Norman Rockwell's Doctor and Doll, from the Saturday Evening Post.
2 Editorial  | The proudest moment of my career
Richard L. Byyny, MD, FACP

4 Medicine’s uncompromising champion of racial justice
Vidya Viswanathan

12 Hope in hopeless causes
Ethan Song

17 Walking fragile in the garden
Mara Feingold-Link, MD

18 A gift underserved
Jacob Abou–Hanna

20 A life-saving and life-taking 19th century medical instrument
Edward C. Halperin, MD, MA, and Yvonne S. Thornton, MD, MPH

25 A fly on the wall
Anjali Om

26 When the lights of health go down
Samuel A. Wells, MD

32 Good enough medicine
Kenneth Brigham, MD, and Michael M.E. Johns, MD

35 Finding the particulars: The search for the identity of family medicine through generations of change
Kate Rowland, MD, MS

41 From cradle to grave
Nadine Zeidan, MD

43 Reflections

44 Medical student turned patient
Kush S. Patel, MD

47 Book Reviews

50 Medicine on the big and small screen

51 Letters to the Editor

53 Chapter and National News

Millenials’ Night Before Christmas
Frederick G. Guggenheim, MD
The proudest moment of my career

Richard L. Byyny, MD, FACP

Alpha Omega Alpha Honor Medical Society (AΩA) has been recognizing, advocating for, and inspiring physicians in teaching, the care of patients, and promotion of health for more than 116 years. AΩA aspires for all in the medical profession to be worthy to serve the suffering.

Election to AΩA is an honor signifying a lasting commitment to clinical excellence, professionalism, leadership, scholarship, research, and community service. A lifelong honor, membership in the society confers recognition for a physician's dedication to medical professionalism, and the science and art of healing. Membership may be attained throughout one's professional career—as a medical student, resident, fellow, faculty member, alumni, clinician, or distinguished leader in medicine.

Members exemplify excellence and achievement in medicine that includes, but is not limited to, scholastic achievement; demonstrated professionalism; leadership capabilities; adherence to ethical standards; fairness in dealing with colleagues; and a record of service to school and community. Members are recognized as excellent doctors whose knowledge, skills, professional attitude, trust-worthiness, demeanor, care of the patient, compassion, empathy, altruism, teamwork, lifelong learning, humility, and responsibility place them in the upper echelon of the medical profession as servant leaders.

More than 4,000 students, residents/fellows, faculty, and alumni are elected each year. Since its founding in 1902, nearly 187,000 members have been elected to the society. Membership in AΩA is a lifelong professional commitment to the mission and values of AΩA. AΩA expects members to commit to a lifelong professional responsibility of high-quality clinical care, academic achievement, exceptional leadership, outstanding professionalism, and remarkable service. Members serve as clinicians, teachers, role models, mentors, coaches, public servants, and leaders in medicine, their communities of practice, and society.

I will never forget the day in 1964 when I was elected to be a member of AΩA—it was the proudest moment of my career. I was a first-generation college graduate with no physician family members or physician friends. The only physician I had met was my pediatrician who I saw about once a year when I was a child.

I was academically successful in high school and was committed to graduating from college. I came from very modest means, and the only way I was able to attend college was to go to a community college as an aspiring first-generation college student. After my first year at community college, I was able to transfer to the University of Southern California on a swimming and water polo athletic scholarship. I majored in history and thought I would get a PhD and become a teacher and professor of history.

However, I postulated that I could be a doctor and care for patients. I had completed the pre-medical requirements and was qualified to apply to medical school. I applied and to my surprise and great celebration, was accepted!

Upon my arrival at the University of Southern California School of Medicine (now the Keck School...
The Pharos came immense responsibility, commitment, and duty. Along with those feelings, I knew that with election to AΩA, gratification, and humility I felt with this award. However, undergraduate studies, nothing could compare to the pride, though I had been an All-American athlete during my under-graduate studies, nothing could compare to the pride, gratification, and humility I felt with this award. However, along with those feelings, I knew that with election to AΩA came immense responsibility, commitment, and duty.

Throughout my career, I have always had my framed Alpha Omega Alpha Honor Medical Society certificate hanging in my office, and there have been many, many positions I have served in, from residency, to fellowship, to clinical practitioner, to academic positions as executive vice chancellor, executive vice president, chancellor, and now as executive director of AΩA. In each and every office I have proudly displayed my certificate. Often times, it has served as a conversation piece for patients, colleagues, and the general public, and always as a source of great pride.

I explain that AΩA serves our profession, members, and society as a whole. It emphasizes finding joy in the care of the patient. We strongly encourage all of our members to reach out to their local Chapter, Councilor and re-engage with their community of practice. If you need help in finding a local Chapter, Councilor, or community of practice with which to connect, please call us at the national office 720-859-4149, or email info@alphaomegaalpha.org, and we will be happy to help.

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I explain to those both familiar with AΩA, as well as those who are just learning about the society, the history of William Root, his legacy, and how the AΩA certificate stands for a community of practice representing professionalism, leadership, and ethics in medicine. I explain how AΩA members are dedicated to the care of ALL people, how they support clinical excellence, and how they lead based on service to others with a moral responsibility to provide the highest quality health care for all.

I explain how our life and work as physicians is personally and professionally rewarding with a profound sense of fulfillment. Health care and service to others is the higher cause that binds our community of practice.

I explain that AΩA is committed to improving diversity based on evidence that inclusion of talented individuals from different backgrounds benefits patient care, population health, education, and scientific discovery. I explain how AΩA works to overcome bias throughout our profession, and how AΩA values a diverse, fair, and equitable work and learning environment for all.

I explain that there is a deep personal and professional connection that exists between what we do and why we are doing it. However, there is great risk of a lapse if we no longer realize why we became physicians who are dedicated to being worthy to serve the suffering.

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Ms. Viswanathan is a fourth-year medical student at Raymond and Ruth Perelman School of Medicine at the University of Pennsylvania in Philadelphia, PA. Her essay received first place in the Alpha Omega Alpha Honor Medical Society 2018 Helen H. Glaser Student Essay Award.

When Nathan Francis Mossell died October 27, 1946, at the age of 90, he left behind a long list of accomplishments. He was the oldest practicing African-American physician at the time; in fact, he had just seen a patient eight hours before his death.1,2

Mossell was the first African-American student to graduate from the University of Pennsylvania School of Medicine, awarded a doctor of medicine (MD) degree in
1882, and was subsequently the first African-American physician to be elected to the Philadelphia County Medical Society in 1888. Mossell, who trained as a specialist in genitourinary treatment and general surgery, founded the Frederick Douglass Memorial Hospital and Training School in 1895 in Philadelphia, and served there for 38 years as its superintendent and medical director. He trained 400 nurses and 150 physicians during his tenure there. Mossell co-founded many organizations for the advancement of equality for African-Americans, including the National Medical Association (NMA), and the Philadelphia branch of the National Association for the Advancement of Colored People (NAACP). But Mossell, who penned an autobiography in his 90th year of life, did not see himself simply in terms of his own ladders climbed, positions attained, and achievements won; he saw himself as a vehicle to break down the barriers he had overcome, so that others could do what he did. More than simply a pioneer, he was a trailblazer—and stayed with the path of activism even when others stood in his way.

**Demanding a first-class medical education**

Born July 27, 1856 in Hamilton, Canada, Mossell learned from his parents, Aaron and Eliza, the value of opportunity in education and work. Freedom for African-Americans was not guaranteed in the United States, so his parents chose Canada as respite from the possibility of enslavement that might haunt their children in America.

After the Civil War, the Mossells moved back to America, settling in Lockport, New York. Lockport was segregated, but Aaron, who manufactured bricks for a living, fought hard against separated schooling for his children. He presented his case to the Board of Education and won—a very early successful case for school integration in the country. Nathan grew up helping his father’s business, studying when he could.

According to pioneering African-American physician-anthropologist William Montague Cobb, who profiled Mossell for an article in the NMA journal in 1954. “Mossell was a large man of impressive mien and dignity. In his prime he stood 6 feet 1 inch and weighed about 200 pounds.” Mossell attended Lincoln University in Pennsylvania—the country’s first degree-granting historically Black university—working part-time to pay his tuition. He graduated in 1879 at the top of his class, receiving both his Bachelor of Arts and the Bradley Medal for excellence in the physical sciences. He considered pursuing engineering in New York, but worried about the expense. According to Cobb, “Mossell was not certain as just to what factors influenced him to choose medicine for a career, but he had earlier made up his mind to get further training and to attend only a first class institution no matter which field he chose.”

When he was offered financial aid by the American Colonization Society to go to medical school in Liberia, he wrote them an angry letter, accusing them of wanting to deport Black people to Liberia, to die from tropical diseases. This would be the first of many times Mossell would fight the idea that he had to settle for less opportunity because of the color of his skin—and it was an early instance of his desire to not only reject these propositions, but also explain why they offended his race.

When Mossell turned down the offer for medical education in Liberia, he had his sights set on something much closer, the University of Pennsylvania. Mossell writes in his autobiography:

> It is just barely possible that this selection was partially influenced by the fact that during my junior and senior year at Lincoln, I met a young lady who resided in Philadelphia” [his future wife Gertrude] “in whom I became interested and planned finally to marry.

Dr. James Tyson (AΩA, Raymond and Ruth Perelman School of Medicine at the University of Pennsylvania, 1903, Honorary), dean of the medical school, stared at the dark-skinned young man in his office with a stellar transcript, and told him that the department had never admitted a student of color. Mossell convinced the dean to submit his application to the faculty for approval. The dean seemed to lean in favor of Mossell’s application, reasoning aloud, “We have a greater medical school than Harvard or Yale, and they have admitted Negroes, [so] we will.”

After the faculty finally voted to admit Mossell, Pennsylvania historian Daniel Walden wrote, “they explained to Mossell that he would be considered an experiment, and the university could not assume responsibility
Nathan Mossell, MD

if anything happened to him."4 The board of trustees was concerned and posed the question, “Would the Negro mind be able to comprehend higher education?”4

On Mossell’s first day of medical school in October 1879, he was told to sit behind a screen. He refused, and sat on a bench. At first no one would sit near him, and some students began to yell, “put the nigger out.”2 But there were some who positioned themselves as his allies. One Caucasian student sat with Mossell on that first day, as classmates yelled slurs, then stood on the table and yelled at the lecture hall, “Go to hell!”5 Mossell wrote, “Following the lecture, two young men who were in attendance, over-took me in the street and expressed their regret over what had occurred. They said that they hoped I had not been frightened away and that I would return.”5 Mossell was not frightened away, and felt that his strong academic record in medical school eventually ingratiated him with his classmates, even if there were times when students tried to push him into the Schuykill River.2,4

Mossell graduated on the honor roll in 1882, and “the provost had to ask the students to stop applauding when Dr. Mossell received his diploma.”2 After graduating, Mossell opened private practice at 924 Lombard Street, and was soon selected by University of Pennsylvania sur- geon D. Haynes Agnew to be one of his outpatient surgical clinic assistants.

In the course of his career, Mossell also studied abroad in England, completing post-graduate training at Queens College and St. Thomas Hospital in London. He gained membership in the Philadelphia Medical Society in 1888 with sponsorship from Dr. J. Britton, Agnew, and Tyson. When the selecting board questioned whether a “Negro” would have the ability to belong to a medical society, Tyson assured them that “Dr. Mossell graduated with an average higher than three-fourths of his class.”2

In under a decade, Mossell had managed to convince the most esteemed physicians in Philadelphia that he could be considered their peer.

A new hospital to protest racial segregation

Mossell saw vast inequities in the way Black patients in Philadelphia received care, and he sought to close this gap. In the late 19th century, Black patients in Philadelphia lacked hospital space and nurses to treat them. The city’s hospitals were staffed mostly with Caucasian physicians and nurses—who could refuse treatment, beds, or rooms to patients of color. They also often refused to give jobs to the few Black physicians and nurses for training, often claiming that it would reduce Caucasian patients’ desire to go to that hospital. “Caste prejudice in the hearts of the dominant race, in charge of the numerous hospitals and training schools in our city made it impossible for the capable and ambitious colored nurses and physicians to secure hospital experience,” wrote Mossell.6

In 1895, he decided that the city needed a hospital that could care for the underserved, which he felt would assert the values of Frederick Douglass in turning away no pa- tient. It would be the first interracial hospital and training school in Pennsylvania.

