help predict whether patients with cardiovascular disease will have future heart attacks. Aspirin’s ability to ward off heart attacks and disease had been established for decades, but scientists never fully grasped how. Rao’s work extends this understanding.

Another striking discovery stemmed from an outside study tying increased platelet expression of a gene called PCTP (phosphatidylcholine transfer protein) to faster blood clotting in black individuals versus white individuals.

“When I saw that paper, I said, ‘Wow, that was one of the genes that decreased in our RUNX1 patient, and we had no idea what it was.’ We dropped everything to see if PCTP was a true target of RUNX1, and the answer was yes,” recalls Rao, whose group went on to reveal that PCTP blood levels in patients with chest pain correlated with future heart attacks. The study, done in collaboration with Duke University, was published in *Circulation* last year.

“We started our RUNX1 research with a bleeding disorder and ended up with relevance to heart disease, so we’ve really covered a full spectrum,” says Rao, whose work has been published in dozens of other journals, including *Blood*, the *Journal of Thrombosis and Haemostasis*, and *Platelets* (for which he was Founding Editor).

Rao, who has had continuous funding from the National Institutes of Health since the 1980s, recently received a new \$2.5 million grant to continue studying RUNX1. This time, he is examining endocytosis in platelets — how they pick up and transport various proteins from blood plasma — and whether RUNX1 mutations affect this process. “By understanding basic platelet function through studies of individuals whose platelet function is abnormal, we get information that can be used to develop new medications for disorders where there are blood clots you don’t want. Say we find something missing in a patient with a platelet function defect — then a drug that causes that within normal platelets can be developed to treat heart disease by preventing clots,” he says.

“This is how science works. You build from one thing to the next, and it has no end,” he says.



A. Konet Rao, MD, FACP, FAHA

Help for Heart Failure: The HeartMate 3™

Approximately six million Americans live with heart failure — a condition in which the heart becomes progressively weaker, compromised in its ability to pump blood.

“While medications such as beta blockers and ACE inhibitors can help the failing heart function more efficiently and improve patient survival rates, certain patients can derive additional benefit from the HeartMate 3™,” says cardiologist Eman Hamad, MD, FACC, FHFA, Interim Director of the Advanced Heart Failure and Transplant Program at Temple.

Manufactured by Abbott, the HeartMate 3™ is a left ventricular assist device (LVAD), a tiny pump that is surgically implanted next to a patient’s heart. An LVAD pulls oxygen-rich blood from the heart’s left ventricle (the major pumping chamber) and delivers that blood to the aorta (the major artery that supplies circulation to the body).

“With better blood supply, organs and muscles function more optimally — and patients feel better — which means they’re able to do more,” says Hamad, who is also Director of Mechanical Circulatory Support at Temple’s Heart and Vascular Institute.

LVADs can be deployed for different reasons.

They can be used to provide temporary support, enabling a patient’s heart to rest and heal — hopefully regaining its ability to pump blood on its own. They can also be used as a “bridge therapy” for patients awaiting a heart transplant. LVADs can also help patients who are ineligible for heart transplantation. In these cases, an LVAD is referred to as “destination therapy.”

“No matter what the scenario, LVADs have been proven to extend

survival — and to improve quality of life — compared to medical therapy alone,” Hamad explains.

In 2017, the FDA approved the HeartMate 3™ as a bridge to transplantation. In the MOMENTUM study, the clinical trial leading to FDA approval, patients with the HeartMate 3™ showed significant improvement in heart function status six months after receiving the device. At that six-month mark, they demonstrated an 83 percent increase in the distance they could walk, a 68 percent improvement in their rated quality of life, and an 86 percent survival rate. In October 2018, the FDA approved the HeartMate 3™ as a destination therapy, too.

“LVADs are relatively easy to implant. They operate simply and quietly. That makes them an important option in our treatment arsenal for heart failure,” Hamad explains, noting that Temple deploys approximately 20 LVADs for heart-failure patients each year, along with other types of devices.

“We offer a comprehensive range of diagnostic and treatment options for patients with all types of heart disease — including investigational methods that are truly cutting-edge,” she says.

HOW IT WORKS

A centrifugal continuous-flow device, the HeartMate 3™ is a system of components that work both inside and outside the body.

Inside the body, a small, efficient heart pump is surgically attached to the ventricle on the left side of the heart. The pump moves blood in a continuous flow at a rate of 2.5 to 10 liters per minute.

