Summer 2020

Sidney Kimmel Medical College Thomas Jefferson University

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COVID-19 SPECIAL EDITION



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A Message from the President

Facing Crises with Creativity

This is no time to stifle creativity. It is, in fact, a time to apply our best ideas to re-position, re-invest, and indeed to re-imagine the future of healthcare and higher education.

Your alma mater was at the epicenter of the events that reshaped our world this spring. The first—the sudden appearance of a novel coronavirus—caused fear, loss of income, illness, and death for many in the communities we serve. Our response was swift, as I'll explain below.

We further responded to the calls for action against the historic disparities of systemic racism and its effects on our land.

COVID-19 hit hardest those who could afford it least. In our region, it struck hard at Black families, and especially hit retirement residences that are home to underserved populations. It unveiled, once again, the disparities in healthcare and access in American society. It showed us that those who campaign for justice are right: Systemic racism is a public health crisis

At this time, our shared vision could not be more critical: To reimagine health, education, and discovery to create unparalleled value. I believe our future is bright despite our challenges, and that Jefferson will lead the transformation to a sustainable and equitable future.

That's why I say this is no time to stifle creativity. You will see Jefferson thinking boldly on every page of this magazine. It is time to reimagine, and to value ideas that will move us forward. The coronavirus pandemic has been called the "iPhone moment" for healthcare and higher education it's easy to see why. In both teaching and treatment, digital and mobile tools became crucial to serving students and patients during the lockdown.

At each stage, Jefferson did the right thing. The teams of frontline clinicians, staff—a shout out to environmental services-handled the most COVID-19 patients in the greater Philadelphia region. We did everything possible to be prepared for the challenge: We had PPE in stock, we had a powerful telehealth presence across all specialties already built, we went to universal masking immediately in our hospitals. We formed incident command centers across the University and Jefferson Health as early as January. By the time New York City had confirmed its first positive test, we were planning to shift to virtual learning directly after spring break.

Safety became our guiding principle. During the peak of the surge, we had 7,000 discharges of non-COVID patients, without any evidence of transmission of the virus to one of those patients. Zero. That's how safe we were. Among our 15,000 clinical employees and physicians, we had less than 1 percent contract the virus. That's substantially less than any other frontline system. Our hospitals were among the very few to allow loved ones to be present for births, and also for deaths—allowing many families to be by the bedside even for COVID-positive patients.

Because of this record of safety, we believe we can bring students back to campus in the fall. More importantly, we asked students themselves what they wanted moving forward and they resoundingly asked for the opportunity to learn with each other again. At the same time, our instruction will be hybrid. For those who are nervous about classrooms, learning can be virtual. For most, learning will be a combination even for specialized laboratories, learning spaces, and tutoring.

To all of you: Thank you for your leadership, thank you for your help, thank you for spurring us to work harder and explore bold solutions. Jefferson is a creative nexus of individuals who see these tremendous challenges as the opportunity to build a better future. With you, I believe we can build the better world we want to see. **▼**

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Stephen K. Klasko, MD, MBA President, Thomas Jefferson University CEO, Jefferson Health





Table of Contents

3	A Message from the President Facing Crises with Creativity			
7	Dean's Column Difficult Times Define Us			
8	Jefferson COVID Stories			
11	Reflections from the Frontlines			
18	One Step of Many White Coats for Black Lives Peaceful Protest at Jefferson			
20	Time Capsule Philadelphia 1918: The Flu Pandemic Hits Home			
26	A Message from Elizabeth A. Dale Helping the Heroes			
28	Discovery Combating COVID-19			
32	Heroes on the Sidelines Sidelined from Patient Care, SKMC Students Find Purpose in Volunteer Work			
38	From the Front Lines to Online SKMC Doesn't Miss a Beat in Medical Education			
39	Navigating Uncharted Waters in Search of the Class of 2024			
40	You've Got Mail Untraditional Match Day 2020			
42	Looking at Healthcare in the Mirror of a Pandemic			
46	Class Notes Penn State–Jefferson Accelerated Program Moves Medical Education Forward			
53	Bookshelf			
55	Class Agent			
56	In Memoriam			
60	By the Numbers JeffConnect: Telehealth's Moment			

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Sigrid L. Williamer

Dean's Column

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196th Commencement Sidney Kimmel Medical College July 12, 2020 By Virtual Video

Congratulations to all of you, SKMC Class of 2020.

One thing is for certain—your class will win the prize for the most eventful graduation year, hands down!

One of my favorite authors is Haruki Murakami, one of Japan's most distinguished literary writers. His novels are as much poetry as narrative. In his masterpiece novel "1Q84," he writes: "Where there is light, there must be shadow, where there is shadow there must be light. There is no shadow without light and no light without shadow."

From what's transpired over these past few months, you've certainly had a bird's-eye view of shadow and light—close-up, arrayed side-byside.

Yet here's a simple message to you, Class of 2020: favor the light always look for that light beyond the shadow. Too easy to succumb to pessimism, to see the cup halffull. No-you've every reason to be optimists-starting with the simple fact that your generation of physicians will be armed with heretofore unimaginable breakthroughs in diagnostics and therapeutics, powered by machine intelligence and robotics. As this 21st century unfolds, you, unlike your predecessors, will be able to leverage revolutionary technologies to bring hope to so many who had once been hopeless.

But it's more than that. As physicians, it's actually your unsaid duty to be optimists. Your mandate is to lift the spirits of your patients, and of society at-large. Relentlessly seek out the positive and be an uplifting force for all those around you.

I myself have found my sense of optimism reinforced these past months—bolstered by the resilience, ingenuity, and even heroism I've witnessed here at Jefferson—among our faculty, our staff, our residents, and yes you, our students.

I've personally had the opportunity to interact closely with a number of you—at Dean's concerts, in the Student Leadership Forum,

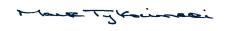


and the like. Through this lens, I've gotten to see such wonderful human qualities and intellectual prowess. We're proud of your many accomplishments these past four years, the volunteerism you have shown of late. You are now headed to an impressive array of residencies, and we're confident in your future, hopeful that it will be suffused with light.

visit Jefferson.edu/Bulletin

A last thought, again, crystallized by Haruki Murakami: "Unclose your mind. You are not a prisoner. You are a bird in flight, searching the skies for dreams."

Class of 2020, go out and soar to great heights, freely fly into unfamiliar territories to continuously enrich your minds, and keep searching those skies for your dreams—for that light beyond the shadow. **J**



Mark L. Tykocinski, MD Provost and EVP for Academic Affairs Thomas Jefferson University Anthony F. and Gertrude M. DePalma Dean Sidney Kimmel Medical College

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Giving voice to service and experience

ONE ANTIDOTE TO FEAR AND WORRY IS EMBRACING A SENSE OF PURPOSE.

This has been a time marked by uncertainty and higher demands of all of us, but it is also an invitation to be more than we thought we could be. In that spirit, second-year SKMC student Nick Safian and I launched a narrative project to engage inter-professional faculty, staff, and students throughout Jefferson in an exercise aimed at giving voice to the collective experiences and service during the COVID-19 pandemic.

With help from Jefferson Marketing, JeffersonCovidStories.com was built to serve as a repository for responses to three different rounds of writing prompts. We partnered with studentled Humans of Jefferson and Humans of the Hospital to add depth with photos and audio files. respectively.

I am so impressed by the sense of service surrounding us. Read through these stories and you'll see there is light that still shines. Our hope is that this project would capture our collective humanity by highlighting stories of reflection, hope, and purpose.

-Danielle Snyderman, MD, CMD Assistant Professor Department of Family and Community Medicine



"Seeing kids drawing sidewalk art and sweet messages to cheer up passersby is amazing. In the lack of normal forms of connection, we are all reminded how important human connection is in the first place. We do this for each other." -Nursing student

"Although right now I am stressed and worried just like the rest of the world, I will not belittle my own feelings. I let them happen, and at the end of the day I remind myself that I am thankful for family, friends, and colleagues. We are all in this together."

-PhD Student

"My studies have become more meaningful. Seeing healthcare heroes making sacrifices and being stretched to their limits just cements my decision to continue on this path and make a difference in the world."

-Physician Assistant student

"The unified purpose we all share in overcoming this pandemic has been truly exceptional. Everyone is looking out for one another... taking the time to truly connect with each other."

-Clinical Nurse Specialist

"So many who are sick and hospitalized aren't able to have their loved ones with them. I had a hospice conversation with a longtime patient—she and I cried over our masks, and I couldn't hug her. It felt like a failure in the humanistic side of how we care for people."

-Palliative Care Physician

"My family has never fully understood exactly what I do every day at work. Sure, they know I am a nurse and that I take care of the

sickest patients in the hospital. However, they do not know what that entails emotionally, mentally, and physically. We were warned (about COVID-19); I felt ready. But I was not prepared for the fragile nature of each and every ICU patient that rolls into our unit. That is what my family doesn't understand." -Nurse in the Medical ICU

"Home has become a tumultuous atmosphere of uncertainty, where family members keep checking the news for any shred of hope. Despite this, we are still finding moments to laugh and spend time together... to sit down together and rekindle our relationships with each other." -Medical student

SEEING HEALTHCARE HEROES MAKING SACRIFICES AND **BEING STRETCHED** TO THEIR LIMITS JUST CEMENTS MY DECISION TO CONTINUE ON THIS PATH AND MAKE A DIFFERENCE IN THE WORLD



"When I was feeling distracted during the first week of the stayat-home period, I was reminded of a speech by C.S. Lewis called 'Learning in War-Time.' Speaking during World War II to his students at Oxford University, Lewis reflects on the importance of students continuing to pursue their studies, even when the world asks, "How can you be so frivolous and selfish as to think of anything but the war?" I was amazed how well this 80-year-old sermon captured my own thoughts; each time I sat down to review family medicine guidelines for diabetes and hypertension, I found myself wondering, "How can you be so frivolous and selfish as to think of anything but the coronavirus?"

Lewis points out to his students, "The war creates no absolutely new situation: it simply aggravates the permanent human situation so that we can no longer ignore it...If men had postponed the search for knowledge and beauty until they were secure the search would never have begun." In a few short years I will be a physician, and I might someday be called to serve on the front lines in the setting of a global crisis. But, at this moment. I am called to the vocation of medical student. So, I will do my part by practicing social distancing. But, at the same time, armed with Lewis's defenses against the three enemies of the scholar-excitement, frustration, and fear-I am poised to reengage wholeheartedly with diabetes treatment guidelines, for the betterment of my future patients' health and the glory of God. -Medical student

Poetry is the spontaneous overflow of powerful feelings."

-William Wordsworth

HAIKUS FROM THE FRONTLINES

Gown, gloves, mask, and shield Is it enough protection? We can only hope -Nurse, Medical Intensive Care Unit

Red lines from the mask Front lines of the pandemic We are the strong line -Nurse, Emergency Department

Now invisible, Evil dons a thorny crown. We cannot mask fear. -Physician, Head and Neck Surgery

Must live in the now Find beauty in disaster Live with gratitude -Occupational Therapy Student

FROM THE FRONTLINES REFLECTIONS

BEHIND THE MASK Mike Natter, MD '17





few short months ago, I would sit at the bedsides of my patients. Unhurried. I used to do this thing where I'd find myself holding a patient's hand while I was auscultating their chest. I don't know why I did it-didn't even realize I was. It just kind of felt right. It was a small way of connecting. I'd chat with my patients, learning about who they are as people. I'd draw them pictures to explain their illness. We'd smile. Unencumbered by masks.

Now, I'm hidden behind layers of PPE. Behind masks and shields, gowns and gloves. We healthcare workers resemble astronauts more than doctors. We are faceless. Our patients are faceless too. Behind non-rebreathers and ET tubes. Hooked up to drips with tubes extending outside their rooms, which are quiet except for the songs of vent alarms. No family. No visitors. Just alarm.

I miss telling patients, "You're gonna be just fine"—and the assurance turning out to be true. We are in a dark cave, trying to feel our way forward. Blindly. There's no textbook chapter on COVID. No evidence-based treatments. We have none of that.

What we do have, though, is hope. I am hopeful for better treatments. For vaccines. For the day when I can chat, hold my patient's hand, and share a smile. Unmasked. Hospital admissions are dropping, as are death rates. But we have a ways to go. We will make it out of this dark tunnel though. Have hope. I do. **J**

Mike Natter, MD '17

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ONE CRISIS PREPARED US FOR ANOTHER Jennifer L. White, MD



ast July, Hahnemann University Hospital suddenly closed its doors. There was little warning; there was only a constant influx of patients through the revolving doors of our emergency department-patients with no records, no neighborhood hospital, and no place else to turn.