The first hospital in the nation led by an African-American had been established by surgeon Daniel Hale Williams in Chicago in 1891 after a young Black woman was refused acceptance to Chicago’s nurse training schools on the basis of race.7 Mossell’s hospital would be the second in the nation. “That it was my brain child, and that I fought and suffered for it is of little moment, since for long years I have lived by the simple creed, ‘Men do less than they ought, unless they do all that they can,’” wrote Mossell.6

The Frederick Douglass Memorial Hospital and Training School, initially stood on 1512 Lombard Street. It was a three-story building with a basement, 15 beds, and a small second-floor operating room. The first bed—and the majority of the hospital—was financed by African-American donors. The hospital was incorporated in 1896 under charter by the state of Pennsylvania, with Mossell as its chief of staff. Mossell’s first head nurse was Minnie Clemens, who was the first Black graduate of Penn’s nurs- ing school.8 Douglass Hospital was especially appreciated by the Black community in Philadelphia during the 1918 influenza epidemic, when it took care of more than 100 Black patients in its main building and an emergency an- nex, without pay, or any financial support from the city’s board of health.7

Though Mossell was regarded by many as a visionary, he faced criticism and complaints from some hospital staff who said he was too controlling. For example, of the 31 operations performed in the first year of the hospital’s existence, Mossell did 21 of them.4 Mossell, however, felt that his involvement in the hospital was generous, claiming that most hospitals would pay $4,000-$5,000 annually to a chief of staff, but that his own annual income was just $2,000.6 Many physicians on his staff petitioned un-successfully to remove him from his position as director. These physicians, who called themselves “The Progressive Fifteen,” would quit their positions at Douglass Hospital in 1907, and, move four blocks away to form the new Mercy Hospital. They decided that this new hospital would pro-vide more training opportunities for Black physicians.4
Despite its internal strife, Douglass Hospital grew, and in 1909 moved to a new site at 1532 Lombard Street, which was five stories high and had 50 beds. Alfred Gordon, a staff physician at Douglass Hospital and member of the Philadelphia County Medical Society, described the hospital in an article:

No one is ever turned away from its doors because of creed or color, or because they are too poor to pay. Of the 4,531 bed patients cared for during the past five years, thirty percent (30 percent) were unable to pay for either services or treatment.

Mossell was invited to give a talk in 1908 to the National Medical Association entitled “The Modern Hospital: Its Construction, Organization, and Management.” He articulated the history of hospitals and their improvements, recommended guiding principles in starting a new hospital, and commented on details from management to plumbing. Mossell envisioned that he could spread his model hospital concept so that others would do the same.

Mossell’s commitment to Douglass Hospital’s success and mission would be tested in the face of his commitment to true desegregation. After admitting Mossell as a medical student in 1879, and watching his success, the University of Pennsylvania had begun to admit an average of six Black medical students per medical school class. Each year, these students struggled to gain internships after they graduated, just as Black nurses faced difficulties obtaining jobs and training due to racial discrimination. With new state legislature requirements passed in 1915, these physician internships, which were optional when Mossell graduated, were now mandatory for practicing physicians (as they remain today). In 1916, the dean of the school of medicine at the University of Pennsylvania, Dr. William Pepper (AΩA, Raymond and Ruth Perelman School of Medicine at the University of Pennsylvania, 1916, Honorary), approached Mossell and asked him to give their graduating Black medical students internships in his hospital. Mossell, perhaps to the dean’s surprise, refused, as this request was made solely on the basis of race. Mossell wrote:

[The university] was thoroughly equipped to take care of all its medical students for their practical work in obstetrics and bedside practice, regardless of race. Therefore, under the above mentioned circumstances, I saw no reason why I should be asked to permit their colored students from a school such as this to do their practical work in the Douglass Hospital which in no way had any connection whatsoever with the University of Pennsylvania School of Medicine. I took the dean all through the institution so that he might see that Douglass operated in a genuinely democratic way...the hospital was organized
Nathan Mossell, MD

to protest against racial segregation, not to encourage it. The dean told me frankly that he did not blame me; that he thought I was right but he stated that he has been sent by the management of the university.4

Despite the dean’s professed sympathy, Mossell was called into a hearing before the appropriations committee of the state legislature and charged with failure to cooperate with the University of Pennsylvania School of Medicine. “Clarence Wolf, a member of the Board of Managers of the University of Pennsylvania and of the Chamber of Commerce, also a business man with offices on Market Street, told me one day that he would make me the biggest Negro in Philadelphia if I would forget all about the principles of Fred Douglass,” wrote Mossell.6

Mossell did not recant his decision; he further criticized the university for its “Jim Crow” practice of barring Black patients from its private wards, and for pressuring his hospital to admit Black pediatric patients for convalescence, when White children would typically be sent to a convalescent home set up for White children only.6 The Philadelphia Chamber of Commerce withdrew its financial endorsement from the hospital. As the hospital started to struggle with funds, the 1919 state legislature offered hospital appropriation (worth $22,000) with the stipulation that Mossell be removed as hospital superintendent.4 Amos Scott, president of the board of directors of Douglass Hospital, refused the request and money, stating, “Our principles are not for sale at any price.”4

Even though Mossell won his right to disregard race in the hiring process for Douglass Hospital, an unfortunate and unexpected effect of this victory was that, without guaranteed training spots for Black medical graduates, the University of Pennsylvania started to decrease its enrollment of Black medical students. According to Mossell, “the university instituted the quota system. When Douglass Hospital organized in 1895, there were six colored youths studying medicine at the University of Pennsylvania. Compare that number with the number of colored students admitted into the institution now and the years when there are no colored students admitted.”6

Not all Black physicians agreed with Mossell’s unyielding position on segregated education. Some thought that establishing Douglass Hospital as a training hospital for Black medical graduates who desperately sought an official position was a necessary step forward toward equality. As Cobb said in a 1956 address at the Banquet for Integration in Medicine in Chicago, “The separate facilities concept, born thus of desperation, found unopposed avenues for growth and eventually came to be tacitly and sometimes vocally accepted by the Negro medical profession as the way out,” even if it was not the way out that Mossell demanded.9

When Mossell retired from leadership of Douglass Hospital in 1933, the hospital’s succeeding board of managers discontinued Mossell’s policy against segregated hiring. They agreed to unilaterally accept the qualified Black physicians and convalescent patients that other hospitals would not.10 In his later years, Mossell expressed regret for creating Douglass Hospital, feeling that it furthered segregation.

Nationally, until the civil rights era, physician professional associations were separated by race. The American Medical Association (AMA) was for White physicians, and the National Medical Association (NMA) for Black physicians. Abraham Flexner’s 1910 report in medical education, though an important advocate of quality in medical training, “reinforced segregated and unequal medical education for African-Americans.”11 Flexner encouraged the closure of all but two African-American medical colleges (despite a population of roughly 9.8 million African-Americans in the United States in 1910), and recommended that Black physicians be trained to serve only people of their own ethnicity, as “sanitarians.”11

A 2008 article in the Journal of the American Medical Association reporting on the history and legacy of the AMA and racial integration stated, “African-Americans in 2006 represented 12.3 percent of the U.S. population, but just 2.2 percent of physicians and medical students. This is less than the proportion in 1910 (2.5 percent) when the Flexner Report was released.”11

Refusal to tolerate racism

Mossell spent a significant amount of time protesting the depiction of African-Americans in media and entertainment. His most profound victory, which he writes about in his autobiography, may have been persuading the Philadelphia mayor to ban the 1906 white supremacist play “The Clansman” from performing at the Walnut Street Theater. “Everywhere ‘The Clansman’ played, race riots followed which indicate the drama’s powerful grip upon people’s emotional and moral faculties,”12 wrote Mossell.

Initially, when Black citizens of Philadelphia asked the mayor to ban the play, he did not see a reason to, citing the right to freedom of speech, despite the play’s positive depiction of the lynching of Blacks in the South. When this group of citizens convened again, Mossell left work to attend their meeting, and proposed a loophole they could
try. “There is a city ordinance which says that if a play incites riot, it is the mayor’s duty to suppress the play.” Mossell was appointed the chairman of this committee of citizens, and they held regular meetings to organize a non-violent riot. “Our committee had less than three weeks to rally the colored population... The radio was nonexistent then... (there were) no colored dailies. All the colored people (were) not churchgoers even though the ministers rallied their congregations into wholehearted support,” recalled Mossell. “We decided to issue circulars throughout the colored neighborhoods.”

They distributed more than 1,000 pamphlets by hand on Monday evening, October 22. The pamphlets, signed by Mossell and other committee members, including church leaders, was entitled “A call to action,” and encouraged citizens to “appear at the doors of the theater on Monday night to make an effectual protest.” Before the protest, they again appealed to the mayor to shut down the play, and he once again refused. One member of the press warned the mayor, “I don’t know the others very well, but that fellow, Mossell, will go through hell.”

Mossell and his colleagues carried out the protest as planned, with the participation of 10,000 Black citizens who appeared in response to the circular. Actors in the play were greeted with rotten eggs thrown by Black citizens who gathered on the balcony. While the leaders of the rallying citizens emphasized non-violence, four Philadelphia policemen battered a Black man with their clubs.

After that opening night with thousands of protestors, the mayor banned the play, conceding that it was causing unrest, but, he added, “If there had been one drop of blood shed last night as a result of this gathering, every man whose name is signed to the Call to Action would have been arrested and held accountable.” The management team of the theater issued an injunction against the mayor’s decision in the common pleas court that same afternoon. They claimed, falsely, that The Clansmen had played in other large cities without inciting unrest. Thomas Dixon, the playwright, protested that his play was based on historical facts, including “the assumption that the Negro has an unbridled lust for women and if permitted to meet white women as equals, he would force them to compromise their womanhood.” Mossell countered, “Perhaps the author drew this assumption from the historical fact that hundreds of thousands of mulattoes, during and since slavery, were the offspring of defenseless colored women who were forced to accept white men socially in the slave and ghetto quarters.”

At the trial that afternoon, Dixon declared proudly that his father was a member of the Ku Klux Klan. Mossell wrote, “I had a hard time holding back a colored woman at the trial. She had hidden a raw hide under her coat and wanted to beat Thomas Dixon over the head with it.” On October 23, the judge of the common pleas court upheld...
the decision to ban the play because, he said, driving the Negro out of the country “was undoubtedly one of the ulterior motives of the play.”

Dixon refused to accept the judgment, and went to the Supreme Court of Pennsylvania. The Supreme Court passed down a decision that banned The Clansmen from the state of Theodore Pennsylvania forever. Thomas Dixon told the press that he and the actors had been denied their right to free speech, and said, “If a Negro mob can suppress freedom of speech in the city which claims the proud honor of being the birthplace of American liberty, our boasted civilization is a farce....The emblem of the old city of the Liberty Bell should be changed to the picture of a howling, shouting, triumphant Negro mob.”

Mossell later wrote, “If free speech is to be preserved, it must at all times aim to safeguard and broaden the scope of men’s welfare. Any speech which is aimed at thwarting men’s liberties because of their color or caste, is not free speech. The purpose of free speech is not to enslave; but guide men toward better lives than they now have.”

A man of letters

In addition to leading committees to enact change, Mossell often spent his evenings writing letters to press and political figures, suggesting changes in the way they portrayed African-American citizens. In a 1903 letter to the Philadelphia Public Ledger regarding its coverage of Black crime, Mossell wrote, “When similar crimes are committed by white men, as was illustrated by an occurrence in our own city during the past week, they are seldom published under such glaring headlines and are placed in obscure portions of the paper, thus making it appear that the Black men are more much more frequently addicted to this form of fiendish crime.” And, in a 1903 letter to the editor of the Chicago Tribune he wrote, “Black men are eight times less likely to commit this crime [of rape] than the white man of Chicago, at least.”

In 1938, Mossell sent a letter to President Franklin Delano Roosevelt, asking him to condemn the fact that the reactionary South was opposing an anti-lynching bill. He wrote that it was “a disgrace to the country and a serious reflection on your administration.”