Suspended and centered by magnetic levitation, the pump’s rotor enables blood to flow smoothly, quietly, and efficiently.

A flexible, hollow tube called an out-flow graft moves blood from the pump to the aorta, the large artery that supplies blood to the body.

Outside the body, the patient wears a pocket-sized digital controller that operates the pump. Powered by batteries or by electricity from a wall outlet, the controller sends power to the pump through a cable called a driveline. The portion of the driveline inside the body is called the percutaneous cable.

At home, patients wear a mobile power unit. When going out, they use an external battery that can keep the device running for up to 17 hours — providing life-enhancing freedom of movement.





The components of the HeartMate 3™:

- A Outflow Graft
- B Pump
- C External Battery
- D Modular Driveline
- E Controller
- F Mobile Power Unit

Mental Health Mecca

Temple Psychiatry & Behavioral Science

“Our robust view of psychiatry embraces everything from the cellular basis of behavior, to individual psychology, to family dynamics and the bio-psychosocial perspective,” says William Dubin, MD, Chair of Psychiatry and Behavioral Science at Temple.

In the 20th century, Temple played a sizable role in advancing psychiatry. “Founding members of the fields of psychosomatic medicine, behavior therapy, and the biological basis of mental disorders did their seminal work here,” Dubin says.

Today, with more than 4,500 yearly inpatient admissions and hospital consults — and over 7,500 outpatient visits — Temple’s Psychiatry and Behavioral Science Department is the busiest in Philadelphia. It’s also prized by patients, with 12 consecutive Press Ganey Awards for patient satisfaction to its credit. This means its patient satisfaction scores rank in the top 97th to 99th percentile nationally.

Originally based at Temple University Hospital, the Department relocated to Temple University Hospital’s Episcopal Campus in the Kensington section of Philadelphia in 2002 — “where we offer a full range of in- and outpatient programs for adults and adolescents, along with outpatient treatment for children,” Dubin says.

Temple’s 118-bed inpatient behavioral health program treats adults with primary psychiatric diagnoses as well as those with co-existing mental illness and substance abuse disorders, with 44 beds for extended acute inpatient psychiatric care. Outpatient programs serve children, adolescents, and adults. And with more than 11,000 visits per year, Temple’s Psychiatric Crisis Response Center is the busiest in Philadelphia.

At least one in every five Americans struggles with a mental health condition

— underscoring the urgency of the national shortage of psychiatrists. By the year 2025, demand for psychiatrists could outpace supply by more than 15,000.

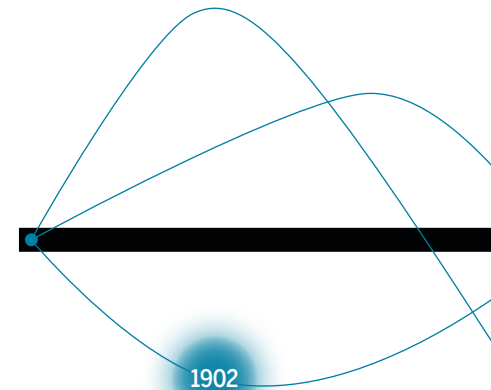
“This points to the importance of residency training programs for psychiatrists — and Temple’s program is especially strong — consistently highly rated,” says Roy Steinhouse, MD. A longtime faculty member and graduate of Temple’s medical school, Steinhouse ran the psychiatry residency for many years.

A four-year program accepting eight new physicians from across the country each year, Temple’s psychiatry residency program emphasizes evidence-based medicine and diagnosis, neuropsychiatry, and emerging trends in biological psychiatry, with a strong focus on psychodynamic psychotherapy. Subspecialty education tracks include child and adolescent psychiatry; forensic psychiatry; psychosomatic medicine; psychodynamic psychotherapy; public psychiatry; emergency psychiatry; and urban bioethics. Mental health and behavioral training programs for medical, nursing, and social work students are offered, too.

Research rounds out the Department’s missions in education and patient care.

“We conduct basic and clinical research in psychiatry on topics ranging from women’s mental health to community disease management for patients with substance abuse disorders — who represent more than 70 percent of our total patient population,” Dubin says.

In addition to psychiatry, the Episcopal campus also features a 21-bed sub-acute medical unit, a full-service emergency department that accommodates approximately 50,000 visits a year, laboratory and radiology services, and a host of outpatient medical services, both primary care and specialty.