As an enterprise Jefferson rose to the occasion and acted guickly to accommodate the volume of sick and injured flooding our emergency department. We had to rethink the way that we utilized space, people, and resources. Every division devised and swiftly executed best practices plans across the board. We made changes to pathways on the fly daily, if not hourly. We implemented flows and novel processes as we moved forward. Sometimes we felt like we were under water as the patients kept coming, but the resiliency, the ability to pivot, to think creatively, and not only to think outside of the box but literally to be out of the box was remarkable.

> Little did I realize at the time that the Hahnemann closure was a dress rehearsal for what was to come.

Just as we handled a recordbreaking ED volume day at Center City-about 300 patients in 24 hours—a global health crisis landed at our door. In January, the world started seeing the beginnings of COVID-19, a virus that would spread like wildfire, turning into a pandemic in just a few weeks. The Philadelphia region saw its first patients in March-and Jefferson was ready.

While the closure of Hahnemann was a great tragedy for our region, it offered us an unanticipated opportunity to get our house in order from top to bottom. The lessons we learned from Hahnemann allowed us to properly strategize for the COVID-19 crisis, and to put plans into place that allowed us to prevail in this ever-evolving emergency situation.

The Hahnemann closing and COVID-19 were similar in many respects: both situations came about fairly unexpectedly and hit the emergency departments first. But there were differences, too. We knew that Hahnemann closing might be coming, but thought we had months to prepare. We were taken by surprise when they closed their doors overnight, and we suddenly had 50 to 100 more patients a day. With COVID-19, we knew the patients would start trickling in, and that eventually there would be a surge. Our processes and pathways were actually in place about two weeks ahead of the predicted volume and surge. The sky was going to fall, but we were prepared to catch it.

However, while we had prepared for COVID-19 as far as facilities, staffing, and procedures, nothing could have prepared us for the disease itself or the challenges it would present. When we were in the thick of the Hahnemann closure we were dealing with the sheer volume of patients, the challenges of not having their medical records, and not having enough staff. It was foreboding, but these weren't scary patients; they didn't have a disease we had never seen before.

This is much harder than anything I've ever done in my career: for the first time I felt uncomfortable, out of my element. The ED is supposed to treat chest pain, broken bones, the flu-not particularly frightening conditions for providers because we are used to them. But now we are facing an unknown enemy, and we don't know what to do with it. We are using equipment we've never used before. We are working in gear we've never worked in before. Unlike the average patient who comes into the ED, COVID-19 patients are highly contagious with a deadly disease for which there is no proven cure or vaccine. Caring for Jennifer L. White, MD them means donning gowns, masks, gloves, and other Associate Professor, Dept. of Emergency Medicine protective gear; it means sometimes not eating or drinking or using the bathroom for an eight-hour shift Associate Medical Director Assistant Program Director because you don't want to get in and out of your gear; and it means knowing you could contract the disease, Sidney Kimmel Medical College and pass it onto family.

There is no book on COVID-19. There is no blueprint for what works and what doesn't. We are taking our best guesses clinically. But because of the dress



rehearsal—because of the Hahnemann closure that forced us to reimagine and restructure healthcare processes and pathways-Jefferson is one of the most prepared systems in the region, perhaps even in the country, to handle the pandemic at our door. **J**



To see a video featuring Dr. White, visit Jefferson.edu/Bulletin

A DEPARTMENT BUILT FOR COVID

Gregory C. Kane, MD '87

y first patient with suspected COVID-19 had returned from Italy in early March. Upon hearing his symptoms-fever and diarrhea-I wasn't sure whether he was likely to have the infection. Our drivethrough testing site was still days from opening, and it was at that moment I realized that all my training and experience would fail me in this crisis. My first reflex when presented with somebody who is sick has always been to say, "Come to my office and I will meet you there in 30 minutes." With COVID, this was precisely the wrong advice.

However, thanks to Dr. Stephen Klasko and Dr. Judd Hollander, Jefferson had developed an infrastructure of telehealth resources enabling our doctors to see patients remotely while keeping them isolated and protected from spreading this virus to their family members, our staff, and our physicians. Telehealth introduced me to my first COVID patient, and it became Jefferson's secret weapon in winning the war against the virus. As I was treating this patient, Jefferson was gearing up for battle, funneling the first influx of patients through our JeffConnect portal, opening up drive-through testing sites throughout the region, and preparing for the next wave of patients that numerous models were predicting for later in March, April, and May. Indeed, our primary care team rapidly pivoted to the telehealth platform, helping scores of patients who were able to remain at home.

When this current outbreak subsides, telehealth will be validated as one of our great shields in fighting this contagion; it has provided access, advice, and connectivity while maintaining distance. I am convinced that telehealth dramatically helped flatten the curve here in Philadelphia and far beyond. We also have leveraged telehealth to keep up with the ongoing care needs of our substantial population of patients requiring primary care or management of their chronic health conditions through our expert faculty and residents. This important technology has been transformative in medicine, and will remain a significant tool in caring for our patients as we go forward.

But technology alone doesn't save lives. It is the people utilizing that technology who deserve the credit for answering the call to action during the COVID crisis.

If the Department of Medicine is the front line, then our nurses, nurse practitioners, PAs, respiratory therapists, technicians, and medical assistants are our backbone. The spirit of teamwork at Jefferson has never been stronger, and is part of our formula for success. This team also includes the EPIC electronic health record builders, nurses who collect nasal swabs, pathologists who get patients fast results, hospital-based nurses and doctors, telehealth teams, pharmacists, nutritionists, social workers, administrators, food service employees, and security personnel.

Our balance of specialties were perfectly aligned to match up as the virus tried to surmount our defenses. Aiding in the fight were our colleagues from the departments of Anesthesia, Medical Oncology, Neurosurgery, Trauma Surgery, Cardiovascular Surgery, the Farber Neurohospitalist Group, and others. In addition, our amazing administrative team, working behind the scenes, has helped enable all of this important work.

Our faculty and house staff working on our Hospitalist service under Dr. Jonathan Woo have demonstrated great resiliency, earning the moniker #COVIDWARRIOR. Our Infectious Disease staff, led by Dr. John Zurlo, have guided our scores of policies designed to protect our patients and staff. On March 23, they made the difficult decision to require all staff interacting with patients in both hospitals and the clinics to wear a mask regardless of whether the patient is infected with COVID or not. This important step has helped protect our patients, healthcare workers, and staff. Of course, this would not be possible were it not for our administrative staff, who worked tirelessly to ensure a continuous supply of critical PPE.

On the research front, with the leadership of many in the Department of Medicine, we are engaged in more than a dozen clinical trials, which promise to offer new hope and new options to sick and exposed patients as well as discovery to help in the weeks, months and years ahead. I must say, this experience has been one of the most gratifying of my life in academic medicine. As the scope of the pandemic in Philadelphia became clear by the end of March, we engaged our residents in a crucial conversation; we knew that we needed the partnership of our residents, just 9 to 32 months out of medical school, to help on the front lines. As we prepared for the more than 150 patients that would ultimately challenge our resources, we learned that the courage of our residents would lead the way. Residents and faculty alike moved forward to confront the outbreak head-on, many volunteering for duty even before we asked.

I believe that the ingenuity and power of American medicine will help us recover and return to a more normal life for our patients, our families, our neighbors, and our nation. And you can rest assured that Jefferson will be leading the way as we continue to serve those infected with COVID, and work to ensure a safe recovery for our community.

Gregory C. Kane, MD '87, MACP

The Jane and Leonard Korman Professor of Pulmonary Medicine Chair, Department of Medicine Sidney Kimmel Medical College at Thomas Jefferson University



#COVIDWarrior

JEFFERSON MD/MPH STUDENT Hannah Garrigan

am writing this article in my pajamas and slippers, quarantined with my roommate in a small Center LCity apartment. As a Jefferson MD/MPH student, I never thought my public health curriculum would manifest itself in the form of a pandemic before I completed my degree. Wrestling with epidemiological concepts and researching public health policy has morphed into my daily route of understanding current events, in addition to taking the form of graded assignments.

Just before COVID-19 appeared, Jefferson took me on my biggest adventure yet as a visiting student to LV Prasad Eye Institute in Hyderabad, India. The experience transformed my perspective on the human condition and opened my eyes to the magic of global collaboration. We have a lot to learn from one another.

Of the series of lessons that I learned over those five weeks, the most important one was taught through my relationships with the healthcare workers around me: how deep connections and friendships could form so naturally between people whose backgrounds were starkly different.

I discovered shared humanity with:

- A Liberian ophthalmology resident who had lost several loved ones to Ebola and was a former refugee. Together we experienced the cultural assimilation learning curve.
- An Indian electronic medical record department manager. We talked for hours about the challenges of being a single, career-driven woman in her culture.
- The worldly ophthalmologist who proudly shared his family, city, and passion for innovation. By day, we would see patients, attend meetings, and conduct research. At night, I would spend time with his family immersed in all that Hyderabad has to offer. He treated me as a respected colleague and newly adopted family member.

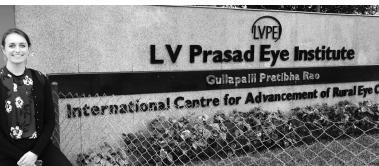
I was not expecting how effortlessly our relationships progressed from introductions to discussions on topics that deeply mattered to us. Laughter, medicine, and our common humanity (and all its complications)

connected us. I discovered that we humans are more alike than we are different.

Our borders are now essentially closed. We are boxed up from the world with no established end date to cling to. The doom and gloom of this virus is infiltrating our inboxes, social media, conversations, and, most importantly, our mental and physical well-being. Luckily, hope has blossomed amidst the chaos-hope that our nation's health experts are working side by side with other brilliant minds across the world to discover the best way to test, treat and prevent COVID-19.

This crisis has reaffirmed my newfound view of us as citizens of this Earth, an arguably more important allegiance than to our respective nations. The less glamorous side of humanity-our vulnerability, suffering, and fear-can be used as source of connection during this time. Out of dire necessity, global health has moved to the forefront of our priorities, proving that global unity is key for the future health of our world. **J**







C E with Alumni Relations on Social Media!









BY MIKE BEDERKA

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Oluwatoni "Toni" Okuboyejo moved from Nigeria to the United States in 2014, around the time of the highprofile deaths of Michael Brown and Eric Garner at the hands of police officers.

"I never fully understood what it meant to be black in America until then," said the third-year Sidney Kimmel Medical College student. "I was confused. I was angry."

Garner's haunting dying words of "I can't breathe" served as one of the catalysts to mobilize the Black Lives Matter movement and reverberated this year with the killings of George Floyd, Ahmaud Arbery and Breonna Taylor. Protests mounted around the world, calling for action and widespread police reform.

"It was everyone's breaking point," Okuboyejo said, "including mine."

With the help of Jefferson internal medicine residents Drs. Danielle Verghese and Rukaiya Bashir and Dr. Traci Trice, assistant dean for diversity and student diversity programs, Okuboyejo organized and spoke at the White Coats for Black Lives demonstration on June 5.

"This is just one step to the solution," Okuboyejo says. "I hope those who came out will continue their activism and to actively oppose racism. In medicine, systemic racism is heavily embedded in the system."

Okuboyejo recounted her own experience with a microaggression in her first few weeks of med school. In a small discussion group, one of her white professors asked her, "How does your family deal with the aftermath of slavery?"

"She assumed that I was African American," Okuboyejo said. "Even if I was, you just don't ask someone about slavery. I brushed it off then, but that was a very uncomfortable situation for me. If it happened now, I would have a whole conversation with her."

Her leadership qualities have grown at Jefferson thanks, in part, to working with her mentor, Dr. Trice, she said. Okuboyejo now serves as an associate regional director of the Student National Medical Association-an organization that supports underrepresented minority medical students-and plans to work in primary care, mainly family medicine.

"There's a longevity to the relationship," said Okuboyejo of her future career path. "You're not just seeing them once or twice. You're the pillar in their care, and medicine is a great way to educate patients." **J**







Keep up with the latest and greatest goings-on at Jefferson with our monthly university e-newsletter, which features news, articles, and events you won't want to miss!





Jefferson.edu/Newsletter

Time Capsule

A Philadelphia patient is escorted by police. (Courtesy of Temple University Libraries, Urban Archives, Philadelphia.)

Spanish Influenza has endangered the prosecution of the WAR in Europe. There are 1500 cases in the Navy Yard 30 deaths have already resulted SPITTING SPREADS SPANISH INFLUENZA DONT SPIT

Sign above posted at Philadelphia's Naval Aircraft Factory on Oct. 19, 1918. (Courtesy of U.S. Naval History and Heritage Command.)