Mossell also corresponded frankly with famous orator and presidential candidate William Jennings Bryan in 1901, “on political views which I presented to him with the hope that they would influence his campaign platform for Presidency.” At the time, the nation was abuzz with the news that President Theodore Roosevelt had invited notable African-American scholar Booker T. Washington to the White House as its first African-American social guest. Mossell wrote, “the South was so incensed by the incident that Mr. Washington had to postpone his return home until the sentiments against him subsided.” Bryan criticized President Roosevelt in his column in The Commoner for entertaining a Black man at the White House. When Mossell wrote Bryan to criticize his column, Bryan replied:

I am always glad to know the views of readers and therefore I appreciate your frankness, but my observation is that those who dissent from the theory set forth in the editorial referred do not dissent from it in practice. I have never known a white man to entertain a mixed party of ladies and gentlemen, some white and some Black....I believe that the white man and the Negro can work out their problems better separately than together.

In reply, Mossell wrote:

The fact that you have “never known a white man to entertain a party of ladies and gentlemen, some white and some Black” is rather surprising, for such incidents frequently occur in most of the large Northern cities. This statement can be easily verified if you care to take the trouble. It
is impossible to see upon what basis you rest your belief, that the white man and the Negro can work out their problems better separately than together. Is it possible that all history is to reverse itself? Two races have never lived together through centuries without co-mingling. But, Mr. Bryan, aside from these incontrovertible facts, it is much to be regretted that one who has long been supposed to represent the broadest principles of Democracy should so signal fail at this crucial test.16

**A man of principles**

For Mossell, it was important to maintain good relations with institutions, but without reneging on his principles. He would write positive letters when deserved. In 1939, he wrote to the editor of the *Philadelphia Inquirer* thanking him for coverage of the contributions made by Black people in Philadelphia in one of its daily columns. “In these days of financial distress and disparagement, especially for our Negro citizens, your article carried much to inspire and encourage,” he wrote.16

Mossell distanced himself from his alma mater, Lincoln University, for decades, until it finally added Black professors to its faculty. It was only then that Mossell resumed his relationship with the university, which granted him an honorary doctorate of science in 1940.2 And, despite their mutually bittersweet relationship, the University of Pennsylvania, when it celebrated its 200th anniversary, had Mossell carrying the colors of his class as the only survivor of the class of 1882.

Preaching activist principles until his passing, Mossell wrote to his granddaughter Gertrude Williams, “If you have never been called a radical, a Tory, Red, Communist, Bolshevik, depending on the era in which you live—you should begin to examine your conscience. It means that you have never done anything for anyone but yourself.”2

As a physician and as a citizen, Mossell truly was—as one award committee put it—an “uncompromising champion of racial justice.”3

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Eager to hear Dr. Bruton’s answer, Joseph’s father and mother leaned forward in their chairs. “I believe that your son has a condition which prevents his body from producing antibodies to fight against infection. Joseph’s repeated hospitalization due to the same disease suggests that he could not develop an adequate defense to fight against it a second time, whereas normal children his age are able to do so. Additionally, I’ve tried to elicit an immune response from Joseph via typhoid and pneumococcus vaccines earlier, but he produced no response.”

“I’m not entirely sure I understand. What will this mean for Joseph?” asked his mother.

“Joseph’s body has a severely weakened immune system that makes him prone to getting very common infections, such as pneumonia,” Dr. Bruton replied. “I am not sure if this is an acquired condition or a congenital one, but if what I believe is true, I am willing to try an experimental treatment that may help him.”

“What is that? Anything is better than letting him continue to be sick like this,” Joseph’s father inquired.

“It may sound unconventional, but if we can deliver outside antibodies via injection into Joseph’s body, which is the very thing he lacks, he might be able to fight off many of these common infections,” said Dr. Bruton. He let the family think in silence, allowing them to digest the information at their own pace.

“If that’s the only chance we have, then we must take it,” stated Joseph’s father. Dr. Bruton nodded and shifted his glance to Joseph’s
The Pharos
Autumn 2018 13

mother, who affirmed with obvious uncertainty.

Dr. Ogden C. Bruton, an accomplished military physician, had just returned to Walter Reed Clinic in Washington D.C., for the second time after a brief tour to Europe during World War II. He was commissioned to help develop the Army’s first pediatric training program.1 As Chief of Pediatric Ward 17, one of his main focuses was deciphering the mystery surrounding an eight-year-old boy, Joseph Holtoner Jr., who came in with recurrent pneumonia infections over the course of five years. Bruton’s longitudinal observations of Joseph led him to postulate that the boy had a rare case of an immune deficiency, specifically an agammaglobulinemia, of which “he is no longer able to synthesize and/or hold antibody to a specific organism.”2

In a seminal publication in 1952, Bruton detailed his observations of Joseph and outlined a treatment regimen for this disorder by administering intramuscular injections of IgG, one of the main antibodies missing in Joseph’s body. To everyone’s surprise, results were seen almost immediately. Joseph quickly recovered, and “following the administration of human globulin at monthly intervals, he has been free of pneumococcal sepsis for more than a year...”2

From a series of critical observations, Bruton had completely shifted the trajectory of Joseph’s life, one previously ravaged by “clinical sepsis at least 19 times in the previous four years,” back to a normal, healthy one.

A prayer answered and paid forward

Just as Bruton was completing his work with agammaglobulinemia in the early 1950s, comedian and actor Danny Thomas was beginning to enjoy the fruits of his breakthrough television sitcom Make Room for Daddy. Critics and audiences raved over his televised witty banter and comedic conversations with renowned actress Jean Hagen and then child actress Angela Cartwright. Due to Thomas’ natural charm and aura, it was hard to imagine his tumultuous path to stardom.

One of nine children born to devout Catholic Lebanese immigrants in Deerfield, Michigan, in 1912, Thomas discovered his passion for acting and entertainment early on during his childhood. By the age of 10, Thomas was selling candy outside the Empire Burlesque Theater in Toledo, Ohio,3 and by 19, he had a regular Detroit amateur radio show. It was there where he would meet singer and future wife, Rose Marie. Firmly set on his passion for entertainment and pursuit of the American Dream, Thomas sought to captivate an audience of millions.

For more than two decades and throughout the Great Depression, Thomas had barely scraped by a meager living as a starving artist in Detroit. With a pregnant wife, Thomas felt financially cornered. A week before his first child was due, he had just $7 to his name. In despair, he went to church and gave all of his money as an offering. Thomas knelt before St. Jude Thaddeus, the patron saint of hopeless causes, and prayed for St. Jude to show him the way.

The next day, Thomas received a call about performing in a Maytag washing machine sales skit at a convention that paid 10 times more than his original church offering. A few days later, his first daughter, Marlo, was born, and Thomas paid the hospital bill in cash.

The Thomas family continued to struggle, however, and Thomas continued to pray to St. Jude, “Help me to find my way in life, and I will build you a shrine.”3 Eventually, Thomas’ career began to make a turn for the better. His comedic talent was recognized by major agencies, leading to his move to Hollywood to begin filming his breakthrough sit-com Make Room for Daddy (later called The Danny Thomas Show). The show lasted for 12 years, and turned Thomas into a household name.

Throughout his successes, Thomas never forgot his promise to St. Jude. As he spoke with his friend and mentor, Cardinal Samuel Stritch, about what concrete form his vow would take, a plan slowly began to emerge. Thomas felt that instead of a solitary monument, the shrine would be a children’s hospital located somewhere in the south. At the behest of Cardinal Stritch, Memphis, Tennessee was chosen for the hospital’s location due to its social and economic struggles at the time.3 Finally, the hospital needed to embody Thomas’ dream that “no child should die in the...
dawn of life," so it was decided that St. Jude's would be a unique research hospital devoted to curing debilitating diseases in children.

Establishing a new hospital would be one of Thomas' greatest challenges. To help fund the immense cost of building and operating the hospital, Thomas' and his wife traveled around the country in the early 1950s to garner support for his dream. Additionally, he turned to the Lebanese community for support and formed the American Lebanese Syrian Associated Charities (ALSAC) in 1957, whose main function was to raise funds for the hospital. Using his name and story to touch the heart of countless Americans across the country, Thomas was able to raise sufficient funds for the hospital and broke ground in 1958.

In 1962, St. Jude Children’s Research Hospital officially opened its doors to the public. Unveiled at the front of the entrance stood a marble statue of St. Jude Thaddeus, dedicated by Thomas to fulfill his promise to the patron saint 25 years prior.

Healthy again!

I squirmed in my seat. “Mom, I don't want to watch.”

This was the third time in the same day that the nurse had tried to draw blood. I shuddered at the sound of the nurse tearing open the iodine swab packet. My skin burned to the touch of the swab as she brushed circles around my skin, as if drawing a small bullseye target marking where to thrust the needle. In silent protest, my veins slipped deep within my arm, hoping to hide behind the superficial layers of skin and fat. I looked around for distractions, but the white plastered walls of the grim pediatric ward offered no respite.

“I'm sorry Ethan, please be strong,” my mom said. Although her voice did not waver, her distressed look revealed her suppressed anxiety. The disheveled hair and wrinkles around her eyes told the story of the many sleepless nights in the hospital with her sick child. Empty apple juice cartons and unfinished meals lined the tray table beside the bed. On the other side of the exam room, my father paced back and forth nervously, having just got off the phone with my kindergarten teacher explaining my prolonged absence from class.

It was hard to remember how this specific illness began. Did it first start with an innocuous cough? Was there nasal congestion? Or was it far more insidious, beginning with a thick mucus slowly collecting in the back of my throat, preventing me first from swallowing and then breathing? Four trips to urgent care, two physician changes, and countless restless nights within two months left my immigrant parents frustrated, broke, and without answers.

According to my reported medical record, it was first pneumonia, then it was croup, and now a mysterious disease with an unknown cause. A new illness came knocking at the door every month. Day after day, month after month, I watched the fall foliage and colorful trees outside the hospital window begin to wither away as the cold of winter approached.

After multiple rounds of blood tests, my doctor was able to tease out an anomaly in my results and implored my family to meet with a small team of researchers at St. Jude Children's Research Hospital who had taken an interest in my case. My parents, whose financial resources had dried up, were very hesitant to take on additional medical bills. However, after hearing that St. Jude's would generously cover all of the costs, my parents decided that it would be the last chance they had to seek help for me. In the blistering cold of December before the turn of the new millennia, we bundled up and drove to Memphis to meet my new health care team.

The very first thing I noticed as we pulled up to the front of the hospital was a glistening, tall white statue holding a coin and a staff. This towering obelisk was unlike anything I had ever seen. At the base of the statue were multiple rows of mysterious engravings that resembled hieroglyphics meticulously etched into the marble cornerstone. I pointed to ask my parents what it meant, however, my parents hurriedly guided me past the monument and to the main entrance of the hospital.

We were greeted by a Vanessa, a nurse practitioner, who asked us to follow her to the South Lobby and into an exam room. After a couple moments of getting settled in, there was a gentle rapping on the door. A woman with curly light brown hair highlighted with strands of gray emerged and was followed by a line of people in white coats carrying notebooks.

“Nice to meet you Ethan,” she said softly. “My name is Dr. Conley and this is my team who will be helping me take care of you.” She pulled over a chair and sat down to make eye contact with me. “We've heard a lot about you and think that we might be able to help you get better.”

Over the next two hours, Dr. Conley explained to me and my parents that there were a lot of things that were happening in my body and that it would take time to understand. “We believe that your son has a condition called X-Linked Agammaglobulinemia,” she stated. Dazed by the syllabic expanse of the word, my mom asked for it to be broken down into separate parts for...
better comprehension. Using drawings and diagrams, Dr. Conley communicated that my body was missing part of its immune system and was not able to produce antibodies to fight against infection, which explained my constant illness and trips to the hospital.

“Although your son’s condition is genetic and there is no current cure, there is an effective treatment that we believe will make him healthy again,” she said. “We usually put patients with this condition on a monthly intravenous infusion of antibodies called IVIG, which will help protect Ethan from infection. We have tracked many patients with this condition and after being treated with IVIG, patients can lead a normal and healthy life.” Sensing that I was overwhelmed by all of the technical jargon, Dr. Conley turned to me, “Ethan, you don’t need to worry about a thing. We will help you get healthy again.”

Healthy! I would be healthy! Unable to contain my joy, I leapt off the exam table and started running around the room, giving everyone in the room the biggest hugs I could muster. Next to me, my parents wept tears of relief and joy, having finally found the answer to their prayers. For my parents, this meant clarity, no more sleepless nights and unending hospital visits. For me, I finally had hope for a real, normal life. Celebrations continued for a while and it took quite some time for the room to regain composure so that Dr. Conley could once again speak:

You are a very special child Ethan. One might even call you one in a million. Although you will be getting treatment back at home, we do want you to visit us every six months, just to see how you are doing.