1902
Temple’s medical school bulletin lists required coursework in psychiatry for medical students.



One of the first psychotherapists to connect mental and physical health, **O. Spurgeon English, MD** (1901-1993), was Founding Chair of the Department of Psychiatry at Temple. He joined the faculty in 1933 and remained on staff until 1964, establishing clinics in child, adult, and family mental health. Considered one of the great American psychiatrists of the 20th century, English founded the American Psychosomatic Society (1947) and the Group for the Advancement of Psychiatry (1946). Every year, Temple's medical school awards the O. Spurgeon English Award to the fourth-year medical student with the most distinguished performance in psychiatry.

1939

The nation's first clinic for psychosomatic medicine opens at Temple.

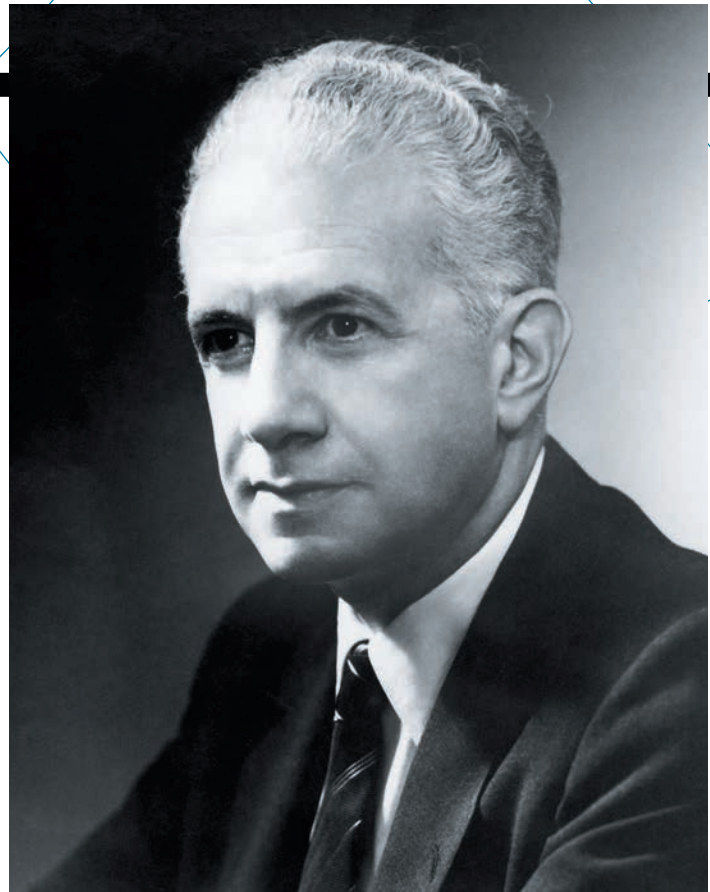
1940

The nation's first child psychiatry clinic opens at Temple.

1938

O. Spurgeon English, MD, establishes Temple's Department of Psychiatry.

In 1943, English and **Edward Weiss, MD, FACP** (1895-1960), co-authored *Psychosomatic Medicine* (WB Saunders), the signal volume in the field — with Temple patients providing the clinical evidence forming the case material in the book. Weiss, who joined the Temple faculty in 1932, was a founding member of the American Psychosomatic Society and one of its first presidents.



TIMELINE

English also had a co-author in **Gerald H.J. Pearson, MD** (1893-1969), an influential child psychiatrist. English and Pearson wrote *Emotional Problems of Living: Avoiding the Neurotic Pattern* (WW Norton, 1945) and *Common Neuroses of Children and Adults* (WW Norton, 1937). Pearson published several books of his own, including *The Handbook of Child Psychoanalysis* (Basic Books, 1968).



1954

Temple's psychiatry residency training program begins.

1967

Temple opens its Community Mental Health Center in response to the 1963 Community Mental Health Act, fostering reintegration of "warehoused" mentally ill patients.

1997

Temple's Psychiatric Crisis Response Center opens.



An internationally recognized pioneer in biological psychiatry, **Charles Shagass, MD** (1920-1993), served as Professor of Psychiatry at Temple from 1966 until 1990. Specializing in the neurophysiological aspects of psychiatric illness, Shagass established the electrophysiological basis of normal and pathological mental states. With seven books and more than 250 articles to his credit, Shagass held the presidencies of four leading organizations, including the American Psychopathological Association and the World Federation of Societies of Biological Psychiatry, which he helped to found in 1974. In 1985, he organized the Fourth World Congress of Psychiatry, which brought more than 2,500 psychiatrists from 62 countries to Philadelphia.