Philadelphia 1918: The Flu Pandemic Hits Home

uring summer 1918, Philadelphians were enjoying the long-running British musical *Chu Chin Chow* at the Shubert Theater, Jerome Kern's *Leave It to Jane* at the Chestnut Street Opera House and John Philip Sousa's Liberty Loan concerts in Willow Grove Park to raise funds for World War I.

Reports of a flu killing thousands in Europe, the Mideast and Asia drew little attention even after the disease emerged in the United States in Boston in August. And the news of hundreds of sailors falling ill on Sept. 18 and 19 at the Philadelphia naval base gave city health officials scant concern. No one considered canceling the kickoff of the Fourth Liberty Loan Drive, which attracted more than 200,000 people to a parade that stretched 23 blocks Sept. 28.

Less than a week later, 139 Philadelphians died in one day, panic took hold and city health officials turned to Jefferson students for help.

In just one month, the "Spanish Lady" – named for a country hard hit early – would kill an estimated 12,000 in Philadelphia and sicken 35,000 more while threatening the city's social fabric. Worldwide, the pandemic would infect a third of the Earth's population, about 500 million people, with the estimates of deaths ranging from 50 million to as high as 100 million. In comparison, an epidemic far better known – the "Black Death" plague of the 1300s – killed just 20 million to 30 million in Europe. No influenza pandemic before 1918 and none since has come close to the virulence. Although today's H1N1 influenza is a distant relative of the 1918 virus, it has created a pandemic classified as "moderate" by the World Health Organization, with the overwhelming majority of patients experiencing only mild symptoms and a full recovery, often in the absence of any medical treatment.

In 1918 – an era without anti-flu drugs, antibiotics and mechanical ventilators – Philadelphia led the country in deaths. It also gave the world a clear example of the wrong way to handle a pandemic.

Flu Strikes Young Adults with Ferocity

The Spanish flu was far from the "old-fashioned grip," as Vicks VapoRub claimed in newspaper ads of the day.

Instead of striking the very young, very old and the infirm, the Spanish flu struck most fatally at society's strongest, those 15 to 40 years old. Many victims seemed fine one minute and then incapacitated the next, delirious and racked by fevers as high as 106. Their skin turned blue, purple or deep brown from a lack of oxygen. Pneumonia attacked the lungs, filling them with fluid, and blood gushed from the nose, ears and even women's vaginas.

City health officials were unprepared.

The public health director, Wilmer Krusen, promised before a single civilian had died to

"confine this disease to its present limits." When the number of daily deaths broke 200, he promised, "The peak of the epidemic has been reached." At 300 deaths in a day, he said, "These deaths mark the high-water mark." The daily death count reached 711 on Oct. 17 before easing.

By Oct. 4 – when 636 new cases and 139 deaths were reported – the state had closed all the vaudeville and picture houses, theaters and saloons in Pennsylvania. City officials closed the schools and churches. Health officials were frantic. Without the current understanding of viruses, physicians could only ask: How can we stop the disease when no one even knows why it is spreading?

The Philadelphia Inquirer, one of several Philadelphia papers, derided the social interventions: "What are the authorities trying to do? Scare everyone to death? ... What then should a man do to prevent panic and fear? Live a clean life. Do not even discuss influenza. ... Talk of cheerful things."

EPIDEMIC INFLUENZA

THE CO-OPERATIVE ASSOCIATION

THE PHILADELPHIA RAPID TRANSIT COMPANY Appeals to all citizens to assist in stopping the Spitting in streets and public places. 4,596 citizens died here last week-63 of our fellow workers died since October 1st.

P. R. T. IS DOING ITS PART DISINFECTING CARS ALMOST HOURLY-KEEPING VENTILATORS OPEN as directed by Dr. Krusen. Dr. Pepper, U. of P., asked Street Sprinkling Contractors October 12th to put more water on the streets as a further preventive. Sprinkling Contractors borrowed P. R. T. sprinklers and are working day and night, including Sundays, to keep the dust down. (over)

STREET SPRINKLING HAS BEEN MORE THAN DOUBLED POLICE ARE ARRESTING 50 SPITTERS DAILY MAGISTRATES ARE FINING THESE SPITTERS

What are you doing MR. CITIZEN to help stamp out this death dealing epidemic?

The Co-operative Association hereby promises that its membership of more than 6700 P. R. T. EMPLOYES

will do their utmost to stop this Spitting and will call the attention of Police Officers to every Spitter they see spreading death and desolation amongst our people.



October 23, 1918.

WON'T YOU HELP, MR. CITIZEN? By Order of the General Committee, C. B. Fairchild, Jr., Secretary. F. W. Johnson, Chairman

Above: Cards distributed to riders of public transportation. (Courtesy of Thomas Jefferson University Archives.)

Delay Proves Critical

Philadelphia's delay in trying to contain the outbreak very well may have led to thousands of additional deaths. According to two independent studies financed by the National Institutes of Health, cities that imposed social containment measures within a few days after the first local cases emerged in 1918 cut weekly death rates by up to half. The papers, published in the *Proceedings* of the National Academy of Sciences in May 2007, also found lower mortality rates in cities that implemented early interventions.

The wisdom of communicating and taking precautions seems evident today, but the 1918 pandemic came against the backdrop of the First World War. To keep up morale, President Woodrow Wilson ordered his administration to limit all news to positive reports; he never made a single statement about the pandemic. Local health officials, and many local newspapers, played down the threat. But as the disease progressed, they could not stifle the population's panic.

Panicked Rush Hospitals

The death rate peaked during the week ending Oct. 16, when 4,597 people died. Vehicles of every description crowded in front of the city's hospitals, and students volunteered as stretcher bearers, bringing the dead from the hospitals to make room for the living. Medical students drove through the city's poorer neighborhoods and often found themselves besieged by crowds begging for help.

By Oct. 17, the city put the hospitals under police protection, with patrol cars serving as ambulances. The city's only morgue, designed to handle 36 bodies, overflowed with hundreds. The city opened five temporary morgues in cold-storage plants. Highway crews using steam shovels dug trenches at Potter's Field in North Philadelphia, and seminarians from St. Charles Seminary joined city prisoners in burial duty.

To counter the health threat of rotting bodies in homes, volunteers drove horse-drawn carts up and down the streets, calling for the dead. Years later, Selma Epp, a child during the pandemic, talked about her 2-year-old brother: "The strongest person in our family carried Daniel's body to the sidewalk. Everyone was too weak to protest. There were no coffins in the wagon, just bodies piled on top of each other."

Medical Students Play Important Role

The flu arrived in Philadelphia at a time of vulnerability. About 75 percent of the hospitals' physicians and nurses were serving overseas in the war, forcing health officials to turn to third- and fourth-year students in the city's five medical schools to fill the gaps. A senior at Jefferson Medical College wrote in the 1919 yearbook, The Clinic, about a visit from the public health director, Krusen, on Oct. 7 and the students' service in the coming weeks:

"With tears in his eyes at the sights he had been called to witness, he requested us, in the name of humanity, to lend our aid in getting control of the terrible situation. ... The class responded to a man. ...

"No one had ever told us of the human problems we should be called upon to face. And in truth there must be real stuff in the man who can strain his every energy in trying to drive back the angel of death; then, failing, stand steadfastly by to comfort the frantic mother, as her little one slips silently into the Great Beyond."

Right: Chart comparing mortality in Philadelphia with other U.S. cities. (Reeve 3141, courtesy of the National Museum of Health and Medicine, Armed Forces Institute of Pathology, Washington, D.C.)

Below: Tonic ad. (Courtesy of National Library of Medicine.)

Bottom: A 1919 illustration from JMC's The Clinic. (Courtesy of Thomas Jefferson University Archives.)





sealed to handle the crush of patients. He wrote about his experiences in an essay for The Annals of Internal Medicine in 1976: "My patients who often entered the ward with what appeared to be a minor illness became in a few days delirious and incontinent, gasping for breath and deeply cyanotic. After a day or two of intense struggle, they died. When I returned to duty at 4 p.m., I found few whom I had seen before. This happened night after night."

Isaac Starr, MD, a

third-year student

School of Medicine

serving at a hospital

partially torn down

to make way for

the new Benjamin

Franklin Parkway

and then hastily

in 1918, ended up

at the University

of Pennsylvania

EXCESS MORTALITY JUSCITIES						
DURING INFLUENZA EPIDEMIC						
DURING INFLUENZA EFIDENIU						
DEDCENT OF DODULATION DUINC						
PERCENT OF POPULATION DYING						
1918-1919						
CITY	SEPT. 8-NOV. 23	NOV. 24-FEB. 1	FEB.2 - MAR 29	TOTAL		
	10 WEEKS	10WEEKS	8WEEK5	28WEEKS		
DUN ADDI DUNA	0 .2 .4 .6 .8	0.2.4.6.8	0.2.4.6.8	0 2 4 .6 .8		
PHILADELPHIA FALL RIVER	.69	.01	.03	.13		
PITTSBURGH	.59	.12	.06	.00		
BALTIMORE	.57	.03	.0	.60		
SYRACUSE	.55	.00.	.02	.58		
NASHVILLE	.55	.16	.12	.83		
BOSTON	.50	.12	.0	.62		
NEW HAVEN	.49	.13	.0	.61		
NEW ORLEANS	49	.21	.0	.71		
ALBANY	.48	.03	130.	.53		
BUFFALO	.47	.10	.04	.61		
WASHINGTON	.45	.12	.0	.54		
LOWELL	.44	.10	.03	.56		
SAN FRANCISCO	.42	.31	130.	.74		
CAMBRIDGE	.39	.12	.0	.50		
NEWARK	. 38	.11	.04	.53		
PROVIDENCE	.38	.13	.03	.53		
RICHMOND	.35	.18	150.	.55		
DAYTON	. 33	.021	.03	.37		
OAKLAND	.33	33.	.01	.56		
CHICAGO	.32	.09	.04	.46		
NEW YORK	. 30	.09	.08	47		
CLEVELAND -	.27	.11	.04	.55		
LOS ANGELES	.27	.26	.09	37		
MEMPHIS	.25	.021.	.03	40		
ROCHESTER	.25	.16	.08	.60		
KANSAS CITY	24	.58	.07	.63		
DENVER CINCINNATI	.64	.13	.11	46		
OMAHA	.82	.20	.0	43		
LOUISVILLE	.19	.04	14	.37		
ST. PAUL	.19	.13	.02	34		
COLUMBUS	.19	15	.07	.41		
PORTLAND	.18	.22	.03	.42		
TOLEDO	.17	190.	.0	.17		
MINNEAPOLIS	.17	.11	.07	.24		
SEATTLE	.16	.18	.02	.36		
INDIANAPOLIS	.15	.09	.08	.31		
BIRMINGHAM	.15	.15	.0	.29		
MILWAUKEE	.15	.18	.03	.37		
ST. LOUIS	.12	.18	.04	.34		
SPOKANE	.11	.13	.02	.25		
ATLANTA	.07	.13	.0	.19		
GRAND RAPIDS	.04	.12	.04	.19		

Fear Runs Deep

The pandemic stretched the city's social fabric. Early on, officials ordered all Philadelphians to wear gauze masks in public: "Protect your jaws from the septic paws." Those refusing were called "slackers," one of the worst epithets of the day, and often were run off the street. Spitting became a criminal offense.

Frantic shoppers mobbed pharmacies, forcing the Philadelphia College of Pharmacy and Temple University to suspend classes to allow students to help fill prescriptions, mainly for whiskey, unavailable anywhere else after the saloons closed. As the pandemic dragged on, unscrupulous pharmacists began charging \$52 – the equivalent of \$710 in today's inflated dollars - for a gallon of cheap whiskey. Bell Telephone, noting that almost a third of its employees had been stricken, implored Philadelphians to curtail telephone calls to emergencies. Charlatans advertised snake oils, and several undertakers increased their prices 500 percent.

Workers abandoned orphanages, and children who lost both parents to the flu lived days in their homes without food. Neighbors allowed neighbors to go hungry. In scenes played out across the country, the Red Cross reported that people "were starving to death not for lack of food but because everyone was too panic stricken to bring food to the sick."

Against this backdrop of suffering, charity existed. Local businessmen closed their shops and distributed free food and supplies to suffering families. Nurses and nuns, many working 48-hour shifts, visited private homes to care for the ill. University students helped operate a soup kitchen for children whose parents were too sick to feed them. One department store used its telephone-order line to field calls for help and another donated delivery trucks to serve as ambulances.

Just as quickly as the pandemic arrived in Philadelphia, the crisis ended. The city allowed public places to reopen on Oct. 27, though small outbreaks occurred into spring 1919.