Later in the afternoon while my parents spoke with Vanessa in the main lobby to schedule future visits, I peered through the large glass windows and once again gazed at the tall statue outside. Figuring that this was going to be my chance, I tugged on Vanessa’s coat and asked her about the statue. She smiled and explained, “That is a statue of St. Jude Thaddeus, the patron saint of hopeless causes. It was donated by the hospital’s founder, Danny Thomas, when the hospital was built. For us, it stands as a beacon of hope for those in need. If you or your family ever need anything, we will be here to help.”

I couldn’t hold back a huge smile. For the first time in a long time, things were going to be okay.

A beacon of hope

Some nights before I sleep, my restless mind drifts away and reflects on my place within the long and winding narrative of medicine. In an effort to understand more about myself and the world around me, I delved into the sciences at a young age. The more I researched my condition, the more I became fascinated with the human experience captured in past literature and the rich history that provided the foundational context to my own story.

Although Bruton had not completely solved the etiology of this enigmatic disease, his landmark discovery guided the understanding of what was later known as X-Linked Agammaglobulinemia (XLA), a rare immunodeficiency with a frequency of 1/379,000. This first known immunodeficiency is characterized by a mutation of a single gene on the X chromosome coding for an enzyme known as Bruton’s tyrosine kinase, or Btk. Btk is critical in the development of mature B cells, and ultimately the production of antibodies involved in the humoral immune response. Because of this defective genetic mutation, patients with XLA lack antibodies and are prone to develop serious and
even fatal infections if left untreated. There is no known cure for this condition; however, with continuous infusions of exogenous antibodies as first presented by Bruton, patients with this rare condition are granted passive immunity and can live a normal, healthy life.

Before the 1950s, it was presumed that infections were due to excessive exposure to pathogens or to changing properties of the body. Bruton's pioneering classification of the first human host defect over half a century ago set the stage for an exponential increase in information about the functions of the various components of the immune system. To date, more than 70 primary immunodeficiency disorders have been recognized, and these characterizations have had a profound effect on the health care of children.

Since St. Jude's founding, the hospital has taken in more than 100,000 children from around the world. In 1966, a group of St. Jude patients were the first acute lymphoblastic leukemia patients to ever be successfully taken off therapy. Continuous collaboration between physicians and scientists have helped push the overall survival rate of childhood cancers from less than 20 percent when the hospital opened, to 80 percent today. While the main focus has been on pediatric cancers, generous funding has aided the study of additional rare diseases found in children.

From what originated as a personal plea for help, Thomas' steadfast promise has provided an international beacon of hope for children and families all around the world. A place where they are cared for regardless of race, religion, or ability to pay. A hospital where no suffering child is turned away.

In an odd twist of time and space, three lives of people who would have never gotten the chance to meet have become intricately intertwined in the fabric of medicine. To this day, I wonder what the result would be if the pages of history were written some other way. Where would our understanding of immunodeficiencies stand if Dr. Bruton never made his thorough observations of a child with similar symptoms to mine? What if Danny Thomas never decided to go into entertainment, or never had the grand dream to pay his fortune forward? What would happen to me if my parents had not immigrated to the United States, or if St. Jude's never entered my life?

These are some troubling questions that could lead to an infinite string of answers, providing a countless number of possibilities and narratives. But in this very moment, it does not matter.

The narratives of Dr. Bruton and Danny Thomas are real and alive within me. The genius and tenacity that drove their works literally saved my life, and have become the mechanism for how I can live my life, but their heart for others have given me the why. With tales of hardship, sacrifice, and selflessness as foundational fibers to inform my past, I look toward my future in medicine with renewed vigor and curiosity. Neither Bruton nor Thomas, nor anyone else for that matter, could have foretold this mysterious intertwining of fates to produce such good in this world. Likewise, I don't know where exactly my journey in medicine will lead me or the type of physician I will be, but the sheer chance and opportunity to touch the lives of others in unpredictable ways are more than enough for me to keep going.

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We can only truly love what is impermanent.
This idea is new to me.
As was the idea of your impermanence.

I don’t love the tectonic plates, concrete, gravity, time.
Even my love for a mountain is just love for my ability to climb it.

I love honeybees, fresh snow, the last delicious bite, you.

And I have never loved you more than I did the moment right after you died.

I love the garden we kept. The potatoes, the year they succumbed to blight. How we walked together. How as we kissed by the beanstalks, you curled your perfect pink toes in the dirt.

Walking fragile in the garden

Mara Feingold-Link, MD

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Illustration by Jim M’Guinness
After stowing my carry-on in the overhead compartment, I took my seat next to a middle-aged man. With introductions and small talk out of the way, he asked the question, “So what do you do?”

As a medical student, many people ask me to describe my everyday experiences in school. Often, they are intrigued with the idea of anatomy lab and the time we spend with our donors. It just so happens that the passenger I sat next to that day was the son of an anatomic donor. He asked me to comment on the value of anatomic donations in an era where a multitude of technological alternatives might suffice. Over the two-hour trip from Charlotte to Chicago, our discussion transformed into a profound personal reflection. My feelings of debt towards him and his family allowed me to share my experiences in an honest and explicit manner.

I proceeded to tell him that I could speak for hours about the beauty of the human body: the way the different organ systems align, cross over, and integrate to form a stunning work of art. I could go on about the physiology, the mechanisms by which life is started and maintained, until eventually coming to an end. I could list the structures, muscles, bones. The journey a single signal will take to travel from the tip of one’s finger to a particular point in their brain.

I could also discuss the uniqueness of each human body, specifically the differences between each of our anatomical donors. Some days I would wonder what they had experienced in the bodies we so delicately yet invasively explored. What was the story behind each scar, each piercing, each tattoo? I described in detail one donor’s fingernails, still painted in colors boldly supportive of our
The Pharos

university. I could spend hours, days even, talking about this. And yet, if I only focused on these aspects, he would still not understand completely the essential gift given to us by our donors.

In talking with him, I decided to break from convention and impress a more personal truth. The career of a medical student is at times glorified to those outside the walls of our institutions. Yet as a doctor-in-training, internal struggles are often much louder than external perceptions of excellence and prestige. It was by discussing this truth that the real value of each gifted body was revealed. The first year of medical school was a challenging and self-critical transition. Throughout the excitement of getting accepted and wearing our white coats for the first time, many of us didn’t realize the implications of learning about the entire human body in a short 13-month curriculum. Sitting on that plane, I would have been dishonest to reiterate the beauty of the human body without sharing that on most days, my mind would jump to feelings of inadequacy, rather than those of gratitude I felt towards our donors.

There were many days when I was not fully prepared for our anatomy sessions. There were mornings in lab that I worked completely dependent on my classmates asking for help every step of the way. During the musculoskeletal sequence, I had memorized the whole upper and lower body origins, insertions, and actions in the early hours of the morning before the practical exam the same day. It’s not to say I was not trying, more that I was trying as best as I could, and at times could not keep up.

This is when the feelings of shame and disappointment would creep in. I would often imagine myself a donor, and wonder: “Is this a student I would have picked for my body?” Some days the answer was no.

I then told him that as the year went on, and we survived this unknown world of medicine, the bigger picture slowly came into focus. We are not doctors. We are students. And our donors did not give themselves to doctors, but to students. This is the true beauty, the true gift: the understanding that to take care of thousands in the future, we must first spend the time being flawed. Being, at times, unprepared. Being willing to learn without judgment and without guilt. To learn in a space where forgiveness is given unconditionally, so that we can learn to care for our patients unconditionally. Perhaps our donors had known this all along – perhaps this was their goal. And perhaps their gift was not to us medical students, but to their own families, their own friends, and their own communities that we will be serving for many years to come.

When our airplane reached the gate, I thanked him for listening, and he thanked me for my honesty. Waving goodbye at the luggage carousel, my only hope was that he was more at peace with his father’s decision and, if anything, that he could understand that a gift undeserved is often the gift most needed.

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Theodore Gaillard Thomas, and his invention, the Thomas Perforator. Courtesy New York Library
A life-saving and life-taking 19th century medical instrument

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The Medical Society of the County of Westchester, New York, was established in 1797 and is one of the oldest physician organizations in the United States. Generations of physicians and their descendants have donated medical equipment to the Society. In 2014, the collection was turned over to New York Medical College and a concerted effort was undertaken to identify and curate the material. This disorganized collection filled multiple cardboard boxes. An unusual medical instrument with a screw-shaped tip, a concealed knife which emerges from the side of the instrument’s shaft when activated by a trigger, a carefully crafted handle, and decorative engraving on the trigger was found in one of the boxes. With a strong magnifying glass the word “Tiemann” can be seen on the trigger.

George Tiemann & Company has been manufacturing and selling surgical instruments since 1826. With the assistance of the company’s president the instrument was identified and listed for sale in the 1879 and 1889 catalogues as a “Thomas Perforator,” invented by Theodore Gaillard Thomas (1831–1903).2-4

Thomas was particularly known for the development of the laparoelytrotomy (Greek Elytron sheath (vagina)) as “a substitute for the then very dangerous operation of Cesarean section, and the still more dangerous one of...
A life-saving and life-taking 19th century medical instrument

...performed the operation a number of times with remarkable success."

Laparoeltyrotomy is an abdominal delivery without an incision into the uterus, but rather an incision in the vagina. This can only occur in the latter stages of labor (the second stage) when the fetal head is deep into the birth canal. After prolonged labor, when the cervix is completely dilated, a transverse incision is made in the abdomen (Pfannenstiel incision), the peritoneal cavity is entered, but instead of incising the body of the uterus, after the bladder is retracted, the vagina over the fetal head is incised and the baby is delivered through the vaginal incision.

The Thomas Perforator was developed to decrease the size of the fetal head to facilitate delivery. In the case of either a dead fetus or a fetus with severe hydrocephalus, craniotomy often involved puncture of the fetal skull, and evacuation of its contents. The Thomas Perforator was one of many obstetrical craniotomy devices.

The Thomas Perforator belongs to an era in which Caesarean delivery was viewed as a highly dangerous heroic undertaking. The operation was shunned by physicians and surgeons because of the high maternal death rate. The 1882 textbook *The Science and Art of Midwifery*, by William Thompson Lusk advises:

“Caesarean section belongs to the most hazardous operations of surgery, its performance is chiefly justifiable in cases in which craniotomy and delivery of the child by the natural passages involve the life of the mother in still greater peril...The duty of the physician is, however, to his patient. He is not to constitute himself either judge or executioner.”

The 1903 edition of Williams’ *Obstetrics* states:

...if there is an obstructed labour for a considerable time [with] signs of infection, Caesarean section is not indicated, but the child should be sacrificed in the interests of the mother, inasmuch as the maternal mortality attending Caesarean section under such circumstances is in the neighborhood of 25 percent....Hydrocephalus affords a positive indication for craniotomy....In this case, spontaneous labour is out of the question, and even a successful Caesarean section will only give us a child that is doomed to die shortly or remain an idiot.

Williams’ textbook further advises its readers that in the 80 cases performed in the U.S. up to 1878, collected by Harris, 52.5 percent of the women died. Harris stated that out of 11 Caesarean deliveries performed in New York City during the same period, only one patient recovered.

**Complex ethical problems**

The discovery of a Thomas Perforator in a cardboard box of donated instruments offers several lessons to the modern physician. First, the instrument is a reminder of an era of destructive obstetrical procedures. Vaginal surgery was the purview of the obstetrician/gynecologist, while general surgeons performed abdominal surgery. Obstetricians in the 19th century debated when and how vigorously to intervene with instruments in a difficult delivery. Forceps were often employed, and, if
unsuccessful, the physician turned to *embrylucia*, forcible extraction of the whole or dismembered fetus by instruments.

The vocabulary of *embrylucia* offends modern sensibilities but it was viewed, in its time, as an essential group of obstetrical procedures for the safety of the mother—perforation of the fetus; comminution of the fetus (reducing a solid body by grating, pulverizing, slicing, or other processes), *cephalotribes* (a device for crushing the fetal head), cephalotomes and embryotomes (instruments to cut or saw the head to reduce its size), cranioclast (an instrument for crushing the head), basilyst (an instrument for both crushing the vault and base of the skull), and extraction of the fetal parts.