A true pioneer, **Joseph Wolpe, MD** (1915-1997), is known as the founder of behavior modification therapy. Professor of Psychiatry at Temple from 1965 to 1988, Wolpe developed the Subjective Anxiety Scale and the Fear Survey Schedule. He also created the psychotherapy techniques of systematic desensitization and assertiveness training. Wolpe was founding editor of the *Journal of Behavior Therapy and Experimental Psychology* – and his book, *The Practice of Behavior Therapy* (Pergamon Press, 1969), remains a classic today. Wolpe served as President of the Association for Advancement of Behavior Therapy – and won its Lifetime Achievement Award in 1995.



A founding member of the International Work Group on Death, Dying, and Bereavement, **John E. Fryer, MD** (1937-2003), Professor of Psychiatry at Temple, is best known for his efforts to eliminate homosexuality as a pathologic condition. The debates he sparked led to the removal of homosexuality from the *Diagnostic and Statistical Manual of Mental Disorders* in 1974. Today the American Psychiatric Association presents the John Fryer Award to individuals who have made important contributions to the mental health of sexual minorities.

2017

The City of Philadelphia dedicates an historic marker to Temple's John Fryer, MD, for "paving the way for advances in LGBT civil rights."

2002

The Department relocates to Temple's Episcopal Campus in Philadelphia's Kensington section.



A longtime *Clinical Psychiatry News* columnist and thought leader in psychiatry, **Paul J. Fink, MD** (1934-2014), was Professor of Psychiatry at Temple from 1994 until his death. An early adopter of the now-popular Adverse Childhood Experiences Study (1997), Fink lobbied to prevent child abuse and all forms of violence – and to defeat the stigma of mental illness. The "Enigma of Stigma" was the theme of his 1998 presidency of the American Psychiatric Association. Fink chaired three psychiatry departments during his career and received many awards, including the American Psychiatry Association's Francis J. Braceland Award for Public Service.

IMPACT

A Legacy, Present and Future

“**M**edicine is the most noble and prestigious profession that one can enter,” says George Kosco, MD ’72 — who recently established the George M. and Diana C. Kosco ’72 Endowed Scholarship Fund — a \$2 million scholarship fund for medical students at Temple’s Lewis Katz School of Medicine.

The only child of a blue-collar family from Pittsburgh, PA — his father was a crane operator for U.S. Steel — Kosco’s favorite course in high school was biology. He decided to pursue medicine, and was accepted by *five* medical schools.

“I chose Temple because of its reputation and its urban location — which would provide me with a wide range of exposure to patients and medical problems,” Kosco says. “I also chose Temple because it was more affordable.”

In addition, Temple offered Kosco scholarship and grant money, as well as student loans — enabling him to finance his education without further aid from his parents.

“My wife, Diana, was able to obtain her RN degree with the help of student loans and scholarships. She was the oldest of eight children. Without financial aid, she could not have accomplished her dream of becoming a nurse,” he says.

After three years of medical school, it was time for Kosco to choose a specialty. He was interested in internal medicine, cardiology, and radiology. “During rotations, I always enjoyed radiology rounds. We would present cases to the radiology professor, view the studies, and plan further treatment. In a way, it was instant gratification. The images were either normal or not. And if they weren’t, we would plan what to do next for the patient,” he says.

Ultimately Kosco chose radiology — not because it was instant gratification, but because it was intellectually stimulating. Every scan, every image, was a puzzle to solve.

“Also, at this time, the mid-1970’s, technology was exponentially expanding. Real-time ultrasound, computerized tomography, digital angiography, and advances in nuclear medicine were all welcome additions — as were MRI and PET scanning,” Kosco recalls.

Kosco spent the major portion of his medical career in DuBois, PA, a city 100 miles northeast of Pittsburgh.

“My wife and I raised two sons who are doing well with their occupations and family life. Unfortunately, my wife passed away



George Kosco, MD

in 2012, the year I retired. It was a big shock. My wife took care of *everything*. But thanks to her excellent record-keeping, I was able to manage,” Kosco says.

After securing the financial status of his children and their families, Kosco fulfilled his next priority, creating scholarships for Temple medical students.

“My wife and I never forgot how the financial aid we received enabled us to pursue our dreams. Establishing the George M. and Diana C. Kosco ’72 Endowed Scholarship Fund is one of my proudest accomplishments,” Kosco says.