Mysteries Remain

In its wake, the pandemic left a legacy: Descendants of the virus have caused almost all influenza A pandemics since 1918, though all were relatively mild compared with the first. According to Jeffery K. Taubenberger, MD, PhD, the first scientist to sequence the 1918 genome, the H1N1 virus associated with today's pandemic is a fourth-generation descendant of the 1918 virus.

The pandemic also left mysteries.

From spring 1918 to spring 1919, three waves of influenza swept through Europe, Asia and North America. The first wave, in the United States concentrated in military camps and urban areas, began in March, with the virus infecting a large number of people but not causing an extraordinary number of deaths. The deadly second wave struck simultaneously in the Northern and Southern hemispheres from September to November, and the third wave hit pockets in spring 1919.

Though many experts attribute all three waves to the same H1N1 virus, Taubenberger, chair of the Department of Molecular Pathology at the Armed Forces Institute of Pathology in Rockville, Md., has expressed doubts, saying the difference in death rates would represent a mutation. Evidence indicates profound viral mutations take years to develop and then months to spread around the world; the gap between the first and second wave involved just months, and the second wave struck in many areas of the world at the same time. Because researchers have recovered tissue samples from only the second wave, no conclusive evidence about the first and third exists.

According to Taubenberger, sequence data also suggest that the entire 1918 virus was novel to humans at the time. But what was the source? Taubenberger calls the flu "avian-like" but notes researchers have uncovered no avian influenza genes that provide a good match for the 1918 virus. At the same time, Taubenberger says, the 1918 sequences have too few amino acid differences from those of wild-bird strains to have spent many years adapting in a human or swine host.

The severity of the pandemic begs another question: Could it happen again? Modern medical interventions and preventions make the scenario seem unlikely. No antibiotics to fight the pneumonia that often accompanies influenza existed in 1918, and Taubenberger believes the virus would be vulnerable to the anti-flu drugs available today. Vaccinations – possible only in pandemics that begin with an early wave, as did the pandemic today – also were unavailable. Physicians had no tools to help hospitalized patients overcome breathing distress.

Taubenberger says the unanswered questions from 1918 make a definitive conclusion impossible. But, he says, "We can only conclude that since it happened once, analogous conditions could lead to an equally devastating pandemic." **■**



Days after the Sept. 28 Liberty Loan parade, which was attended by 200,000 people, hundreds of cases of influenza were reported. (Courtesy of U.S. Naval History and Heritage Command.)

A Message from Elizabeth A. Dale



Helping the Heroes

For nearly two centuries, Jefferson has endured through the darkest trials of our country.

The Civil War, when more Jefferson physicians took to the battlefields than from any other medical school and alumnus Jonathan Letterman (1849) established the first field ambulance. The Spanish Flu pandemic of 1918, when our students stepped up to meet the City's unprecedented need for healthcare workers (see p. 32). Two World Wars, when Jefferson organized the famous United States Army Base Hospital No. 38 and expanded on its tradition of service to the country. September 11.

We will get through these turbulent times as well.

As done during the last pandemic over 100 years ago, our faculty, students, and alumni responded with formidable talent, thorough expertise, and selfless dedication. COVID-19 showed us the very best in humanity.

True heroes are all around us. They're here in abundance at Jefferson—on the front lines and behind the scenes.

The COVID-19 pandemic impacted the world and challenged Jefferson to new levels. Along the way, it created severe financial hardships for thousands of Jefferson employees and students. But our alumni and community of friends rose up to give aid and comfort-to show that we are better together.

In mid-March, Jefferson President and CEO Dr. Stephen K. Klasko made a \$100,000 gift to launch the COVID-19

Better Together Fund, which rushes aid to Jefferson frontline staff, employees, and students whose lives have been shaken by coronavirus.

Senior leadership contributed over \$400,000 to the cause. The Boards of Trustees gave nearly \$900,000. In total we created a fund with over \$7 million that helped over 4,600 members of our Jefferson family through these challenging times.

The COVID-19 Better Together Fund meant so much to so many of our Jefferson family members. For one employee, it meant being able to pay for food and rent. Another was grateful it helped care for an elderly parent. And one just felt heartened because it "reaffirmed that humanity and compassion still exist in these difficult times."

Thank you to the many alumni who answered the call and who faced down COVID-19. We're not only "in it together," we're better together. **J**

Elizabete A. Dale

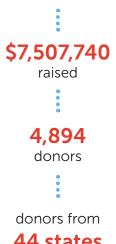
Elizabeth A. Dale, EdD, MPA **Executive Vice President and** Chief Advancement Officer Office of Institutional Advancement

215-503-5138 elizabeth.dale@jefferson.edu У @elizabeth__dale

Please contact me if you'd like to learn more about the doors you can open and lives you can change. I'd love to hear from you.



COVID-19 **Better Together Fund Donations**



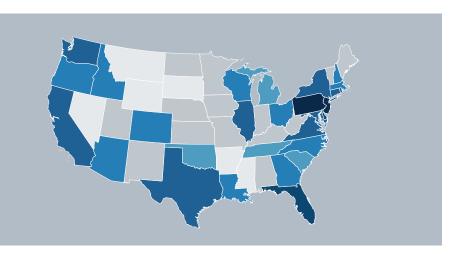
44 states

\$3,920,000 generated from matches

\$182,500 generated from challenges

Colleen Wyse and Stephen K. Klasko, MD, MBA, got the ball rolling with the inaugural \$25,000 gift to the fund; subsequently they increased their gift to \$100,000.





COVID-19 Better Together Fund Recipients

5,000+ applications requesting financial assistance

3,665 employees received assistance

Average disbursement check amount: **\$1,800**

264 students received assistance through JeffSecure Make a gift and learn more at Jefferson.edu/GiveJeffSecure



Received \$500,000 gift for PPE

O Donor **Affiliations:**

38% Grateful Patients

25%

Faculty/

Staff

12% Alumni

3%

Trustee

21% Friends

1% Parents

Top needs covered by the COVID-19 Better **Together Fund:**

Loss of income from spouse or partner losing job and need to make ends meet for:

- child care and elder care .
- mortgage/rent
- transportation

To see a video about the **COVID-19 Better Together Fund,** visit Jefferson.edu/Bulletin

COMBATING COVID-19



JEFFERSON RESEARCHERS TAKE ON THE CORONAVIRUS

By Karuna Meda and Edyta Zielinska

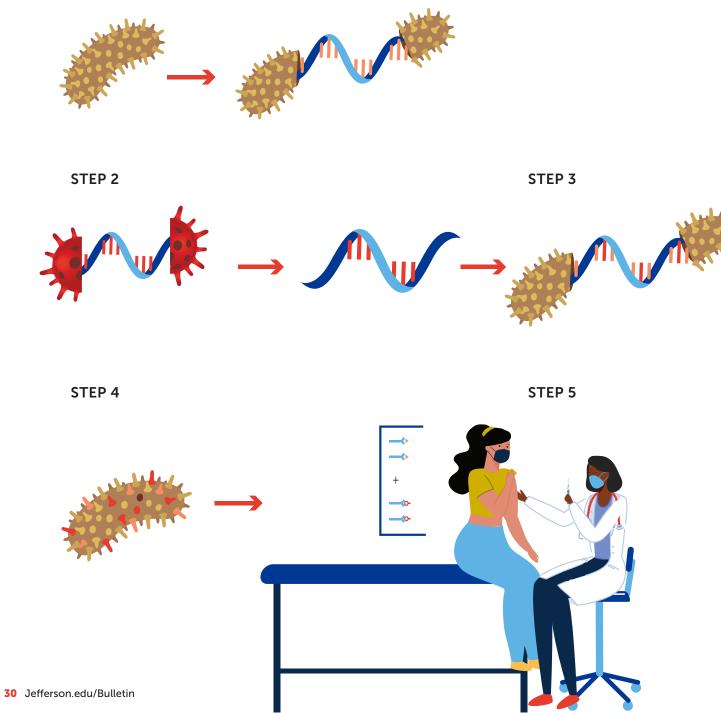
S THE COVID-19 pandemic continues to spread, scientists across the globe are working around the clock to identify and develop therapies that would help in fighting back against the virus. Jefferson researchers are tackling important questions about how the different players in our immune system can be targeted to combat the virus, and developing animal models of the disease to better understand how it progresses.

CORAVAX Jefferson's vaccine against COVID-19

By building upon on an existing, safe and effective vaccine, one with already well-established and currently active manufacturing hubs, one which could be made to store on the shelf until it's reconstituted with water, researchers at the Jefferson Vaccine Center have a COVID-19 vaccine candidate that could cover a global need.

STEP 1

The CORAVAX vaccine is made from a small portion of the coronavirus, inserted into the rabies vaccine (1). First, the gene for the coronavirus (2) spike protein (3) – the protein used by coronaviruses to enter and infect cells – is grafted onto the genome of the rabies virus (4). The new rabies virus displays both its own surface proteins, and the coronavirus spike on its surface (5). When this new hybrid virus is killed and made into a vaccine, it should generate a strong antibody immune response in humans against both the SARS-CoV-2, the virus that causes COVID-19, and against the rabies virus.



Developing Immunotherapy Against the Coronavirus

Claudio Giraudo, PhD, Associate Professor of Microbiology and Immunology, and his laboratory are trying to develop immunity against SARS-CoV-2 by facilitating a T-cell response against the virus, using a novel approach called Bi-specific T-cell Engaging agents (BiTEs). The approach could help the immune system mount a stronger, more directed response to destroy cells that have been infected by the virus.

Understanding the Role of Dendritic Cells

Botond Igyártó, PhD, Assistant Professor of Microbiology, and his laboratory will be conducting research to define the role of different types of dendritic cells in the immune response against SARS-CoV-2 and to test different vaccine candidates. Dendritic cells capture viruses and present their antigens to other immune cells such as T and B cells, activating them and thus initiating a cascade of immune responses.

Immunological First Responders

Luis Sigal, PhD, Professor of Microbiology and Immunology, is looking at the immune system's first responders, called the innate immune system. Dr. Sigal's team will investigate what the different cells of this first-responder immunity are doing in COVID-19, in the hopes of reducing disease severity.

Targeting a Target of the Coronavirus – the Sigma-1 Receptor

Dr. Felix Kim's laboratory in the Department of Cancer Biology has extensively studied Sigma-1, a protein that helps regulate the production, processing, and quality control of essential proteins and lipids that a cell needs, especially under conditions of stress. It was discovered recently that Sigma-1 interacts with an essential protein involved in SARS-CoV-2 virus replication called NSP6, leading researchers to speculate that Sigma-1 could be a potential drug target—perhaps disrupting its role inside cells could prevent SARS-CoV-2 from co-opting the cellular machinery.



Testing the Immunology of Severe COVID-19 Disease

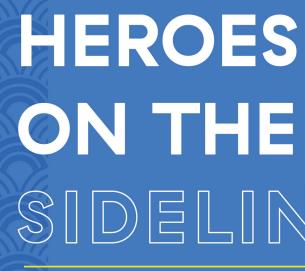
Yuri Sykulev, PhD, Professor of Microbiology and Immunology, is developing a novel test to study cytolytic CD8 T cells (CTLs) in order to understand their role in severe COVID-19 disease. Researchers have noticed that in severe cases of the illness, the number of CTLs drops, which is more predictive of poor outcomes than older age or the presence of other diseases.

Screening for New Drugs Against Coronavirus

Holly Ramage, PhD, Assistant Professor of Microbiology and Immunology, is collaborating with Sara Cherry, PhD, at the University of Pennsylvania to conduct large-scale high-throughput screening of libraries of compounds, including FDA-approved drugs, which are able to inhibit SARS-CoV-2 replication. The researchers hope to discover direct-acting antivirals, as well as compounds that target cellular processes required for infection. **▼**



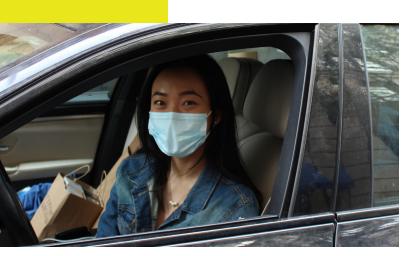




Sidelined from Patient Care, SKMC Students Find Purpose in Volunteer Work

SIDELINES

BY CINDY LEFLER



t is said that when the going gets tough, the tough get going. When the COVID-19 crisis struck, Sidney Kimmel Medical College students took that old maxim to heart.