The Thomas Perforator was invented after the application of anesthesia helped relieve the pain of childbirth, and just as physicians were making the transition from the frequent use of forceps or craniotomy to Caesarean delivery. While the first successful Caesarean delivery in the U.S. was either self-performed in 1822, or performed by John Lambert Richmond in 1827 and the Italian surgeon Eduardo Porro developed a Caesarean delivery technique in 1876 that involved amputating the body of the uterus, widespread use of this operation did not occur until after 1882.11-13,18,19 In that year, Max Sänger published a treatise on the classical Caesarean section recommending aseptic methods, opening the upper part of the uterus, and suturing it closed with silk thread separately from the abdominal wall closure.20,21

The 1895 multi-authored volume *An American Text-Book of Obstetrics for Practitioners and Students* devotes many pages to the indications and performance of craniotomy and embryotomy as “destructive operations by which the volume of the fetus is reduced in order to permit delivery per vias naturales.” It is of interest to read what the text advises regarding indications for destructive procedures a decade after the improved techniques for Caesarean delivery had been described.

It is of primary importance to determine whether the fetus is living or dead. If dead, its bulk should be reduced whenever there is sufficient disproportion to make delivery difficult or dangerous. It is far better to mutilate a dead fetus in order that the mother may be delivered easily and safely than to subject her to the risks of a tedious and difficult forceps operations. Esthetic considerations and regard for appearance should not be allowed to weigh against a mother’s safety. But when the child is alive the question becomes entirely different. Undoubtedly, in recent years symphysiotomy, Cesarean section, and the induction of premature labor have greatly narrowed the field of the destructive operations, but are we quite prepared to admit that craniotomy upon the living child is never justifiable? Pinard and his followers boldly take to this ground, so do a few operators who have had exceptionally good results from Cesarean section; but most obstetricians feel that the results of the conservative operations do not yet warrant such a sweeping assertion. Until it has been established that the maternal mortality after the conservative operations is not greater than that after embryotomy, it would be rash to say that mutilation of the living child is never justifiable.22

The widespread use of Caesarean delivery closed the era of embrylucia. The Thomas Perforator reminds modern physicians to avoid the sin of presentism: condemning physicians of the past for not having knowledge of the present.

Second, the Perforator reminds us of the complex ethical problems...
A life-saving and life-taking 19th century medical instrument

attendant to balancing the life of the mother against the life of the fetus, and making judgments of the value of life outside of the womb of a hydrocephalic fetus. From antiquity, physicians and ethicists have grappled with whether it is permissible to conduct embryotomy prior to birth when the mother’s life is endangered.

Finally, the elegant handle and engraved trigger of the instrument, far more attractive than pragmatic, recalls an era when allopathic medicine was establishing itself as a profession. Possessing attractive and distinctive instruments was one of the ways male doctors defined themselves as people of importance, and distinguished themselves from midwives. Historians have often focused on this competition between physicians and midwives, suggesting that elitist physicians with their elegant instruments undermined the credibility of the midwife in the 19th and early-20th centuries. In the U.S., midwives were often part-time health workers associated with immigrant communities. They most often provided obstetrical care to local women of similar ethnic backgrounds. The scientific approach of physicians became increasingly attractive to the growing number of middle-class women who both desired the care of male obstetrician-gynecologists and could afford to pay for it. The Thomas Perforator is, therefore, also a reminder of the inability of 19th century midwives to compete in the development of a professional approach to their craft. This contributed to their decline over these years, while both medicine and nursing began to develop as professions rather than vocations. The resurgence of midwives is, in part, the result of the professionalization of their discipline.

Obstetrician-gynecologists and nurses developed as professionals by standardizing and improving education, adding practical applications of theoretical science, and developing an armamentarium of instruments—including the one we found in a cardboard box.

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A fly on the wall

I am a wanderer.  
I travel the open halls of our community center,  
Hop through holes in our makeshift roof,  
Float freely from kitchen to class to church.  

Today, I take shelter from the sweltering South American sun  
Against the peeling walls of the preschool room.  
I park between the posters,  
A for avión, B for bicicleta.

I expect to hear sounds of laughter and of learning,  
Smell stove-fresh tortillas and frijoles through the open wall,  
But instead of niños I see gringos,  
And the room feels far more foreign.

The door doesn’t swing chaotically  
From children chattering carelessly,  
Instead it enters woman, after woman, after girl.  
Their knees knock before drawing apart,  
As if they fight the resistance of remembering.

The gringos do their duties diligently,  
But their smiles tell lies called hope and equality.  
Their discouragement with futility smells  
Stronger than the stench of machismo in the air.

The prescriptions feel pointless, blocked by boundless barriers  
Rx: RTC in 1 month—no tengo un carro.  
Rx: surgery—mi esposo no permite.  
Rx: receive results by phone—no hay teléfono.

They try new questions to distract from the dismay,  
¿Cuantos niños tiene?—How many children do you have?  
Ocho hijos, uno muerto—8 kids, 1 dead.  
Diez hijos, cuatro muertos—10 kids, 4 dead.

I escape through the open fourth wall  
Where I find niños laughing and learning,  
Where I smell fresh tortillas and frijoles,  
Where I may wander.

Woman, after woman, after girl  
Steps up on a short stool to reach the stone slab turned exam bed.  
Their knees knock before drawing apart,  
As if they fight the resistance of remembering.

The question is pertinent but probing.  
¿Está sexualmente activa?  
The taboos—once touched, once felt,  
Can never be untouched.

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The perception of an illness changes when the doctor becomes the patient, as I learned when I developed a medically incurable disease. It began as an intermittent, dry, hacking cough—more an annoyance than a concern—until it became persistent. I had been in good health, although recently on two occasions, I became unusually winded while swimming laps and had to hold on to the side of the pool to catch my breath.

I consulted a medical colleague, who other than the swimming episodes, found nothing of concern in my history; however, on physical examination he heard crackles over my posterior lung bases. There were diffuse bilateral infiltrates on my chest X-ray and on the high-resolution CT scan, which also showed “honey comb” cystic changes and traction bronchiectasis at the periphery of the lower lung fields. My pulmonary function tests showed both a reduced total lung capacity and a functional residual capacity. As the conflation of my clinical symptoms, imaging studies, and pulmonary function tests snapped into focus, I realized that I had idiopathic pulmonary fibrosis (IPF), a progressive, interstitial lung disease with a median survival of approximately three years. The moment hung there, as the spectrum of the disease filled my mind, leaving me with a sense of entrapment. Like normal
people, I took a breath about 20,000 times a day and never thought about it, but from the time I was diagnosed with IPF it seemed that breathing was all I thought about.

The disease

Although the cause of IPF is unknown, there are known risk factors, such as men of advanced age, a history of inhaling environmental irritants, such as tobacco smoke, asbestos, stone or mineral dusts, or agricultural aerosols; or past treatment with ionizing radiation or certain therapeutic drugs. Like most patients with IPF, I had none of these risk factors. In the United States, the incidence, prevalence, and age adjusted mortality rate of IPF have increased over the last decade, and will continue to do so as the population ages.2,3

In the early stage of IPF, histologic sections show patches of fibrosis amid a bed of normal lung tissue, but as the disease progresses it destroys wide swaths of lung, including the membranes across which oxygen diffuses into capillaries. Lung biopsy provides the definitive diagnosis of IPF, but because the procedure may accelerate the disease, many physicians forego lung biopsy in patients, such as I, who have a typical clinical picture and characteristic imaging studies.4

The natural history of IPF is variable. From 5 percent to 15 percent of patients, most often men with physiological and functional evidence of severe disease, have a rapidly progressive course and die within weeks or months of diagnosis; conversely 20 percent to 25 percent of patients live five years or longer.5,6 In the majority of patients, the disease pursues an indolent but relentless course, ending in death from respiratory failure within three to five years.3

The clinical course

In my case the question was not the diagnosis, but the velocity at which the disease would progress. My physician emphasized the importance of maintaining a blood oxygen saturation above 90 percent, so I purchased a digital pulse oximeter. As the disease progressed, and my exercise tolerance decreased, I found it difficult to maintain my oxygen saturation at the desired level. Foolishly, not wanting to walk around in public tethered by nasal cannulas to an oxygen canister—which I should have done—I developed an alternate strategy. If my oxygen saturation dropped below 90 percent I would stop walking and pretend to talk on my cell phone; after my oxygen saturation rose above 90 percent I would continue on. In time, I would pay a price for this behavior.

The progression of my disease was monitored by pulmonary function tests, including spirometry and lung volume studies, and a six-minute walk test that measures endurance, distance walked, and concomitant changes in oxygen saturation. Although my initial tests showed mild dysfunction they progressively worsened, and I realized that my purchase on life was dwindling.

I had to decide either to do nothing and let my life play out—not an unreasonable decision, considering that I was more than 76 years old—the average life expectancy for white American males—or to consider treatment with an unproven experimental drug, or the rather drastic option of lung transplantation, the only cure for IPF.

The treatment

I learned that the efficacy of two drugs, pirfenidone and nintedanib, was being evaluated in clinical trials of patients with IPF. I tried to enlist in each trial but the advanced stage of my disease made me ineligible. Based on the results of the two trials, which showed a significant decrease in the decline of forced vital capacity and a trend toward lower mortality, the FDA approved each drug for the treatment of patients with IPF.7,8

The lung was the last major, vital, solid organ to be transplanted successfully. In 1963, Dr. James Hardy (AΩA, Raymond and Ruth Perelman School of Medicine at the University of Pennsylvania, 1941) performed the first unilateral lung transplant at the University of Mississippi. His patient lived 18 days.9 In 1968, Dr. Fritz Derom from Ghent, Belgium, performed a unilateral lung transplant in a patient who lived 10 months.10

Over the next two decades there were multiple attempts at lung transplantation, but it was not until 1986 that Dr. Joel Cooper (AΩA, Washington in St. Louis School of Medicine, 1998, Faculty), of the Toronto Lung Transplant Group, reported long-term survival in patients transplanted with a single lung.11 Two years later, Dr. Alexander Patterson, also of Toronto, described the first en bloc transplantation of both lungs, an operation that was subsequently modified to one where the right and left lungs were transplanted sequentially.12

Following the Toronto reports, lung transplantation was adopted worldwide. Fortunately, Dr. Cooper and Dr. Patterson were recruited to the Division of Cardiothoracic Surgery at Washington University where I chaired the Department of Surgery. They established one of the first successful lung transplantation program in the United States. I used to marvel at seeing their patients, near death one day, casually walking around the hospital a few days after a lung transplant. Little did I know that Dr. Patterson's
life and mine would intersect over two decades later. Based on Organ Procurement and Transplantation Network (OPTN) data from 2016, surgeons in the U.S. performed 19,060 kidney transplants, 7,841 liver transplants, 3,191 heart transplants, and 2,327 lung transplants.

Lungs are suitable for transplantation in fewer than 20 percent of organ donors. This is primarily due to damage from the catecholamine storm that occurs during brain death, and to the abrasion, microbial infestation, and gastric reflux that occur during intubation and mechanical ventilation at organ procurement.

Because of the life time exposure to environmental pathogens, the lung, like skin and intestine, has a heightened immune response to foreign antigens, thus lung transplant recipients, compared to recipients of other organ grafts, have a higher incidence of acute and chronic rejection, and a shorter overall survival. According to OPTN data from 2008 to 2015, the five-year survival of patients receiving lung transplants was 53 percent, compared to 79 percent, 78 percent, and 73 percent for patients receiving kidney, heart, or liver transplants.

There has been controversy regarding the age limit for lung transplant recipients. One study found that from 2006 to 2012 there was no significant difference in one-year post-transplant survival among patients older or younger than 70 years of age; however, there were marked differences in survival at three years (49 percent in patients over 70 years, compared to 64 percent in patients younger than 70 years), and at five years (28 percent compared to 48 percent). Professional medical societies have not endorsed an upper age limit as a contraindication to lung transplantation, but adults older than 75 years of age are unlikely to qualify as candidates because of associated comorbid conditions. There is a report of a lung transplant in an 81-year-old man with IPF.