It's Payback Time

The Joe Torg, MD, Endowed Scholarship Fund has been established at Temple's Lewis Katz School of Medicine by alumnus and sports medicine pioneer Joseph Torg, MD '61, and his wife, Barbara.

The gift will underwrite full-tuition scholarships for bright, economically deprived medical students who attended public, private, or parochial schools in Philadelphia — students with backgrounds similar to Torg's.

Torg credits good schools for positioning him for success. "Now it's payback time!" he says.

An orthopedic surgeon with a wry sense of humor and a penchant for candor, Torg devoted his career to bettering conditions for athletes both on and off the playing field.

In the 1970s, his work paved the way for the gender integration of Little League, proving it's safe for girls to play baseball.

In 1974, he and colleague Ted Quedenfeld created the nation's first university-based sports medicine clinic — at Temple.

Early on, Torg served as team physician for the Philadelphia 76ers, the Philadelphia Flyers, and the Philadelphia Eagles — and in the 1980s he was the physician consultant for President Ronald Reagan's Council on Physical Fitness and Sports.

In addition to serving on Temple's faculty, Torg worked at the University of Pennsylvania and the Medical College of Pennsylvania — establishing sports medicine fellowship programs and conducting game-changing research. He has written several books, many book chapters, and has hundreds of articles to his credit.

Torg's efforts brought attention to the tarsal navicular stress fracture, a foot injury that was easily missed. Working with Helene Pavlov, MD '73, then Chief Radiologist at the Hospital for Special Surgery (New York), Torg developed a simple radiographic technique for diagnosing the injury — and identified non-weight-bearing management as the effective treatment.

Torg and Quedenfeld's research on the effect of foot fixation due to the seven inch-long conical cleats of the athletic shoe worn at the time pointed to the shoe as the responsible factor in many knee and ankle injuries. Soccer-type shoes with molded soles containing fourteen 3/8th-inch cleats, on the other hand, demonstrated a marked reduction in these types of injuries. Subsequently, the soccer-type shoe was made standard and the old-style shoe was prohibited at both the high school and college level.

Then there's the Lachman Test for anterior cruciate ligament (ACL) instability. This simple test of the knee was taught by Torg's mentor, John Lachman, MD '43, then-chair of Orthopedics at Temple. Torg documented the technique in the professional literature, solving the problem of the common failure to diagnose ACL injuries.

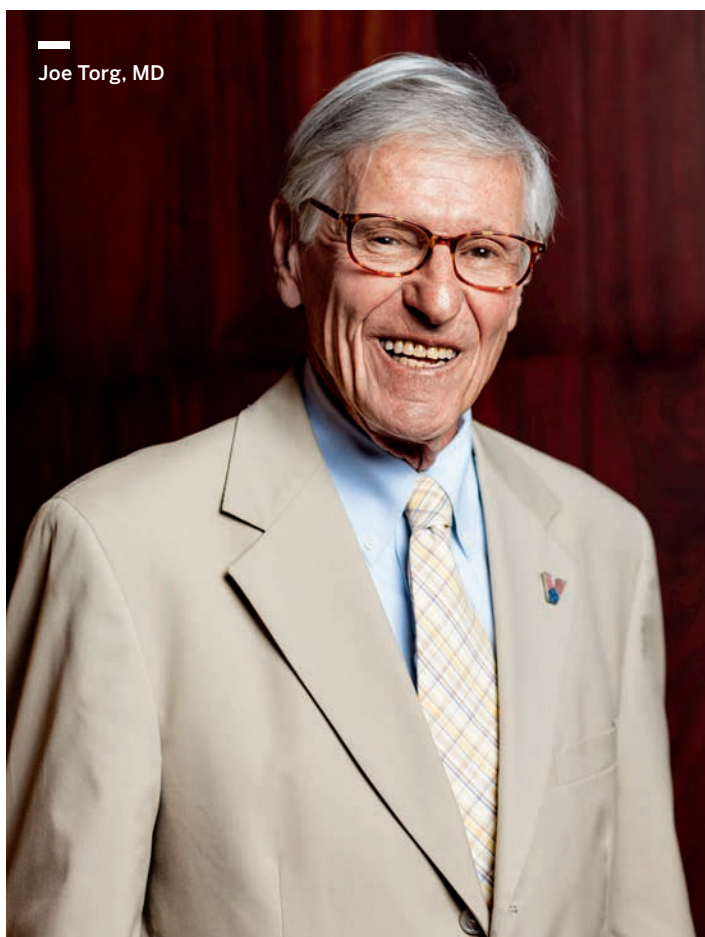
"The Lachman test is one of the most important physical

exams of the knee — and incredibly accurate," says Torg.