Carrie Walsh, a fourth-year about to start her residency in emergency medicine, works with an organization that coordinates food distribution to the elderly, ill, and indigent. Third-year Terry Gao is involved with an organization that finds and distributes personal protective equipment (PPE) to local hospitals. And Alexandra Leto, class of 2021, mans the phones to triage patients, walk them through telehealth appointments, and disseminate accurate information about the virus

Although they were no longer allowed to provide direct patient care once COVID-19 emerged in the region, Walsh, Gao, and Leto-along with more than 500 other SKMC students—sprang into action to support their mentors and patients through volunteerism. They joined the approximately 2,000 health profession students across Philadelphia who have taken on a variety of activities to contribute to the health and well-being of the city in the face of unprecedented circumstances, spending hours each week supporting a multitude of efforts in addition to taking remote classes and completing virtual projects designed to continue their education.

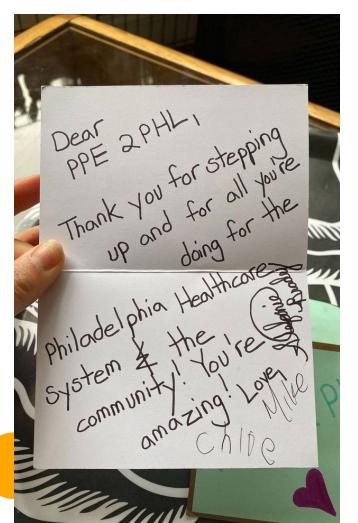
"Sidney Kimmel Medical College attracts extremely bright and talented students who are really passionate about helping others and providing clinical care. This situation has basically sidelined them, so they have naturally gravitated to activities where they can make a difference and improve the lives of others in very creative ways," says Charles Pohl, MD '87, Vice Provost of Student Affairs at Thomas Jefferson University and Vice Dean of Student Affairs and Career Counseling at SKMC. "They've become part of the workforce by participating in new volunteer experiences."

The JeffMD curriculum is heavily invested in placing students with patients and in group-based learning settings. But the arrival of COVID-19-and social distancing-changed all that. Jefferson, like most medical schools across the country, followed the recommendation of the Association of American Medical Colleges and pulled its students from clinical settings and out of classrooms and lecture halls.

Pohl said the decision at Jefferson was based on three principles: patient and student safety; student wellness amidst a stressful learning environment; and proper academic oversight.

"Regarding safety: our top priority is the safety and well-being of our patients and learners, and we worried about the risk to those who have a compromised immune system or an underlying chronic medical condition-both patients and students," says Pohl.

"We were also very worried about the stressful clinical setting in light of the high volume of patients, acuity of their illness, and the shortage of resources such as PPE." The biggest concern was that the students would not be prepared to handle such situations yet, and throwing them into such a medical maelstrom would put them in jeopardy both physically and emotionally.





The third consideration was that the overburdened clinical faculty couldn't give the students proper oversight.

And, while a few medical schools allowed early graduations to put new doctors in the field, Jefferson, as with most medical schools across the country, followed the recommendation of the Accreditation Council for Graduate Medical Education (ACGME) and did not take this approach. The medical college was prepared to reverse course if the pandemic reached a dire state.

"For their safety and well-being, you have to ensure these graduates have the proper onboarding... and proper supervision," Pohl says.

Without the ability to interact with patients, mentors, or classroom peers, the students have turned their attention, time, and desire to do good elsewhere.

"It's pretty remarkable how our students have mobilized," Pohl says. "Today, our students are still instrumental in assisting our healthcare teams through a myriad of volunteer activities; they still have the Jefferson spirit of giving compassionate patient care."

Terry Gao, who is moving on to a residency in surgery at Temple University Hospital this year, admits, "All of us experienced a wave of disappointment in the beginning, but we have been really good at refocusing our energy. Medical students are very proactive and restless people; most of us are trying to find ways to be as helpful as possible. It gives us a sense of purpose."

Gao is active in the Philadelphia Organization of Health Professionals (POHPS), a citywide group that includes students in nursing, physical and occupational therapy, podiatry, veterinary medicine, and more. Their projects include PPE2PHL, a PPE collection and distribution effort: JeffSitters, which matches





student volunteers with those on the front lines in need of childcare and pet care while they are at work; and providing online tutoring for the children of healthcare workers who need help with schoolwork.

POHPS has also partnered with Feed Philly Heroes, a local nonprofit that matches young people with hospitality industry leaders for mentorship programs. POHPS collects funds so that restaurant owners and trainees can create low-cost meals to send to healthcare workers on the front lines.

Carrie Walsh, who is set to begin her residency at Massachusetts General and Brigham and Women's Hospital this summer, wrote to the director of the emergency department offering to "help in any wayput patients on bed pans, draw labs... be an extra person on the team." Her request was denied, so she turned to volunteering with MANNA, delivering healthy food to patients who are seriously ill or incapacitated, or just cannot get out to a store due to the virus.

"It's hard when you know that your friends and future coworkers are on the front lines and you're at home," Walsh says. "So we are trying to be useful in any way we can."

Alexandra Leto's volunteer spirit led her to the phones to help guide patients through telehealth visits, triage those unsure whether or not to go to the hospital, and answer questions about the COVID-19 virus. She is also lending a hand in other projects, including organizing iPad donations so that patients can have remote visits



with loved ones and physicians can consult with each other virtually.

"Students have been pulled (out of the hospital), but there's still a desire to help out, and that has instilled a greater sense of community," Leto says. "It's not just about your personal journey; it's about how you contribute."



One of the biggest contributions they have made is increasing the PPE supply to keep staff on the front lines of care safe.

"They found out on a Saturday morning that (medical staff) were burning through about 350 facial shield masks a day, and needed an assemblage of about 10,000," Pohl says. "By Monday morning, the students mobilized and assembled 10,000." And they did it all with careful social distancing-the assembly tables were six to eight feet apart.

Another project involved refurbishing 30,000 out-of-date N95 masks that needed the elastic replaced. Within two weeks, the masks were repaired, and able to be put into use.



Some of the volunteer activities have nothing to do with hands-on healthcare. There are groups of students offering childcare and pet sitting services for doctors, nurses, and other staff members working shifts in the hospital, and providing online tutoring and homework help for the children of healthcare providers and hospital staff.

While COVID-19 has caused pain and suffering, years Jefferson has had a longstanding tradition of a novel idea has grown out of the pandemic: the creation of a website to curate all of the volunteer producing future leaders of the healthcare workforce, initiatives throughout Thomas Jefferson University and providing excellent patient care for our neighbors. onto one platform. Each department can add a project The ongoing and unwavering altruistic actions of our students should give everyone comfort and hope for so that students in search of an activity can sign up the future." J directly, thereby eliminating the "middle man" and getting help where it is needed quickly and efficiently. Leto believes the website will serve as a prototype for To see a video featuring Dr. Pohl and PPE2PHL, the future of volunteerism. visit Jefferson.edu/Bulletin

"We're hoping to have the platform implemented for other volunteer efforts at Jefferson, such as JeffHOPE and other community service endeavors," she says. "We want to keep this alive (after the COVID-19 crisis) so it can be a model for volunteering."

Pohl says he is proud of the students, who are carrying on "the Jefferson way."

"It's roll up your sleeves; it's being passionate about patient care," says Pohl, a third-generation Jefferson graduate, who is also married to a Jefferson graduate.

"Through all of this, our students have maintained the Jefferson spirit of caring," he says." Over the past 200





From Front Lines to Online SKMC Doesn't Miss a Beat in Medical Education

In 2017, Sidney Kimmel Medical College took the bold step of changing the way it educates physicians. Out with the old–large lecture halls, endless labs, and isolating students from patients until the third year; in with the new–interactive case-based learning seminars, small group problem-based tutorials, and most importantly, putting future physicians into patient care settings almost immediately for early clinical exposure.

JeffMD was embraced by students and professors alike, and the curriculum has become the standard bearer for medical education. The method of instruction became the innovative new norm for excellence in physician training.

Enter COVID-19. Exit normalcy.

The pandemic forced widespread social distancing, resulting in the immediate suspension of clinical rotations and direct patient interaction, and putting an end to small group collaboration and team learning. Although the virus stopped everyday life in its tracks, the academic team at SKMC knew medical education could not be paused.

"The trick was how to make sure the students get the necessary skill sets and knowledge base and become clinically competent when they're unable to directly interface with patients," says Charles Pohl, MD '87, Vice Provost of Student Affairs at Thomas Jefferson University and Vice Dean of Student Affairs and Career Counseling at SKMC.

While it was a challenge, he says SKMC has not missed a beat academically. The school hasn't altered the curriculum in the face of COVID-19, just the way that curriculum is delivered.

"The team has really risen to the occasion. Within two days of social distancing restrictions being enacted, the school leveraged technology to deliver a remote education," Pohl says. "Although we had to halt direct patient care... and classroom learning... we did not interrupt the quality of the education."

Group sessions and lectures have been moved to Zoom, and clinical clerkships have been given a futuristic redesign to deliver instruction online without sacrificing quality. Students present mock patients to attending physicians via video conferencing platforms, attend virtual rounds, and research and write papers focusing on clerkships and specialties.

"Our faculty have been leaders in our response to the COVID-19 pandemic in regard to academics," Pohl says, noting that many of SKMC's redesigned initiatives are being used as the model for medical schools across the country.

And while students are disappointed—"After all," says Alexandra Leto, class of 2021, "patient interaction is the reason we want to become doctors!"—they understand that these are extraordinary times, and appreciate the extraordinary actions the school has taken to keep them on track to becoming doctors in the midst of a crisis that has all but made the world stand still.

"Everything was seamlessly transitioned," says Leto. "There was a robust response from the academic affairs department, and they really created very successful virtual curriculums."

Even with the herculean efforts to provide continuity in academics, Pohl admits that nothing replaces direct patient care, and promises that once the administration deems it safe, the students will return to clinical rotations—and their patients.

Leto says she is eagerly anticipating the day she can rejoin her mentors, faculty, and fellow students in the hospital.

"I'm going to hug everyone," she says, adding quickly, "from six feet away, of course!" **J**

Navigating Uncharted Waters in Search of the Class of 2024

We are all in the same boat.

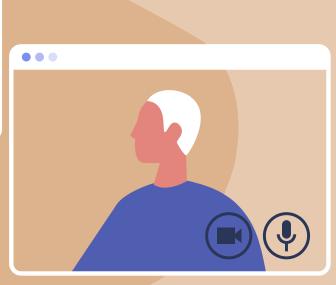
The COVID-19 pandemic has affected every medical school, every student, every faculty across the country. It has impacted every aspect of what we do and how we do it. The only difference is that some schools have found the sailing a little smoother than others. Yes, the bad news is that something is lost without in-person interviews. Although we look at grades, personal statements, letters of recommendation, and extracurricular activities when we choose our applicants, we also look for passion, personality, and fit, and those are more difficult to judge without meeting the person.

When the crisis struck, Sidney Kimmel Medical College seamlessly handled the shift from hands-on, in-person learning to remote education. But what about our next class—those who got caught in the upheaval of a nationwide shutdown while interviewing for admittance to medical school? For those students—and the faculty who interviewed them—it was a journey into the unknown. The good news is that if we must continue conducting virtual interviews in the fall, we are more prepared now, and we are confident that our technology will provide us with the tools we need to make informed decisions. In addition, our current students will again be involved. From emails that I have received, the biggest concern

In normal times, prospective students would come to campus, meet with current students, and interview with faculty members. That changed in March when in-person anything came to a screeching halt. But we adapted, we made alterations to our processes, and we carried on, thanks to a little bit of ingenuity and a lot of technology.

We turned to Skype, Zoom, and phone interviews, our faculty using the latest technology for virtual meetand-greets. It wasn't an ideal situation—it's always best to meet the candidates face to face—but we were able to conduct our usual 20–30 interviews for the last two days. As SKMC finds ways to move forward in evaluating, choosing, and educating its next class, we know that other medical schools are finding their way, as well. We're all figuring it out as we go along, in the same boat, navigating uncharted waters, and discovering the best routes to success. **J**

Unfortunately, we were unable to have our current students interview the prospective students for those two sessions. Our students provide an invaluable perspective and serve as our best ambassadors, so we definitely missed their input.



From emails that I have received, the biggest concern of those hoping to be SKMC's class of 2024 is the curriculum—whether the classes will be virtual or on campus. No one knows that answer yet; it depends entirely on the situation in late July. But we now know how to do remote instruction, and we know how to do it well. I can tell the students with confidence that they will get an outstanding education no matter what the circumstances.

Clara Callahan, MD

The Lillian H. Brent Dean of Students and Admissions Sidney Kimmel Medical College



You've Got Mail

n a Match Day unlike any other in Jefferson's history, 253 Sidney Kimmel Medical College students logged in to learn where they would complete their residencies.

Normally on Match Day, medical students come together and open envelopes in unison to reveal where they will be headed. When COVID-19 emerged, Jefferson needed to cancel the traditionally large and emotional ceremony on campus.