I was reluctant to proceed with a lung transplant for several reasons. I was 77-years-old and knew the risks associated with the procedure, and the potential chronicity of postoperative recovery, especially if things did not go well. Also, I was seronegative for cytomegalovirus (CMV). Activation of CMV, a common opportunistic infection in immunosuppressed lung-transplant recipients, is associated with acute and chronic rejection, as well as early and late mortality. Considering that the seroprevalence of CMV ranges from 50 percent in individuals 20 years to 29 years of age to 90 percent in individuals 70 years to 79 years of age, I was likely to receive a lung from a CMV positive donor, putting me at risk for an active infection.

There were also societal and ethical issues to consider. Given the scarcity of organ donors, was it right for me to have a lung transplant, and a less than 50 percent chance of surviving five years, or for a younger patient with a dependent family to receive the transplant and have a chance of prolonged survival? I wrestled with this question, but reasoned that I had been active and functioning well before the illness, and had unfinished work to complete. I also had an innate desire to stay alive.

To be certain that I was in sound physical condition, I had several studies, including hematology and metabolic profiles, cardiac catheterization, ultrasound of the carotid arteries and abdominal aorta, 24-hour monitoring for gastric reflux, colonoscopy, and physical strength tests. There proved to be no contraindication to my being a transplant candidate, so with the consent of my family, the approval of my physician and surgeon, and with an amalgam of despair, reservation, hope, and optimism, I was added to the transplant list. I began a required rehabilitation program to ensure that I was in optimal physical condition and could withstand the operation and possible perioperative complications.

By the middle of my second year from diagnosis I required intermittent supplemental oxygen and by the end of that year, I needed oxygen 24 hours a day; 30 liters a minute when I showered or walked to the breakfast table, and 50 liters a minute, straight from the wall source, when I walked slowly on the treadmill. The worsening of the disease, along with the waiting, brought on severe depression. I wasn’t at my lowest, but I was heading there and exploring a depth of despondency that was new to me.

As I entered the end stage of my disease, I had no appetite, had lost 40 pounds, had no exercise tolerance, and was totally dependent on my wife, who was burdened with pushing me around in a wheelchair. In my age group, the average waiting time from candidate listing to transplantation is 186 days. I was on the list for 210 days; this was partly due to my choosing to wait for a CMV negative donor. As the disease progressed and my condition worsened I waived this option.

The donor

As typically happens in organ donation, a tragic event at a remote site intersected with my deteriorating state. Early on a Sunday morning, one week after my 78th birthday, I received a call from the transplant coordinator telling me that lungs were available from a “high-risk” donor.

Ten percent of organ donors are considered high-risk because their lifestyle increases the likelihood that they will transmit hepatitis B, hepatitis C, HIV, or other...
infectious agents. Care is taken in screening donors to minimize the chance of such an occurrence, and the medical center where I was treated had had no case of such disease transmission in a transplant patient. The lungs were in excellent condition and, surprisingly, the donor was CMV negative. I agreed to accept the lungs.

In some ways, organ transplantation is like a lottery. The transplanted lungs need to be the right size and in sound physiological condition, and the donor and recipient need to be ABO blood group compatible; otherwise, there are no exclusion criteria, although a favorable histocompatibility match between the donor and recipient, and other factors, currently unknown, influence how the transplanted organ will get along in its new host.

The transplant

At the hospital, I was in the preoperative area talking with the anesthesiologist while she put in an epidural block. She asked me if I could taste anything, concerned that the anesthetic might have entered my bloodstream. I said “no,” and then remembered nothing else until I awoke in the intensive care unit.

During seven hours in the operating room the pulmonary wreckage was removed and a new pair of lungs were masoned in. The operation was uneventful except that I was found to have pulmonary artery hypertension, which required cardiopulmonary bypass. The pulmonary artery pressures, normal at cardiac catheterization 12 months earlier, had increased, most likely because I failed to use supplemental oxygen judiciously during the early stage of the disease.

After surgery, I was in the recovery room for 24 hours, and then, harnessed to intravenous lines, catheters, and an assortment of monitors, I was moved to the step-down unit. The apprehension, anxiety, and depression present before the operation, began to melt when I awoke with pink mucous membranes, a heightened mental alertness, and an oxygen saturation of 99 percent on room air. After one day, I moved to the main hospital.

My recovery was uneventful, except for a brief period on the morning of the third postoperative day when I saw platoons of red ants marching on the ceiling. I pointed out this unusual drill formation to the nurse who was taking my blood pressure. She denied seeing the ants and explained that temporary hallucinations often occur in postoperative patients. As she predicted, the ants disbanded by late afternoon to bivouac elsewhere.

During the first few days, I walked progressively longer distances in the ward hallway, and on the fifth postoperative day I began walking on the treadmill. On the eighth postoperative day I went home, and within a week I was walking the sidewalks in the neighborhood.

Like most patients recovering from a life-threatening illness, I wanted to know something about my prognosis, but when I asked the pulmonologists and surgeons about this on postoperative visits, there was always a quick deflect. Given the unpredictable outcome of patients receiving a lung transplant, I understood their guarded responses and quit asking.

The donor’s family

Before discharge from the hospital I asked the transplant coordinator what she knew about my organ donor. She said, “All I can tell you is that your donor was a 26-year-old white male who was brain dead.”

While recuperating at home, thoughts of the donor replayed in my mind. What kind of person was he? How had he died? What influenced his family to declare him an organ donor?

Some donor families do not wish to hear from the recipient, feeling that such communication would sustain unbearable memories of their loss. Most families, however, appreciate hearing from the recipients or their families. One would expect an outpouring of gratitude from deathly ill patients who receive a life sustaining transplant; however, less than half of recipients write to thank the donor family for the gifted organ.

Wanting to contact my donor’s family, I followed the transplant center protocol and over several months exchanged anonymous letters with my donor’s mother. Once we were allowed to exchange contact information, I phoned her and told her how grateful I was to have received her son’s lungs, and be alive. I said that I would like to meet her, and thank her in person. She said that she would welcome my visit.

On a spring day, under a cloudy, bruised Missouri sky, I drove southwest to a rural community more than 300 miles from St. Louis. I arrived at the mother’s apartment complex before the scheduled time of our meeting and sat in my car going over what I was going to say to her. When I saw her step from her apartment onto the sidewalk, I got out of the car to introduce myself. My attempt to shake hands turned into a hug, as she cried softly and said how much she appreciated my coming. Within the first moments of our meeting, I sensed the permanency of her deep grief at losing her son.

Over coffee in her apartment, she told me that because her son was smaller than his grammar school classmates
he had been the target of jokes and ridicule. After the eighth grade, she home-schooled him, and he received a General Education Diploma. He began work as a dry wall contractor; however, it was a time in his life when he was vulnerable to the lure of an ominous attraction, and “He got in with the wrong crowd and began using drugs.” He was arrested twice and incarcerated in federal prison for producing, selling, and using methamphetamine. Upon release from his second imprisonment, he resumed his habit, and would have been homeless had not his mother, brother, and two sisters cared for him. He lived intermittently, and in rotation, with each sibling—an arrangement that one described as “living with a tornado.”

Shortly after moving in with his older sister, he became violent and drew a pistol. When she threatened to call the police, he walked into an adjacent room and shot himself in the right temple. He was transported to a trauma center where after failed resuscitation he was pronounced brain dead. His mother granted permission for him to be an organ donor, something that she had never discussed with him, but knew it was what he would have wanted. He was transported by helicopter to the Midwest Transplant Service where his organs were procured, and his lungs were sent to a hospital 15 minutes away—where I waited.

It is extremely difficult for a family, grieving the loss of a loved one, to be confronted with the decision of organ donation. The gifting of organs is one of the most delicate social transactions, which does not take place in an atmosphere of warmth and gaiety, such as that surrounding family members in their exchange of holiday gifts; rather it occurs under the most impersonal and stressful circumstances, where the donor and recipient are unknown to one another, and a surrogate acting on behalf of the donor makes the decision to gift the organs. Federal law prohibits payment to an organ donor’s family, recognizing the perverse incentive that might stimulate one family member to take the life of another for monetary gain. Such payment would also be an incentive for a poor individual to sell a paired organ to a wealthy recipient. The organ procurement center, the hospital, and medical personnel caring for the patient receive payment for their services, and it seems unfair that the donor’s family receives nothing, especially in cases where homicide can be excluded as a cause of death.

I had lunch with the mother and her other son, but her two daughters were not ready to meet me. I did meet them on a second visit, and the family and I had a pleasant lunch together, during which there was no mention of the deceased sibling, although, the fresh memory of his tragic ending permeated the atmosphere surrounding us. In the parking lot, after we left the restaurant, the younger sister showed me a commemorative tattoo occupying most of her right arm. She had planned to have her deceased brother’s ashes blended into the ink for the tattoo, but ultimately decided not to do so. The children had stable and productive lives, and were close to, and protective of, their mother.

On a third trip, I visited the mother’s new home, situated in a copse of hardwoods adjacent to an expanse of farm land. Her deceased son’s remains were buried on the property, and she told me that every day she visited his grave and wept.

My gratitude to the donor family continues unabated. In more ways than one I have become part of them.

Epilogue

I write this near the fifth anniversary of my operation, and think back to the time before surgery, when I was told that if I had a lung transplant I would be exchanging one set of problems for another, as if the two sets were evenly balanced. For me, lung transplantation has been a resurrection. I am fully functional and back at work, yet ever mindful of the natural history of patients with lung transplants, especially those in my age group. I keep looking over my shoulder knowing that I am being stalked by the sinister triad of chronic graft rejection, malignancy, and vital organ damage from prolonged immunosuppression.

I am deeply grateful and appreciative for the donor and

Every day 22 patients die for lack of an available organ
Every 10 minutes someone is added to the transplant list
75,500 patients are awaiting an organ transplant
his family. I am also indebted to the many unfortunate patients who died during the early attempts at lung transplantation, and how their sacrifices led to the ultimate success of the procedure, due primarily to the creative work of surgeons at the University of Toronto. I am indebted to the doctors and nurses who cared for me. They went about their highly complex work with a default setting of competence and disarming ease that only comes from long hours of study, hard work, and repetitive technique refinement. I know and respect the primary surgeon and pulmonologist who cared for me. They have been in lung transplantation from the beginning, and I am alive because of their knowledge and expertise.

Throughout the ordeal, my wife and two daughters were ever present, especially during the postoperative period, when their care and concern helped to shorten my hospital stay and recovery.

Since my transplant, I have often thought about the brief time period from the conception of organ transplantation to its wide application as an established therapy. It is a miraculous story of advances in basic biology and immunology, drug development, surgical technique, critical care, and sensible government regulations. The five-year survival of patients receiving organ transplants for end-stage kidney, liver, or lung disease, is nearly ten times higher than the five-year survival of patients treated for end-stage cancer of the kidney, liver, or lung.

On the day that I write this, 75,513 listed patients are awaiting an organ transplant, yet year-to-date only 23,091 patients have received a transplant from 10,869 organ donors. Every 10 minutes someone new is added to the transplant list, and every day 22 patients die for lack of an available organ.

Knowing that organ transplantation yields such high success rates, one can only wonder, where are all the organ donors? It is imperative that more citizens become organ donors if we are to save the lives of desperately ill patients awaiting a transplant. The success of the smoking cessation program in the U.S. saved thousands of lives, and is a case study in behavioral modification. We need a similar national program to increase the number of organ donors.

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Good enough medicine: Are we “averaging excellence out”? 

Kenneth Brigham, MD, and Michael M.E. Johns, MD

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Averaging excellence out? A 1996 editorial contemplated potential unanticipated consequences of where American medicine, swept along by gathering social momentum, seemed likely to wind up.¹ It was the principle described by Senator Daniel Patrick Moynihan as Defining Deviancy Down² that raised the question. The concern was whether the “...process by which, in accommodating new ideas and new behaviors, we sometimes lose track of norms and standards...”¹ was likely to sacrifice excellence on an altar of the good.

Medicine in the 1990s was in the middle of a fundamental transformation, fixated on increasing efficiency in the delivery of care. Care that had been provided was beginning to be managed. And, it was working. Doctors were seeing more patients in less time. Fewer expensive tests were being done. Analogies were drawn to what happened to manufacturing earlier in the century with the near universal adoption of the assembly line approach to producing
goods. The metrics were looking good, but what about quality? How good was the medical product?