But Torg is best known for conducting the research that prompted the NCAA and high school federation to ban spear tackling in football. This 1976 rule change initiated by Torg and Quedenfeld's National Football Head and Neck Injury Registry resulted in a dramatic decrease of the incidence of catastrophic spinal injury. Prior to the rule change, 34 football injuries resulted in quadriplegia annually, on average. After the rule change, there was a progressive decrease to just three annually by the year 2000.

Torg has received numerous honors — most recently, the Association of Fund Raising Professionals's 2018 Philanthropist of the Year Award (Greater Philadelphia Chapter) recognizing his longstanding generosity to Temple, Penn Charter, and Haverford College — "schools that merit big-time payback for the tremendous good they do," Torg says.

"I'd also like to thank my wife Barbara of 60 years for her support, which has enabled me to do all I do," he adds.



Joe Torg, MD

2018 ALUMNI AWARD WINNERS

A pioneer of intraocular lens design, a champion in the fight against sleep-related infant death, and a renowned designer of prosthetic joints were among the six alumni honored in 2018 by the Lewis Katz School of Medicine for their achievements and service.



The Henry P. and M. Paige Laughlin Alumnus of the Year Award

The highest honor the Lewis Katz School of Medicine confers on its graduates.

Ophthalmologist **E. Ronald Salvitti, MD '63**, lives near Pittsburgh, PA, but he always keeps an eye on Philadelphia. His dedication to Temple has extended more than 50 years.

Founder of the Southwestern Pennsylvania Eye Center, Salvitti is an innovator in ophthalmic surgery. His intraocular lens design has changed patients' lives. A member and former Chair of the Lewis Katz School of Medicine's Board of Visitors, Salvitti has served on the school's Alumni Association – and the Temple University President's Advisory Board as well.

A major benefactor, he established the E. Ronald Salvitti, MD '63, Endowed Medical Scholarship Fund (providing financial aid to students from southwestern PA); the Salvitti Family Scholarship (providing ongoing support to eight students); the John M. Daly Endowed Merit Scholarship (honoring emeritus dean John Daly, MD '73); and the Larry R. Kaiser, MD, Endowed Scholarship Fund (honoring the current dean). Recipient of the Katz School's Alumni Service Award (2003) and Temple University's Alumni Distinguished Service Award (2015), Salvitti has been recognized with honorary doctorates from Seton Hill University and Washington and Jefferson College.



The Honored Professor Award

For faculty who exemplify the knowledge and values that Temple strives to instill.

Medical schools and teaching hospitals are places where medicine moves forward — thanks to educators like **Alisa Peet, MD '00**. Associate Professor of Clinical Medicine and Associate Dean for Clinical Education, Peet's dedication to students is matched by her commitment to patient care. She helps to shape the curriculum and educational strategic plan at Temple — and does the same on a national level as well, having served the Alliance for Academic Internal Medicine in several leadership capacities. Peet, respected by students and colleagues alike, has accrued honors including the Russell and Pearl Moses Memorial Endowed Medical Award for excellence in clinical teaching.



The Alumni Service Award

Honoring outstanding alumni with exemplary records of service and generosity to the school.

Internationally recognized surgical oncologist **John M. Daly, MD '73, FACS**, served as the Dean of the Lewis Katz School of Medicine from 2002 to 2011 — and after stepping down resumed clinical practice at Fox Chase Cancer Center. He teaches at Temple and at local, national, and international forums as well. Daly serves as Surgical Director of Temple's Measey Institute for Clinical Simulation and Patient Safety, while also chairing Temple's Institutional Review Board. Underpinning Daly's commitment to Temple is his philanthropy. A longstanding major benefactor, Daly supports students through the John M. Daly, MD '73, and Mary F. Daly Medical Scholarship and the Mary Daly Award funds. Much honored, Daly is a past recipient of the school's Henry P. and M. Paige Laughlin Alumnus of the Year and Alumni Achievement awards.



The Alumni Achievement Award

Recognizing alumni whose contributions to medicine have had a lasting impact.