"While many medical schools across the country made the same decision, we knew how upsetting this would be," says Dr. Charles Pohl, Jefferson's vice provost and vice dean of student affairs. "The Jefferson community shares this sentiment, but we were forced to make the decision to protect everyone-from students to faculty to loved ones."

Student Alex White and his wife drove to the Jersey Shore to celebrate at his parents' house with his siblings in a small gathering. They all watched as he logged onto a special Jefferson website at noon on March 20 to find out he matched with his "dream" program: Hospital for Special Surgery in New York City for orthopaedic surgery.



BB We all wanted to experience the moment together.

"The most important thing for me was to be around family," White says. "We were still able to enjoy that moment."

Student Stephanie Rakestraw also spent time with family, heading out to Bucks County for the announcement with her parents and brother. On social media, she posted the news that she will go to the University of Alabama Medical Center for surgery side by side with a drawing she made in first grade of her very early career aspirations of being a doctor.

Despite being away from her classmates, Rakestraw still called it a celebratory moment. She used Zoom and FaceTime to connect with her friends and see where everyone matched.

"We all wanted to experience the moment together," says Rakestraw, noting she hopes to assist as soon as possible with the COVID-19 pandemic. "This is what we went into medicine for-to help people when they really needed it."

Jefferson students vied for some 32,400 spots among roughly 5,050 U.S. residency programs, Dr. Pohl notes. The specialties of internal medicine, pediatrics, and emergency medicine received the highest number of matches for Jefferson students.

Nearly 25 percent of students matched to a Jefferson hospital or affiliate. Other top programs that students matched into include Stanford University, Johns Hopkins University, Vanderbilt University Medical Center, Yale-New Haven Hospital, and University of Pittsburgh Medical Center

While most students found out their residencies in March on Match Day, those going into the military, ophthalmology, and urology were among the early matches. Kendrick Go knew in December he would be heading to Nellis Air Force Base in Nevada for family medicine, but he still grabbed his cat and met his fiancé to celebrate and pose for a picture.

"I want to take care of anyone and everyone," he says of his specialty choice.

Dr. Pohl extended congratulations to all the members of the Class of 2020 for their dedication to the field of medicine.

"We're proud of each and every one of you," he says. "You have reached this momentous occasion because of your hard work and commitment to this incredible profession and your passion to improve the lives of others." **J**











Looking at Healthcare in the Mirror of a Pandemic

he COVID-19 pandemic holds up a mirror that shows us what's lacking and compels us to ask some tough guestions

The U.S. spends more on healthcare than any other country. Yet among wealthy nations, we have the lowest life expectancy. Maybe no healthcare system could have been ready to take on a pandemic, but we were not nearly as prepared as South Korea and Taiwan, which spend far less

We know from research that 80 percent of the well-being of society has nothing to do with the delivery of medical Strange as it seems, we're not really in the *health* business. services. Population health aims to reduce things like We're in the business of episodic care of the acutely and chronically ill. The business of American healthcare is income disparity and provide services like maternity leave, housing, good food, and drug-abuse or mental-health to have high-margin diagnoses in heart disease, cancer, counseling. Our healthcare system gives little thought or orthopedics, and neurosurgery in our in-patient settings. resources to improving population health by preventing Is that what we should be here for? Or are we here to and managing disease. We spend our treasure on health improve the health of everyone in a city where one out of four people live in poverty? Why should people have to services, not social services, which is upside down and choose between getting a COVID test and feeding their backwardş. children?

BY DAVID NASH, MD, MBA

Now that we need the public health system to literally save us, we're challenged by insufficient resources, lack of leadership, and almost no nationally coordinated public health infrastructure.

The healthcare industry is the largest business in America; roughly one out of five dollars goes to it. What do we get for that level of spending? The short answer is, not a lot. It's not designed to improve health, and it's certainly not designed to protect health. So what is the business of our nation's biggest business?

It's too late now to do more than scramble and do the best we can with what we've got. But we can do something about the future, and that starts with education. What can we do in the medical school curriculum today to make sure we don't find ourselves in this predicament tomorrow?

The answer is that it must embrace the tenets of population health, which align with the Quadruple Aim: enhancing patient experience, improving the health of communities, reducing costs, and reducing caregiver burnout. and reallocate those resources for masks, PPE, and ventilators. **Social determinants of health**. Good health and ill health are more than biomedical conditions: They'real terminants of the sector of the

Here are the key components of a curriculum designed to do just that:

Public health. The U.S. was unprepared for COVID-19, despite the fact that national leaders had been briefed about the likelihood of a pandemic. The basic tenets of public health are in our graduateschool curricula right now: monitor and diagnose community health, mobilize partnerships, develop policies and plans, evaluate effectiveness, and research innovative solutions.

Leadership education. More than ever, we need physicians who can envision and adapt to change, and lead organizational responses. MBA programs excel at teaching the skills and strategies that effective leaders need. Medical and nursing schools can learn from leadership programs, the sooner the better, and incorporate leadership training into their curricula, the earlier the better.

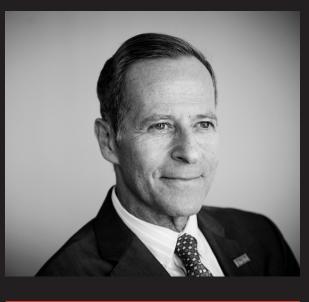
Population Health Intelligence. Al, big data, and predictive analytics are indispensable tools that assess information in a way no single clinician could. If we mine and analyze large data sets from various sources, we can distill information for making better-informed decisions about patient care, for individuals and communities. These tools also help us identify fraud, waste, and abuse in healthcare systems.

Performance Improvement. The tools have been around for 30 years: performance and quality improvement, waste or error reduction, and reallocation of wasted resources. Based on the evidence, one-quarter to one-third of healthcare spending, roughly a trillion dollars, is of no value. Imagine if we had been able to harness that waste and reallocate those resources for masks, PPE, and ventilators.

Social determinants of health. Good health and ill health are more than biomedical conditions: They're the outcomes of social inequality and the things we do that keep us healthy or make us sick. About half of Americans are one paycheck away from disaster. Research shows that one of the principal predictors of health is poverty and how it constrains choices in how people live. To improve health, we have to improve social services.

Healthcare reform is about creating physicians who can not only implement the curricular change I've outlined but teach it, proselytize it, and do what all leaders must, which is train the leaders of tomorrow. If we had more leaders with this expertise and these skills today, we'd be in a much better place.

David B. Nash, MD, MBA, is Founding Dean Emeritus of the Jefferson College of Population Health and Dr. Raymond C. and Doris N. Grandon Professor of Health Policy at Thomas Jefferson University.





Refil 5 4 Ref



Class Notes





Nicholas J. Ruggiero II, MD '01, FACP, FACC, FSCAI, FSVM, FCPP

Director, Structural Heart Disease and Non-Coronary Interventions Director, Jefferson Heart Institute Vascular Laboratory Associate Director, Cardiovascular

Diseases Fellowship Associate Professor of Medicine, Sidney Kimmel Medical College President, Sidney Kimmel Medical

Dear Fellow Jeffersonians,

My family is a Jefferson family. My father is a medical college graduate, and my uncle and a few cousins are alumni too. Like you, I care deeply about our alma mater and want to do all I can to honor its legacy while securing its future. That's why I became president of the SKMC Alumni Association and have served for the last two years.

The term of my presidency comes to an end in June, and I'll be passing on the Jefferson torch to a restructured executive board and a new team of alumni leaders. I'm confident our future is in good hands.

The most satisfying thing about my experience as Alumni Association president has been getting to meet alumni from all over the country-hearing their guestions and concerns, their good ideas as well as

their misconceptions, and their expressions of passion and fondness for Jefferson. It taught me the supreme importance of listening as the best way of shoring up the bridge that connects Jefferson to you, our alumni.

After all, we're not the Jefferson enterprise; we're the SKMC Alumni Association. Listening reinforces that we are the stewards for our alumni. Our job is to make sure your voices are heard on campus, your questions are answered, your interests protected, and your needs met. We are also here to provide for our students, who are the next generation of SKMC alumni.

To do this better, we restructured the SKMC Alumni Board, making it smaller but more strategically representative of our alumni body in terms of class year, medical discipline, and geographic location in the U.S. The board now includes a student representative too. This new and smarter configuration, which locates



board members and officers all across the nation, tells Award will be presented over Alumni Weekend, alumni that Jefferson is not just here in Philadelphia: October 16 and 17. We're wherever you are.

We've also taken steps to make sure the stories of Jefferson are not lost. The Alumni Association's Strategic Initiatives Committee launched an oral history project to record the personal experiences of alumni. A number of you have already come to tell your Jefferson story. The collection is growing. More alumni are scheduled to be recorded, telling us about their unique experiences as students and as Jefferson physicians. The alumni perspective—your memories and accomplishments—is a valuable chapter in the Jefferson story. I encourage you to be a part of our project by contacting the Alumni Office at alumni@ jefferson.edu to schedule a recording session.

We've also instituted a new award for alumni who are 10 to 20 years out from graduation. The Early Career Alumni Award singles out physicians for outstanding achievements early or midway in their careers and recognizes them as leaders in their specialties. We wanted to start shining a spotlight on what graduates are doing in the prime of their careers, which helps distinguish Jefferson's name and make its reputation shine more brightly. The first Early Career Alumni

Lastly, recent events surrounding the COVID-19 pandemic have made me proud to be a Jeffersonian and a physician. Not only SKMC, but all of Jefferson's colleges have produced healthcare professionals who are on the front line fighting this disease. We are taking care of very sick patients and one another. We are providing care in an uncertain time against an enemy we still know very little about. Within the walls of Jefferson and all around the country, we are waging this war together.

I am very proud and honored to have served as president and to have done my part to make sure our Alumni Association is on the right track for the future. Although I am stepping down as president, I will remain closely involved with the board and with alumni for two more years. Like you, I am extremely proud and profoundly grateful that Jefferson is the place I came from, and I will continue do everything I can to keep the Alumni Association strong for years to come.

Thank you and be safe, Nick.

Class Notes



Roger B. Daniels, MD

After nearly six decades, Roger B. Daniels, MD, has taken down his shingle.

Dr. Daniels, one of the most respected and beloved doctors in the Philadelphia area, retired earlier this year. He is known for tending not only to his patients' physical problems but also to their emotional and personal needs.

"Dr. Daniels is the guintessential 'doctor's doctor," providing expert care with a human touch long admired by peers and patients alike," says John M. Spandorfer, MD, professor of medicine and Roger B. Daniels Associate Dean of Professionalism in Medicine at Sidney Kimmel Medical College.

Dr. Daniels grew up in Connecticut, earning scholarships to Yale University, where he graduated magna cum laude, and the University of Pennsylvania School of Medicine, where he earned his medical degree in 1960.

He served as a captain in the Army with the 44th MASH Unit in Korea. He began his civilian career at Presbyterian Hospital and Pennsylvania Hospital, then joined Jefferson in 1997.

During his career, the American College of Physicians honored him with the Pennsylvania Clinical Practice Award and its coveted Claypool Award, presented annually to a physician in America who embodies the best qualities of being a doctor. In 2013, he received the Achievement Award in Medicine at the Jefferson Gala.

In 2009, the Roger B. Daniels Associate Deanship of Professionalism in Medicine was established in honor of the doctor whose humanistic traits go beyond treating a disease and connecting to the person behind the illness.



'67

Louis L. Keeler, JR., MD, reports: After completing his residency in 1967, Dr. Keeler stayed on staff until 1980, rising to the faculty position of clinical assistant professor. He writes: "God rest Paul Zimskind, MD '57."

'74

John J.S. Brooks, Jr., MD, will be retiring as chair of the Department of Pathology at Pennsylvania Hospital in June 2020. He reports he is looking forward to travel and spending time with his grandkids. He sends best wishes to fellow 1974 classmates.

At the 104th annual meeting of the Radiological Society of North America (RSNA) in Chicago in December 2019, attended by over 50,000, D. David Dershaw, MD, was awarded the Society's gold medal. It was given in recognition of his exceptional contributions to breast imaging in research, education, and clinical care. David was the chief of breast imaging at Memorial Sloan Kettering Cancer, where he was on staff from 1981 until his retirement in 2016. He lives in New York City with his husband, Jose; they divide their time between Manhattan and the Hudson Valley.

'79

Timothy Frei, MD, has been practicing in Ahoskie, North Carolina, as a hospitalist for the past nine years. Before that, he had a private practice there for 28 years.

'85

Donna M. DiCenzo, MD, reports: During my career as an OB/GYN, I volunteered on medical teams in the Philippines three times, as well as in Kenya, Peru, and Guatemala. I first went to Hospital de la Familia in Guatemala in 2011; after going there I "stuck." It was an amazing experience.