One possible answer might have been good enough. Would that mean that health care was destined to be homogenized into something that just met the lowest acceptable standard with excellence (assuming excellence somehow continued to exist) only available to the elite and wealthy?

The essence of excellence in medicine is more than doing what we know to do well. It must include a commitment to discovering what will make the better possible, and a dedication to perpetuating the best of our profession. Those things take time.

Imbuing the rising generations

Excellence has been integral to the medical profession in this country at least since it found a solid footing in hard science. We sought to be in the avant-garde of discovery, generating the constantly evolving substance of available care. The broader collective not only shared that goal but were anxious to support it. There was a commitment to imbuing the rising generations of health professionals with the very best information and technical expertise. Many responded by embracing the challenge and the responsibility of careers in discovery and teaching.

There was time to ruminate on what we saw, to ponder questions big and small, to care about what we did and to whom we did it, and to relish those precious opportunities.

Discovery, teaching, and time. It takes all three to nurture excellence. Neither a doctor’s time per patient seen, nor the number and cost of ordered tests, measures excellence; they may not even measure real efficiency.

Operational efficiency

Operational efficiency as used in the business world is the ratio of output to input, but output isn’t just numbers of product or even revenue. Output includes things like customer loyalty, innovation, and quality. And operational excellence relates to continual improvement of the whole enterprise, not just efficiency. The fundamental transformation of American medicine that was happening in the 1990s threatened to define efficiency in the narrow context of the duration and nature of doctor-patient encounters. It would not be surprising if the efficiency numbers improved while excellence (that is, the outputs of discovery, teaching, and time) languished.

Some trends over the past two decades raise that possibility. Since 1985, a progressively smaller fraction of active medical doctors has been involved in research, teaching, or administration. The person-power necessary for sustaining a culture of research and education is shrinking.

Over that same period, the numbers of teachers/mentors per practicing graduate from American medical schools has decreased. Teaching requires teachers.

And, at the highest level, American predominance in medical discovery may be slipping. Discovery and teaching happen mostly in academic health centers. At their best, that is also where doctors have time to ponder what they are doing, time to think of ways they might be able to do it better, and time and resources to test novel interventions that have a chance to improve processes and outcomes.

If health care is a right, burdening us with a moral obligation to make it available to everybody, can we afford
the luxury of investing precious resources in an inherently unpredictable and inefficient search for new truths and the elaborate education of another generation of professionals? Dare we insulate a group of privileged doctors from waiting rooms teeming with people needing and deserving their care in order to give these privileged few time to ponder?

The answer is: do we consider good enough medicine good enough, or do we choose to sustain our commitment to excellence. In the modern era, medicine has never been a static discipline, and it is advancing faster, and with longer strides, than ever before. Good enough medicine in 1990 would not be good enough today, and what is good enough today won’t be good enough tomorrow. If we sacrifice investments in discovery, teaching, and time for short-term gains in “efficient” delivery of good enough care, we will destine our medicine to obsolescence. And it won’t take long to get there.

Excellence is the essential infrastructure of a sustainable good and infrastructure is a fragile beast that does not tolerate neglect for very long. For an enterprise that nurtures its infrastructure, prosperity endures.

Championing academic health centers

What will happen to America’s investment in excellence, medicine’s essential infrastructure, and, arguably, its most important output in the long run? If investment in research is any indication, we haven’t been doing so well recently. During the decade prior to 2004, biomedical research funding from all sources in America increased at an annual rate of 6.3 percent and the United States funded more than half of all biomedical research conducted throughout the world. Since 2004, the growth rate has decreased to 0.8 percent, and the U.S.’ share of the world’s research investment has decreased to 44 percent.6

Championing elite institutions is not currently a popular position, but American medicine is a special case. The U.S. has built a formidable medical enterprise that is founded on excellence and it depends on that excellence for its continuing viability. Excellence is the business of academic health centers and nurturing those institutions is not just gilding the ivory towers and coddling those sequestered there. If those academic health centers languish, we risk averaging excellence out of the equation, and sealing an ignominious fate for American medicine and for America.

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Modern family physicians describe themselves as specialists in people and interpersonal systems. General practitioners were the predecessors of family medicine—community-based physicians who went into practice without specialty training. Originally medical school and a brief internship was sufficient to practice medicine. Nowadays, a general practitioner can either refer to a trained family physician, especially internationally, or to these old-school doctors who saw and did so much with so little up front training to guide them.

Many of the forefathers (and they were nearly all men) of family medicine were general practitioners. The formation of family medicine from general practice was partially reactionary. There was not a clear definition of their domain in the face of an increasingly specialized medical world. The formation of the specialty was also introspective in that general practitioners came to realize that a year of hospital-based internship was inadequate to care for an ambulatory population. The problems that arise in a hospital often have little to do with the problems that present in a community.

Dr. Ian McWhinney was an English general practitioner who became a Canadian family physician, and spent his career defining and unifying the field. The writings and oral histories that he left prior to his death in 2012 describe the tremendous changes that he undertook and withstood, in family medicine.

McWhinney's general practice

McWhinney was born in 1926 to Scottish parents. His father was a general practitioner in Stratford-upon-Avon, and Ian joined his practice in 1954. He had finished medical school five years earlier, completed an internship that was a one-year residency, which was a novelty at the time. Following his internship, he then completed two years of military service.

McWhinney later reflected that being in practice in those early days was like “being thrown into the deep end.” Beginning his career in Stratford, McWhinney described a sense of clinical ennui, “I went through a period of restlessness and thought about leaving practice.”

McWhinney eventually acclimated to his new life and stayed on in his practice full-time for another nine years. However, a restlessness led him to question what his role as a physician was. “I didn’t have a concept of what it meant to be a family doctor...I remember searching for answers,” he said in an interview. This search for answers would frame McWhinney’s academic career.

McWhinney directed his search for definition within the exam room, focusing on trying to figure out how family doctors think. “I got interested, right from the beginning, in the thinking patterns in general practice,” he said.

Fifty years later, this seems less remarkable since excellent books have been published. Dr. Jerome Groopman’s (AΩA, Columbia University, 1976) How Doctors Think is a breakdown of the biases and heuristics that govern physicians actions in practice. Medical students are taught classes on medical decision-making and clinical judgment is a well-conceptualized idea.

Experts and textbooks

In the early 1960s, much of medicine was based on experience, which was based on compiled observation. Applying research to clinical practice was not yet widespread. Patients and doctors both believed that the doctor knew best. Patients relied on the doctor having read about or experienced a similar case in the past, and having the
insight to know and recognize patterns. In 1964, after having been in practice for 10 years, McWhinney published his first book, *The Early Signs of Illness: Observations in General Practice*. It was a first step in addressing the questions of what doctors do when they are in the room with the patient.

*The Early Signs of Illness* reads like a classic medical textbook. There is a chapter on cancer, one on abdominal pain, and one on cardiac disorders. However, it begins to show the features and philosophical thinking that set McWhinney apart from other general practitioners.

McWhinney had never been satisfied with the training
he received prior to entering practice. Therefore, he focused his text on the early signs of illness. He found stark differences between the pedagogical, hospital-based world, and the practical, community-based world. He further found that it was difficult to translate the medical knowledge and skill he learned through more medically progressed hospital cases to less medically progressed community cases. *The Early Signs of Illness* blends case-based observation with unifying approaches to general practice as a whole, not just pathophysiologically, but diagnostically and therapeutically. Like most family doctors, he approaches the diagnosis in terms of the dispensation of the patient.

The chapter on appendicitis begins not with epidemiologic data on the number of cases in the United Kingdom in the prior 10 years, or with the costs and burdens on society. Nor does McWhinney begin with a review of the history and physical exam findings of acute appendicitis. Instead, he opens the chapter with a philosophical accounting of the four possible outcomes when a physician sees a patient with a possible acute abdomen: “At the first examination, he must decide one of four things:

1. That the condition is harmless and the patient may be reassured.
2. That the findings are suspicious enough to make admission to hospital necessary.
3. That the diagnosis of ‘acute abdomen’ is in doubt and a period of observation at home is justified.
4. That he is in doubt about the significance of his finding and requires the advice of a surgical colleague.”

In his earliest work, McWhinney shows the bent toward higher-level principles, rather than strict biomedical ones, to explain how to treat a medical illness like appendicitis. First, he says, the doctor must decide if this is in fact appendicitis. Defining appendicitis (classically, fever, right lower quadrant pain, and an elevated white blood cell count) is straightforward, and admitting the patient and making a surgical referral is easy. McWhinney focuses on the hard parts of primary care: teasing out the non-appendicitis from the appendicitis cases, and knowing which patients need referral not only for treatment but for diagnosis as well. Much of family medicine happens in the “hard parts.”

*Early Signs of Illness* is also notable because it contains case examples from McWhinney’s practice. The chapter on appendicitis, for example, contains six case examples in just six pages of text.

In a 2001 editorial, McWhinney wrote about the importance of cases in writing and teaching:

“An actual case brings things alive for us in a way that aggregated data cannot do. We learn differently from individual cases. They stimulate the imagination, open up possibilities, provoke us, and perhaps disturb us. They fill in the gaps left by powerful generalisations.”

Patient-centered teaching and practice would persist throughout McWhinney’s career, and would go on to be a tenet he spread throughout his writings and teachings.

McWhinney attempted to answer the question “What do doctors do?” He explained that they see patients, observe patterns of signs and symptoms, make diagnoses, and offer treatments. But, that still felt inadequate to McWhinney. He was starting to think systematically, outside the exam room. General practice was the foundation not only of his work, but of the entire National Health Service he was working in.

He continued to think about what made a general practitioner, considering the essential components and work of the family doctor. “General practice was still thought of in those days as what you did if you didn’t specialize—the rest of medicine,” McWhinney noted later in life. It was not thought of as a specialty, let alone an academic pursuit unto itself.

This presented a problem for McWhinney, who was hoping to define the first principles and fundamental features of the pursuit. He saw general practice as its own enterprise, a thing to be taught and learned. He knew
from his own training and practice that general practice required skill and art, which needed thoughtful education to develop. McWhinney found that his training had little overlap with his life in practice, either practically or philosophically. He learned that the creation of a new family doctor from an undifferentiated medical student required a certain amount of understanding about what the specialty meant. However, defining the specialty—let alone codifying its training—had not occurred.

**Identity crisis in general practice**

In the early 1960s, family medicine was undergoing a crisis of identity. This crisis lagged McWhinney’s personal identity crisis by 10 years, but it was similar in nature: why not see a specialist in children as a child and a specialist in adults as an adult, heart doctor for heart problems, and a pregnancy doctor for pregnancy? General practitioners in both the U.S. and the UK could enter practice by graduating from medical school and hanging out a shingle. “This may be good in that it promotes lousy individualism,” McWhinney and colleagues wrote in 1961, “but it is bad in that it fosters professional isolation which can cover low standards of work.”

North American primary care was facing the same problems of standardization and training McWhinney was facing as a general practitioner in Stratford. There was debate over how to transition from the general practitioner model—four years of medical school plus one year of general internship—to the family medicine model—four years of medical school plus three years of specialty residency training.

Medicare and Medicaid were being developed in their current iterations. There was significant interest in the developing workforce, and concern that it might not be enough to support the future needs of the country. In 1964, the percentage of U.S. medical school graduates going into general practice fell to 19 percent, down from 47 percent in 1900, and family doctors in the U.S. noted the decline with alarm. In 2016, the latest numbers available, 8.7 percent of U.S. medical school graduates entered family medicine. If a workforce could be recruited, what—and how—should they be taught?

**North American fellowship**

McWhinney expanded his focus to be outside the exam room, and outside of the UK. In 1963, he obtained a grant and set off for the U.S. and Canada. He asked questions and carefully observed as he traveled, assembling patterns and gathering data. He focused on philosophies of training programs and the relationships among communities, hospitals, and family doctors.

McWhinney spent eight weeks at Harvard and Stanford (neither of which then had, nor has yet developed, a Department of Family Medicine), and the University of Chicago, which started their Department of Family Medicine in 2002. In the 1960s, these were places with robust interest in general practice, but their focus in general medicine became internal medicine-driven departments of primary care.

McWhinney met with faculty and observed the work and training of general practitioners. He met with leaders at the Academy of General Practice in Kansas City, (now the American Academy of Family Physicians). He also visited places that have gone on to be powerhouses of family medicine training, practice, and research, like the University of North Carolina.