Lawrence Hoepp, MD '73, FACS, is a general surgeon who is far from general. Known for his expertise in vascular surgery, he specializes in minimally invasive techniques — and non-cardiothoracic surgery and endocrine surgery as well. In 1978, he formed General Surgical Specialists of New England, where he worked for 30 years before joining Elliot General Surgical Specialists to better serve the growing Manchester, NH, area. His clinical skills, mentorship, and public service have earned him many honors, including a key to the City of Manchester and commendation from New Hampshire Governor John Lynch. Hoepp is also the New Hampshire Hospital Association's 2018 Physician of the Year.



Over the past 40 years, **Richard Scott, MD '68**, has focused not just on replacing patients' joints — but on replacing their quality of life. The Emeritus Professor of Orthopaedic Surgery at Harvard Medical School has designed or co-designed prosthetic knee joints that have been implanted more than five million times around the world. His book *Total Knee Arthroplasty* (Elsevier), now in its second edition, has been translated into four languages. As dedicated to philanthropy as he is to orthopedic research and surgery, Scott — along with his wife, Mary — has endowed the Catherine G. Scott Endowed Medical Scholarship and the Frank S. Deming, MD '40, Endowed Medical Scholarship to benefit medical students at Temple.



The Emerging Leader Award

Honoring exemplary leadership and promise in medicine.

Megan Heere, MD '08, doesn't just think outside the box. She thinks about what she can do *with* the box. Associate Professor of Pediatrics and Medical Director of Temple's Well Baby Nursery, Heere oversees the Sleep Awareness Family Education at Temple (SAFE-T) program — which educates families about safe infant sleep practices. Thanks to Heere, Temple became the first hospital in the United States to give away portable, lightweight cribs called baby boxes — reducing risk for infant death caused by co-sleeping with parents. *Philadelphia* magazine recognized Heere's program among the "Biggest Ideas of 2016 — and Beyond."

SO NOTED

“Scholarships help students focus on learning in medical school — not worrying about where that next dollar is coming from.”

— GERALD STERLING, PHD, SENIOR ASSOCIATE DEAN

“Your fund of knowledge won’t make a bit of difference if you don’t demonstrate the capacity to care.”

— LARRY R. KAISER, MD, FACS, TEMPLE HEALTH CEO

“BEING A SURGEON MEANS KNOWING HOW TO REACT WHEN THINGS DON’T GO ACCORDING TO PLAN.”

— DAVID HINDIN, MD, SURGERY RESIDENT

FOX CHASE IS ONE OF THE SELECT CENTERS IN THE NATION TO OFFER BOTH FDA-APPROVED FORMS OF CAR-T THERAPY, A HIGHLY SPECIALIZED AND INTENSIVE IMMUNOTHERAPY

Katz School
Class of 2018

MD
216

PhD
18

MD/PhD
2

MA
3

MD/MA
12

MS
21

During the 2018 fiscal year,
10 NEW SCHOLARSHIPS
were established at
the Lewis Katz School
of Medicine

WITH AN \$11.6 MILLION GRANT FROM THE NATIONAL INSTITUTES OF HEALTH, TEMPLE IS EXPLORING NEW STEM-CELL BASED APPROACHES TO HEART REPAIR

U.S. News & World Report ranks the Lewis Katz School of Medicine the 6th-most applied-to medical school in the nation