Donna M. DiCenzo

Mexico.

Since my retirement in 2017, I have become very involved in the Hospital de la Familia Foundation, which helps support the hospital through funding and also by sending teams of medical volunteers, six to eight times a year. I am currently the vice chair of the Foundation, the chairperson of the Medical Committee, and the medical team coordinator. Everyone on the Board is a volunteer—that is why I wear so many hats!

If you are interested in volunteering, please check out our website: HDLFF.org.

You can contact me at Donnamdicenzo@gmail.com if you have any questions.

Guatemala is the second poorest country in the Western Hemisphere; Haiti is the first. The area where Hospital de la Familia is located is the poorest area of the country, the Western Highlands. Infant mortality is horribly high. People who would not otherwise have access to medical care travel for hours to the hospital, some from Southern

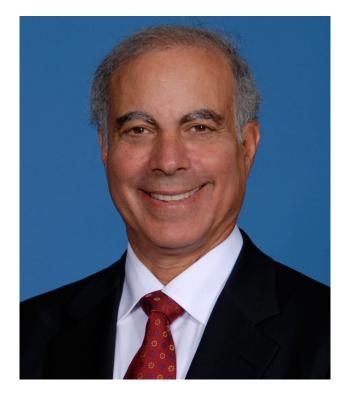


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Class Notes



Lawrence S. Miller, MD Class of 1970

Penn State-Jefferson Accelerated Program **Moves Medical Education Forward**

In 1963, Jefferson Medical College took the novel step of partnering with Penn State University to create the Penn State Accelerated BS/MD Program, jointly selecting qualified high school seniors to earn both their BS and MD degrees in five years. The program was later extended to six years, and is now seven years. Students currently enrolled in the program spend three years at Penn State's University Park campus and four years at what's now Sidney Kimmel Medical College, receiving their BS degree from PSU after passing their first year at SKMC, and their MD degree after four years at SKMC.

In March of 2020, Joseph Gonnella, MD, former dean of the medical college, and colleagues from Jefferson published a paper* reviewing 50 years of the program, its success, and the opinions of its alumni.

The study by Gonnella found no appreciable differences between the accelerated students and a control group matched by MCAT scores and gender, and determined that students who are bright and

interested in medicine do well in the accelerated program. All those interviewed for the study were appreciative for the opportunity to participate in the program.

I recently had the opportunity to interview eight graduates of the Penn State-Jefferson five- and six-year program to get their feedback. The doctors I spoke with are all still active, and most have achieved national prominence in their fields. Their participation in the program ranged in the years from 1969 to 2004.

What I found was an overall approval of the program. All of the students said they sought to participate because of the ability to earn their MD more quickly, which would result in less time in school and a substantial savings in tuition. They all agreed that beginning their medical career at an earlier age benefited them financially. Two added that the program was advantageous because the lack of usual college distractions helped them to focus and concentrate on their studies

But the interviewees also cited a slight downside to an accelerated program: they felt they were less wellrounded, and possibly less mature physicians early on. Six of the students polled said that they would have liked more time for liberal arts and non-medical courses and activities before being thrust into their MD. A few felt they were less mature during residency, which might have impacted their performance.

While they all agreed the program should continue, when asked whether there should be a five-, six-, or seven-year program, all responded that six years was ideal (as long as the students were certain of their career goals in medicine). Five years, they said, would not allow for proper maturity or educational focus. Interestingly enough, the time from high school to an MD degree in Europe and Japan is six years.

There are many advantages to an accelerated program, not the least of which being the financial benefit. Completing an MD in six years would lessen the average six figure debt that burdens medical school students. In addition, using the two years saved in college for two years of additional post-graduate training would enhance knowledge and experience, and be beneficial to their careers.

Dr. Miller is Clinical Professor of Medicine UCLA, Physical Medicine and Rehabilitation

SHARE YOUR STORY



*Gonnella JS, Callahan CA, Erdmann JB, et al. Preparing for the MD: How long, at what cost, and with what outcomes? [published online ahead of print March 10, 2020] Acad Med. doi: 10.1097/ACM.00000000003298.

Events

Let the Bulletin community know what you've been up to by sharing your news in **Class Notes!**

Send us your news: editor@jefferson.edu

′97

Kevin M. Cregan, MD, recently retired from George Washington University's Department of Orthopaedic Surgery after 46 years—28 as department chair. He is now professor emeritus, and spends at least one day a week at Walter Reed National Military Medical Center seeing patients with shoulder injuries. During his career, Dr. Cregan served as president of the American Shoulder and Elbow Surgeons and Western Trauma Association. He served as editorin-chief, editor, and contributor for numerous publications, and has authored five books. He was honored with the first Lifetime Achievement Award from the Mid-Atlantic Shoulder and Elbow Society for contributions to orthopaedic education. He received the Unsung Hero Award from the Lacrosse Foundation, and was named a pioneer in shoulder and elbow surgery by the International Board of Shoulder and Elbow Surgery and a distinguished emeritus at New York Orthopaedic Hospital. Dr. Cregan has traveled the world as a visiting professor and presidential guest speaker.

'08

Brian Ostick, MD, was elected Chief of Staff at Valley Presbyterian Hospital in Van Nuys, California, for a two-year term that began January 2020. He says this new position managing the 650-doctor medical staff will keep him busy in addition to working in the ER and chasing his three crazy kids (ages 10, 7, and 5). Dr. Ostick is the older brother of Denis Ostick (SKMC MS3).

'11

Joseph Aaron Butash, MD, and Ali Linsk Butash, MD, announce the birth of their son, Aaron Joseph Butash (right).

'23

Zachary Pang, a first-year medical student-son of Robyn Yim Pang, '89, and grandson of Henry Yim '56-reports an eye-opening visit to the SKMC library:

One day I was in the library and saw this picture and thought, "That man looks familiar!" And then I realized that's my grandfather when he was my age! For our JeffHOPE Charity Ball, I wore a bow tie to match my grandfather.

Pictured in the group photo below is another triple legacy student and one of my best friends, Maddie Sunday (3rd from the right, black dress). Her father, Dr. Michael Sunday, was class of 1988 and her grandfather was class of 1955!



Zachary Pang

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Stephen K. Klasko, MD, MBA, President of Thomas Jefferson University and CEO of Jefferson Health, has coauthored the new book UnHealthcare: A Manifesto for Health Assurance. The book challenges entrepreneurs, healthcare professionals, and policymakers to team up and rethink what's possible for healthcare, making the case for a new data-driven, cloud-based approach called "health assurance." With the COVID-19 pandemic, the authors write, "the future is rushing at us." UnHealthcare argues that data-based health assurance can help officials contain and manage future virus outbreaks and will help all of us to stay healthier at less cost too. To find out more, check the book's website, healthassurance.ai.

Klasko also co-authored Patient No Longer: Why Healthcare Must Deliver the Care Experience That Consumers Want and Expect, which explains why the customer-patient is always right-and the healthcare industry is wrong not to listen. "Health will improve when both sides meet and reimagine our broken, expensive, unfriendly, and inequitable system," Klasko tweeted about the book

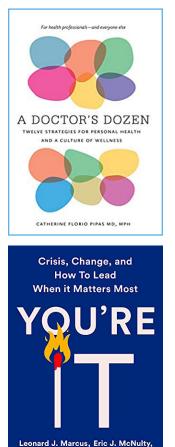
52 Jefferson.edu/Bulletin

Barry C. Dorn, MD, '67, recently co-authored the leadership book You're It: Crisis, Change, and How to Lead When It Matters Most.

Catherine Florio Pipas, MD '90, is the author of A Doctor's Dozen: Twelve Strategies for Personal Health and a Culture of Wellness.

Elizabeth (Betsy) Sandel, MD, a Jefferson residency alum and a physician specializing in PM&R and brain injury medicine, had her book on concussion, Shaken Brain: The Science, Care, and Treatment of Concussion (Harvard University Press). published in February 2020. She completed her residency in 1984 and her fellowship at Magee in 1985. She also served on the faculty.

Robert Witt, MD, '81, edited the book, Surgery of the Salivary Glands, Elsevier Publishers, 2020. He was cochair of the 5th International Salivary Gland Congress in October 2019, in Philadelphia; the conference was co-sponsored by Thomas Jefferson University, Christiana Care, and Penn Medicine.



Sidney Kimmel Medical College 53

Joseph M. Henderson, Barry C. Dorn d by David Gerge

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-Leonard A. Erdman, MD '50

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Class Agent



Maria Cirone Scott, MD Class of 1987

I remember the day I got accepted to Jefferson as one of the happiest days of my life. My dream of becoming a doctor would be realized. During my first weeks at Jefferson, I was struck by how wonderful and nice my classmates were. Although everyone was driven and motivated, my colleagues were ethical, kind, caring, and optimistic. How did Dr. Callahan and the admissions team do it? I had found my people.

The four years of medical school that ensued were filled with late hours of studying and hard work. But they were also filled with many fun times. My classmates banded together. I entered Jefferson believing I was destined to become a pediatrician. It was not until my third year, when I rotated through Wills Eve Hospital, that I decided to become an ophthalmologist. Listening to the elderly Italian gentleman patient and his extended family express their enthusiastic gratitude for the eye surgeon who restored his sight from count-fingers vision to 20/20, I had my epiphany. More than 30 years later, I still feel like the luckiest person in the world to have the honor of treating patients and restoring their sight. Jefferson gave me that opportunity, and I will forever be grateful.

On returning to Jefferson recently, I beamed when I saw a few of my classmates in leadership positions, shaping the future of the next generation of students. Charlie Pohl is dean of student affairs; Greg Kane is chairman of the Department of Medicine; Karen Novielli is vice dean of faculty affairs and professional development, and Janice Nevin is CEO of Christiana Care Hospital. I am certain that SKMC students are in great hands with some of the classmates I most admired guiding them.

As a medical student, I was involved at Jeff, and I have remained involved after graduation. Currently, I am the alumni agent. My classmates hear from me a couple times a year, asking for donations. It is so important that we, as alumni, support the institution that launched our careers and our dreams.

Medicine has changed over the last 30 years. Declining reimbursement, increased regulation and compliance, electronic medical records woes, and increased patient expectations can be overwhelming. But exciting new technologies, new treatments and cures, and the privilege of healing far outweigh the challenges.

Jefferson has also changed. It has grown into a hospital system with many satellites; it has acquired a university to bring art, technology, and medicine together. When other institutions are folding, Jefferson is strong. Faculty, physicians, alumni, and friends of the university make Jefferson special.

Jeff's future success has never been more important to me than now. Our daughter has been lucky enough to begin her medical career as a first-year medical student at Jefferson. The day she called to tell me she had been accepted was another of the happiest days of my life. Dean Callahan has not lost her touch: Our daughter commented to me recently that she too had found her people.

In Memoriam

'48

Richard (Dick) Mumma Landis

passed away peacefully on March 4, 2019, at age 94. Dr. Landis entered Swarthmore College as a pre-med student in 1942. However, his time at Swarthmore was interrupted by the U.S. entry into WWII and the need for doctors. He was sent to an accelerated one-year premed program at the University of West Virginia, and then did his medical school training from 1944 to 1948 at Jefferson. His military service continued through most of his career. He was a member of the Pennsylvania Air National Guard from 1959 to 1973, and rose to rank of Lt. Colonel: he then transferred to the United States Army Reserve and retired in 1975 as a Colonel. Dr. Landis is survived

by his wife, Nancy, four children, five grandchildren, and four greatgrandchildren. He is also survived by his twin brother, Robert Landis, of Lancaster, Pennsylvania.

'54

John D. Werley, 92, died peacefully on January 10, 2020, at his Nazareth, Pennsylvania residence. He followed in the footsteps of previous Jefferson alumni: grandfather Charles Daniel Werley, MD 1889; father Walter William Werley, MD 1918; and brother Charles W. Werley, MD 1945. He completed his residence in radiology at the University of Michigan, and practiced radiology and nuclear medicine in Easton, Pennsylvania.

Warren W.

Brubaker, MD '54 of Hershey, Pennsylvania, passed away on April 10, 2020, at the age of 92.

During World War II, he served in the U.S. Navy. Following graduation from Dickinson College in 1950, Brubaker enrolled in a histology course at Lebanon Valley College with the goal of improving his GPA in order to gain admission to medical school. He spent the spring and summer soliciting letters of recommendation from local physicians and pleading his case to admission committees in Philadelphia. His applications were rejected by all of them except

Jefferson, which placed him in sixth position on the alternate list. "I later found out that my file at Jeff had so many letters of recommendation that they couldn't ignore me," he wrote, "and that the admissions committee members were sick and tired of seeing me. They concluded that I really wanted to become a doctor."