TEMPLE UNIVERSITY
HOSPITAL

LICENSED BEDS
575

EMPLOYEES
4,262

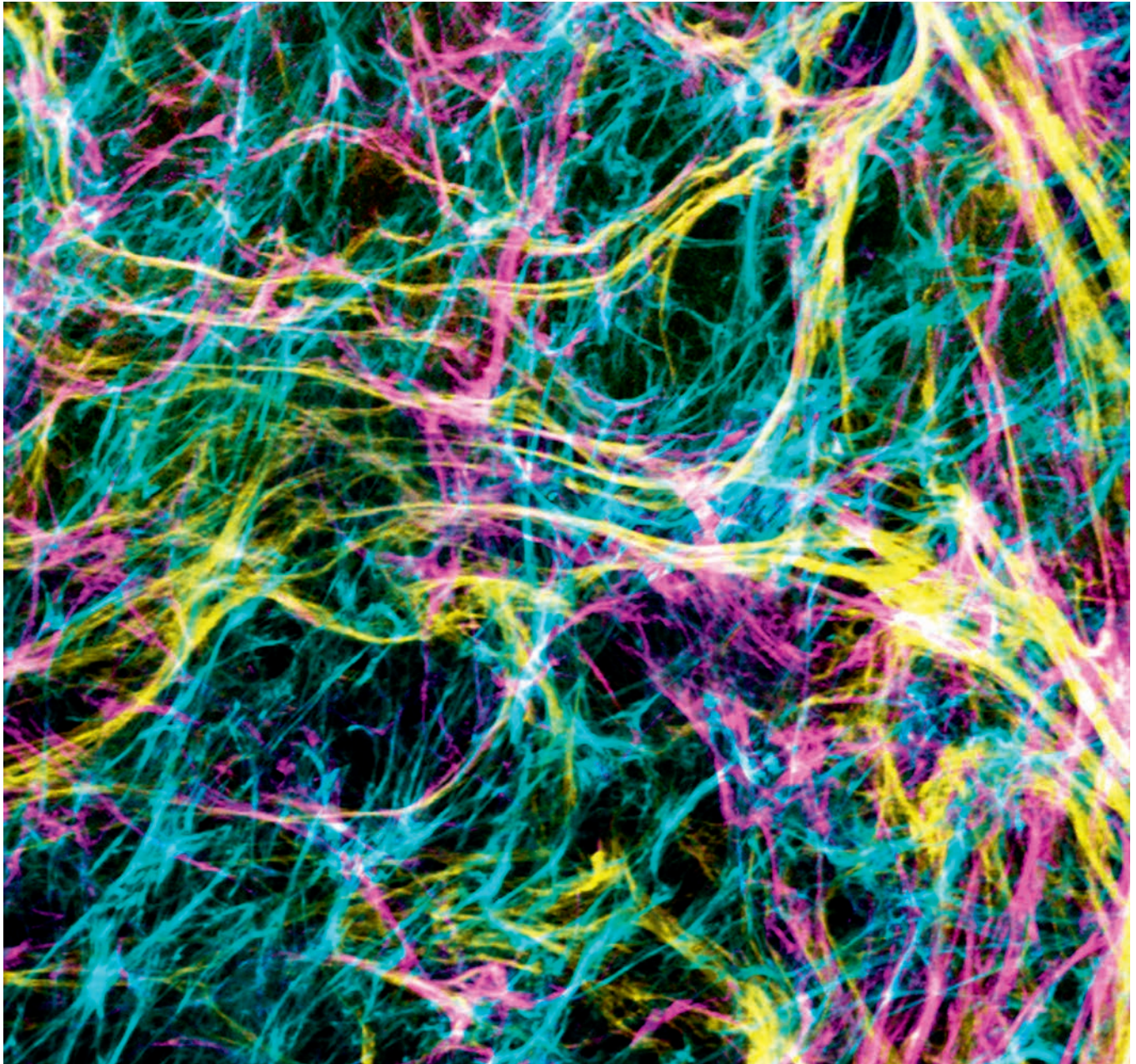
DELIVERIES
2,502

ER VISITS
84,443

INPATIENT
VISITS
23,774

OUTPATIENT
VISITS
224,557

SURGERIES
14,677



Webs We Weave

This colorful tangle is the extracellular matrix (ECM). An assortment of fibrous molecules deposited by the cells it surrounds, the ECM plays an important role in regulating cell growth and other cellular functions. Where there's normal cell behavior, there's an ECM with standard biochemical and structural properties. But in cancer, there's a biochemical and structural remodeling of ECM fibers. "We're just beginning to

understand how the ECM influences cancer progression and metastasis. It's an exciting territory to explore," says Edna Cukierman, PhD, a cancer biologist at Fox Chase Cancer Center. In addition to co-leading the Marvin and Concetta Greenberg Pancreatic Cancer Institute at Fox Chase Cancer Center, Cukierman studies ECMs associated with cancers of the pancreas, lung, skin, kidney, and breast.

“What makes extraordinary
advancements
in science possible?
The unmatched,
unwavering generosity
of donors who share
the core belief
that, *together*,
we will eradicate
Alzheimer’s disease.”

DOMENICO PRATICÒ, MD

- Scott Richards North Star Charitable Foundation Chair for Alzheimer’s Research
 - Founding Director, Alzheimer’s Center at Temple
-

Gifts to Temple’s research programs support groundbreaking advancements in medicine — powering the prevention, diagnosis, and treatment of human disease.

giving.temple.edu/givetotemplehealth



Lewis Katz School of Medicine