Brubaker was a family physician in Annville, Pennsylvania, from 1955 to 1971. He also served as medical director of Bethlehem Steel, Alcoa, and Cornwall Minesa, and was on the board of Keystone Human Services. He retired as medical director from Hershey Foods.

'56



Stephen K. Williams, 92. of Lansdale, Pennsylvania, died on February 15, 2020. After graduating from Jefferson, Dr.

Williams completed his internship at the former Montgomery Hospital in Norristown. He served in the United States Army Medical Corps based in Texas and Fort Eustis, Virginia. In 1959, Dr. Williams opened a family practice in Collegeville and practiced in the area until his retirement. He also worked as the medical director for Superior Tube and Ursinus College. In addition to his wife of 68 years, Dorothy (Vorsanger) Williams, he is survived by three children, seven grandchildren, and seven greatgrandchildren.

'63

Morrie E. Kricun, MD, 82, of Audubon, Pennsylvania, and formerly of Radnor, Pennsylvania, died on Saturday, April 4, 2020. Born in Philadelphia, Dr. Kricun

completed an internship and diagnostic radiology residency at Albert Einstein Medical Center in Philadelphia. He was a proud veteran of the United States Air Force. He had a long career in radiology, and was a professor of musculoskeletal radiology at the Hospital of the University of Pennsylvania. He was a dedicated and passionate educator, accomplished scholar, and author. He was a longtime member of the International Skeletal Society, and was awarded a Silver Medal for his lasting contributions. Dr. Kricun also contributed to the field of anthropology, and was well known for his kindness.

'64



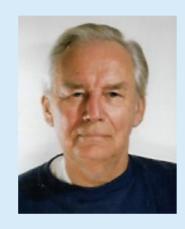
flight surgeon, Jaeger completed an ophthalmology residency at Jefferson in 1964. He worked initially in the Media Clinic in Pennsylvania and then in his own practices, Jaeger-Palena Eye Associates and Riddle Eye Associates.

Jaeger was a member of the medical staff at Thomas Jefferson University Hospital and Wills Eye Hospital. At SKMC, he was a professor of ophthalmology and for 35 years, director of undergraduate education in ophthalmology. A born teacher, he devoted his professional life to the advancement of medical education. (continued on p. 58)



Edward A. Jaeger, MD, passed away at the age of 88 on June 11, 2020.

Following service as a U.S. Navy



Serge W. Duckett, MD, PhD, DSc

Serge W. Duckett, MD, PhD, DSc, passed away on April 23 in Paris, France, at the age of 94 years, a victim of COVID-19.

Duckett was born in Montréal in 1926. After earning a baccalaureate degree from the University of Ottawa in 1950, he attended medical school at the University of Paris, graduating in 1958. He pursued his training in pathology and neuropathology in London, England, while pursuing a PhD in Histochemistry (1966).

Duckett spent most of his career at Thomas Jefferson University, serving as Director of the Division of Neuropathology from 1974 to 1984, and climbing the academic ladder to the rank of Professor.

Author or coauthor of over 130 publications, he served as the Editor of Pediatric Neuropathology (1995) and co-editor of The Pathology of the Aging Human Nervous System (2001).

He is remembered as being positive and humorous, with broad interests including African Art, Japanese kimonos, photography, dance, travel, and gastronomy.

In Memoriam

In addition to teaching and mentoring countless students, Jaeger was an excellent physician and a crucial link between Wills Eye and Jefferson.

He was co-editor of the 10-volume textbook *Duane's Clinical Ophthalmology* and received many awards for educational leadership, including the signature Wills Eye Award. He was a member of the American Academy of Ophthalmology, the American Board of Ophthalmology, the American Ophthalmological Society, and the Pennsylvania Medical Society. In 2000, Jaeger became the first postgraduate alumnus to serve as president of the Alumni Association.

'75

Donald Louis Myers passed away on May 15, 2019. After completing the prestigious Penn State–Jefferson five-year medical program, Myers did his neurosurgery residency at Jefferson and was as an academic neurosurgeon here from 1980 to 1985. In 1981, he and his Jefferson roommate and friend, Robert T. Sataloff, MD '75, started one of the first interdisciplinary skull base centers in the world.

Sataloff recalls him as "quiet and shyly personable, and he was so smart that he could not always converse comfortably with intellectual mortals." Sataloff shared a story with The Bulletin about when, during their first year at Jefferson, Myers decided to teach himself to play French horn. "He figured out how to play scales, and got a recording of Strauss's 'Also Sprach Zarathustra.' When he wasn't making circuit boards and computers, he spent his time perfecting his horn playing. A year after he picked up the French horn for the first time. I conducted him in an excellent performance of

Mozart's third horn concerto with the Jefferson Orchestra to open a choir concert. Of course, he sang the tenor solos in that concert too. He passed on his love of music to his daughters, Leilani and Serena, and to his parrot, Kona, who still speaks with his voice."

He continued his career as an academic private practitioner at Jefferson from 1985 to 2001, then practiced in St. Croix in the U.S. Virgin Islands, Queensland, Australia, and Fresno, California, from 2006 to 2018, where he was Clinical Associate Professor of Neurosurgery at the University of California at San Francisco. He was involved in research throughout his career and published 29 peerreviewed papers.

David Orr Thayer, of Boulder,

Colorado, passed away peacefully at home on February 13, 2020, following a courageous threeand-a-half year battle with glioblastoma multiforme. Born in Erie, Pennsylvania, Dr. Thayer specialized in OB/GYN. Following a residency in St. Francis Hospital and Medical Center in Hartford, Connecticut, he joined a practice in Cortland, New York. He and his family moved to Boulder in 1985, where he opened his own OB/ GYN private practice, delivering countless children until 2000, and then practicing gynecology until 2016. David loved traveling, skiing, biking, hiking, dining, and a good cocktail with friends. He is survived by his devoted wife, Charmaine Haravey; his children, grandchildren, brothers, nieces, nephews, greatnieces and great-nephews and mother-in-law.

'90

Luisa E Lehrer, 60, of Cherry Hill, New Jersey, died on December 29, 2019, after a long struggle with dementia. Always a Delaware Valley girl, she attended Swarthmore College, did an internship year at Christiana Hospital (Delaware) and served her anesthesiology residency at Jefferson. Her entire working career was spent at Underwood Memorial Hospital in Woodbury, New Jersey, and Virtua Hospital in Voorhees, New Jersey, just minutes from where she lived. She loved to sing and sang with more than a dozen choirs from childhood until dementia thwarted her, a few years before she died. She also was very close to her immediate and extended family and joined in many friendships that lasted decades. Her creative endeavors included ceramics, photography, tie dye, beading, woodworking, and cooking. Luisa is survived by her husband of 26 years, Ernie Post, her brothers. Peter and Bruce, her stepdaughter and fellow alumna, Miriam Post, MD '04, and her beloved dog, Hank.

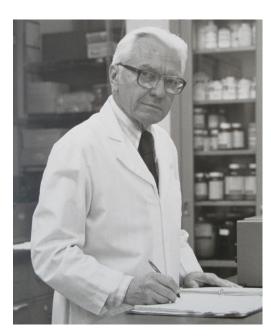
Jon Marc Finamore passed away surrounded by family on Friday, April 17, after a hard-fought battle with glioblastoma Dr. Finamore

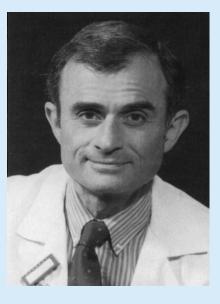
'15

was a neurology resident at New York University Hospital at the time of his diagnosis. He was described as a real-life superhero by his family, friends, colleagues, and doctors. He was exceptionally kind, caring, and driven, and dedicated his life to helping others as a neurologist. He was also incredibly witty. He was a wonderful husband, a devoted brother, son, nephew, and cousin, an outstanding colleague and doctor, and an amazing friend. Louis Anthony Kazal, PhD, died January 9, 2020, at age 107.

In 1940, Dr. Kazal was hired by Merck Sharp & Dohme as a research biochemist and became director of biological development. In 1956, he joined the Cardeza Foundation for Hematologic Research at Jefferson as a research scientist in physiology and hematology. During a 22-year academic career, he rose to professor of physiology and associate professor of medicine. From 1960 to 1979, he was associate director of the Cardeza Foundation. Among several discoveries was identifying the first trypsin inhibitor, a protein made in the pancreas, still called the "Kazal inhibitor." Whole families of proteins are characterized by whether or not they have "Kazal domains." He was also at the forefront of investigating the renal erythropoietin, a kidney hormone, discovered at Cardeza, that regulates blood production.

Kazal received a number of scientific patents and awards, including 1966 First Prize for the best publication in the *American Journal of Gastroenterology*. He authored medical book chapters and numerous scientific publications, and coedited a book on blood coagulation. His son, Louis A. Kazal, Jr., MD, '84 is a JMC alumnus.





David Levin, MD

David Levin, MD, passed away on January 14, 2020, after 85 years of a life rich with love, learning, adventure, and service. His family was at his side.

Dr. Levin studied at Johns Hopkins University and the UCLA Medical Center. He taught and provided care at several institutions, including Harvard Medical School, New York Hospital-Cornell Medical Center, and Thomas Jefferson University Hospital. At Jefferson, Dr. Levin served as professor and chair in the Department of Radiology from 1986 to 2002, after which he enriched the department as professor and chair emeritus.

Medical college dean Mark Tykocinski, MD, called Dr. Levin a fine person, and "a heart-and-soul faculty member of Jefferson." An avid runner with a dozen marathons beneath his feet, Dr. Levin ran Philadelphia, Boston, and New York City races, and retired innumerable sneakers along the way. Thanks to his running, he joked, he could eat as much peanut butter as he wanted.

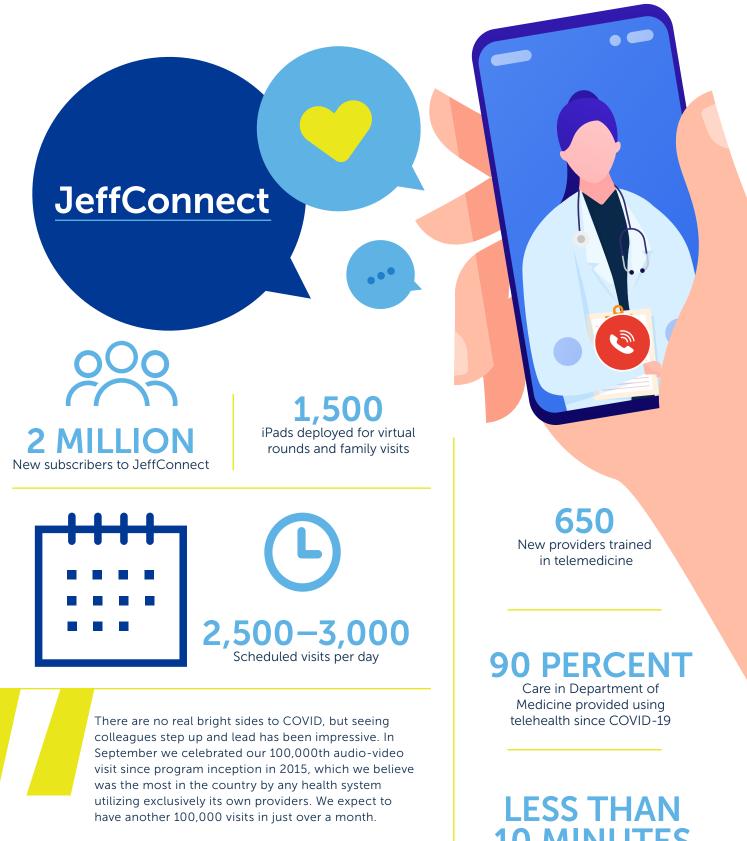
Dr. Levin also served his country from the cockpit of an F-86 Sabrejet as a lieutenant in the U.S. Air Force. His stories of those years were at once harrowing, hilarious, and heroic.

Fortunately, he committed those memories to the page, and his memoir of that time—one full of bravery and passion—is nearing its publication date.

"Dr. Levin was a mentor to me and many others at Jefferson, a leader throughout his life—from the cockpit of his fighter plane to our nationallyrecognized department. His generosity of spirit is a lesson to all of us who benefitted from his guidance, and is one we will pass on to the next generation."

Vijay M. Rao, MD, FACR The David C Levin Professor Chair, Department of Radiology

By the Numbers



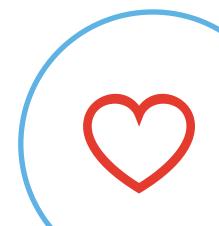
Judd Hollander, MD Dean for Strategic Health Initiatives Sidney Kimmel Medical College

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