McWhinney returned to England with notebooks of observations, and began to write. He published a summary of his observations in the *Early Signs of Illness*. These articles lay out the philosophy for the future of the new specialty, and describe how to train its practitioners.

The keys to excellent generalists, McWhinney determined, included intellectually rigorous training, research, knowledge, and a “unique field of action.” These articles are now considered seminal works of family medicine. The articles describe the fundamentals of family medicine, and how it is different than other specialties through the relationships with patients, the study of human interpersonal dynamics, and the interest in social determinants of health. The articles lay out the first paths of a formal training program for family medicine.

Though general practice and early family medicine training programs already existed, these articles served to coalesce—in a way that is still true today—the underlying, unifying themes of family medicine as its own specialty.

**Codifying the principles and particulars**

By 1969, early family medicine leaders had formed the American Board of Family Medicine, with the goal of standardizing and supporting family medicine training and practice. The potential problems with general practice were clear—lack of training, lack of standards, lack of quality.

The formation of the Board alone wouldn’t solve all the problems. It needed to create standards and definitions along with philosophies, values, principles, and requirements for training and board certification. Family medicine needed to crystallize its academic place in medical school and postgraduate training.
McWhinney was invited to lead this change at the University of Western Ontario, as its Chair of the Department of Family Medicine. He moved to Canada in 1968, where he stayed until 1987. McWhinney set up the department based on his original theories from his *Lancet* articles, emphasizing contact, comprehensive, continuing care. Articles, essays, and editorials about what it was really like to work in the department in the early days are lacking. Based on results and outcomes, though, it was extraordinarily successful. McWhinney grew the department to include a Center for Research in Family Medicine, a residency training program for family physicians, and a clinical department that includes five clinical sites.

McWhinney is revered as the father of family medicine and physicians he trained are known as leaders in academic family medicine.

In spite of the many successes, McWhinney notes that the administration was at times bewildered by his intentions and actions. The idea of teaching family medicine in family practices was revolutionary at a time when nearly all training was done in university-based academic medical centers. "It soon became clear that a lot of the faculty of the medical school...didn't really understand what we were driving at," he said. "The first basic principle was that family medicine can really only be learned in a family practice.... We, in the department, very soon came to a unanimous conclusion that a hospital was not the place to run a family practice."1

McWhinney drew distinctions between family medicine as a primarily community-based specialty and family medicine as a hospital-based outpatient clinic. This was one of his major pushes, and it also resonated with family physicians across North America.

Another revelation involved the teachers. "The second basic principle for the department was that family practice should be taught by family physicians...the actual teaching of family medicine had to come from people who had experienced it themselves.... General practitioners were being taught and trained by those who had never experienced general practice."1

Nowadays, this seems silly. Of course, family medicine faculty teach family medicine residents. However, this was a concept that had to be introduced, as the idea that family medicine was a cohesive specialty rather than a mosaic of organ systems was slowly removed. Since family physicians are not just an amalgam of specialists, they can't be effectively taught to do family medicine by specialists alone.

In the *Lancet* article "General Practice as an Academic Discipline," McWhinney crystallized his vision for training and for the future of the specialty. General practitioners should have formal, rigorous, standardized, and supervised training, and that training should reflect real general practitioner practice.9 Today, that is a given, but at the time it was novel.

**“Attending to particulars”**

McWhinney’s work provided enduring lessons. Acknowledging that doctors deliver medical care to patients in systems, McWhinney showed the need for good science, and patient-oriented practice. “The family doctor not only knows about the family— he knows them,” McWhinney wrote in 1975.10 McWhinney called this skill “attending to particulars.” His *Textbook of Family Medicine* describes the origins:

“In the preface to *The Varieties of Religious Experience*, William James wrote, ...a large acquaintance with the particulars often makes us wiser than the possession of abstract formulas, however deep.... A large part of medical knowledge is made up either of particulars or of generalizations at a low level of abstraction.”11

McWhinney called doctors to know and listen to patient stories—to attend to particulars—but also to be aware of overgeneralizations.

Stories are not histories and physicals. We have moved toward systems-based medicine. Family medicine takes place in the space between "56-year-old female with bereavement; ICD10=Z63.4," and "Mrs. Deval’s 24-year-old son died of a heroin overdose three months ago, and she presents with overwhelming sadness and daily crying." Story-based medicine is the origin of evidence-based medicine, since is it careful observation and reporting of cases that lead to observational studies and then, when important or applicable, randomized trials. These are both the skills of the family physician.

“Medicine always reflects the values of the society that it serves,” McWhinney wrote in 1975.10 Today, medicine has shifted toward being more corporatized, more systems-based, more outcome-driven medicine. This says something about our society. At the very least, it says something about the system that pays for our health care.

McWhinney did not leave us with a lot of advice for reconciling the stories patients need to tell—the things that we need to understand in order to care for them—with the things our society values—efficient, outcome-driven health care. But he did leave us with some very useful perspectives on coping with the changes.
Historical perspectives on modern problems

In 1975, McWhinney noted, "Medicine stands now at the end of an era: a vantage point from which the changes and their effects, both good and bad, can be surveyed." In 1967, he wrote "Pediatricians...are discontented. Their grievances [include]...long hours, inconsiderate parents, trivial complaints, unnecessary night calls." He could have written any of these things in the last six months, and been referring to just about any specialty.

McWhinney graduated from medical school in 1948, the same year that the National Health Service began in the UK. When he joined his first practice, the entire framework for medicine was brand new. The way that doctors got paid had changed, the ability to access a consultant or hospital, the lines of communication, and nearly everything else had evolved from plans to reality over the course of his years at Cambridge.

He moved to Ontario when Canada was working through the political processes to establish universal health insurance plans. He moved into an optimistic but deeply uncertain fiscal situation.

Practicing medicine has always felt unstable. We feel nostalgic about how things used to be, but even in the good old days, they weren't that certain. Medicine has always been changing, through evolving science and systems. Change isn't unique. We fall back on our values, on our philosophy, on our principles, during times of change, to remind us what needs to stay the same. For those practicing family medicine, Ian McWhinney laid those first principles of commitment to the person; the inseparability of the person and his/her environment; and the difference between information, knowledge, and wisdom—where information deals in facts, knowledge applies fact to context, and wisdom is the reflection of knowledge after experience.

These basics sustain us through periods of substantial change. As a specialty, we can choose to focus less on the environment, or less on interpersonal relationships. It’s McWhinney’s wisdom, and respect for his knowledge and experience that contributes to why, more than 40 years later, we still have the same basic principles. He was right about the things we seek as family doctors, and about the things our patients seek from us. It is the particulars of each patient and each relationship that make the diagnoses possible. We are trained to know the generalities and identify the particulars.

“Core values in a changing world”

In 1998, McWhinney wrote the first of a series of articles in the *BMJ* about the principles of primary care. In “Core Values in a Changing World,” McWhinney revisits and reframes the familiar themes of commitment to the patient through availability and continuity, community-based primary care, teamwork, professional freedom, and responsibility. He called on the value of tradition to support and guide medicine through tumultuous times.

Though written nearly 20 years ago, McWhinney’s messages are still applicable and practical today. While we still struggle with change, we still look to tradition to inspire us and guide our values.

References


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I remember the first time I held a baby. Actually, it was the first time I caught a baby in the newborn nursery. My whole life I had carefully avoided any chance to hold a newborn, terrified I would drop it. But I couldn’t exactly say no when my resident asked me if I wanted to scrub in. The fear in my eyes and reluctance to answer were probably obvious, but like every other time in third year I was hesitant to do something, I faked a smile and said, “Of course!”

As I stood in that operating room, I kept fidgeting with the blanket, wondering if I was holding it wrong. I kept shifting my footing, making sure that I wouldn’t trip on the cords tangled all around me. All I could think was “Don’t drop the baby. Don’t drop the baby.”
When I heard, “It’s going to be a big one,” my fear grew. And then, in a matter of seconds, I heard myself saying “peds behind,” and I caught that beautiful nine pound baby. In that second, my fears dissipated, and I brought the baby to the warmer.

We saw his big brown eyes staring at us as we looked for his red-reflex, and massaged his little bald head and fontanelles. He was just laying there, unable to talk, yet so full of life. I couldn’t help but be fascinated by the miracle of life, and how he was literally a bundle of joy in that sterile OR. Here he was, a hopeless creature, depending on us for his every need and survival. Yet, with an entire life ahead of him.

Two months later I found myself in a situation so different yet so similar. I walked into my patient’s room. Although he was only 60 years old, he had suffered a few strokes, and could barely communicate or take care of himself. He was severely underweight, and was being evaluated for failure to thrive.

As I looked at him for the first time, I saw his big brown eyes, just staring at me. They were so reminiscent of the baby’s I had caught two months earlier. But, this time, the big brown eyes were the face of death.

His bald head was nothing like baby’s soft and squishy fontanelles, but just another reminder of the cachectic man wasting away in front of me. He too was lying on his bed and unable to talk, but unlike the baby, he was void of life. I couldn’t help but feel anguish at the life wasting away in front of me. Here he was, another hopeless creature, depending on us for his every need and survival, yet with no life ahead of him.

As his hospital course progressed, he continued to deteriorate. His cough became almost unbearable.

I had to stand there and watch this man die. I watched his dignity vanish as our Attending continued to examine him, despite stool literally dripping down his leg. And even though we kept him NPO (nothing by mouth), he was fed applesauce and suffered from aspiration pneumonia.

I couldn’t stop thinking about how these two moments were so similar, yet so different. Both patients were so vulnerable, unable to care for themselves and so fully dependent on others. The baby’s big brown eyes reminded me of hope and optimism, while the other patient’s filled me with despair and anguish.

The baby was swaddled in cashmere and treated like a king, while the other patient laid in his feces-soiled sheets, without any dignity left. The baby was surrounded by a village, while the other patient was abandoned in isolation.

I realize how comfortable I am delivering good news. I know how to tell a dad he has a new baby boy, or offer to take a picture of him as he cuts the cord.

But, with the other patient, I felt almost as hopeless as he did. How was I supposed to tell him that he was almost dead?

Although I can’t say that I’m comfortable in dealing with death and dying, I can say that I’ve dealt with it. It’ll never be easy, but at least it will never again be my first time. I’ll remember the time and effort we put into contacting the brother, and how patient, calm, and compassionate my resident was as she broke the news.

I know to expect my grief to turn to anger, and to remind myself that medicine can fail. I know all I can do is listen, understand, and support.

I’m reminded of the dignity every patient deserves. The attention I devoted before catching the baby is the attention I should have devoted every morning I checked on the other patient. I would check on the baby twice a day, but would only spend a few minutes in the other patient’s room. He was alone, and helpless, and I didn’t know what to do or how to help.

I wish that I had just sat with him. We didn’t have to talk, and he didn’t have to be a learning opportunity. He deserved to have someone around, even if it was a stranger.

I always cringe at the thought of the Attending examining him. Why did we have to use him as a learning opportunity? I now think of the dignity and grace I owe each patient before I even read their chart or open their room door.

I regularly remember what a privilege it is to be in medicine. I have forgotten this in the past. As students, we witness and partake in the greatest and worst moments in people’s lives. We are the first to swaddle newborns. We tell dads how their 16-year-old son, newly diagnosed with Chronic Myelogenous Leukemia (CML), just has to take a pill. During the worst time we tell families that their brother is dying, and there isn’t time for them to say goodbye.

I have to remind myself of this great privilege every time the imperfections get the best of me. Whether I’m being ignored in a 10-hour colectomy, losing my hearing as babies scream during well-child check ups, or am getting up at 5 a.m. to pre-round, I have to remember how lucky I am that I get to care for patients from cradle to grave.

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Musings
Barry Wepman, MD (AΩA, Wayne State University, 1971)

Thirty-nine years ago when I entered practice, the
retiring doctor I joined put his arm around me and
said he had seen the best days of medicine, and
he felt sorry for my generation of physicians. I remember
thinking “what does he know?” Now, as I contemplate my
own retirement and take stock of my career, I find myself
echoing those exact sentiments! But then I realize that
no matter what “they” do to the structural practice of
medicine, no matter how many challenges we are forced
to accept, no matter how our livelihood is impacted, there
is one thing that can never be taken away. That, of course,
is the privilege and duty to touch another human being,
and to be touched in return. This, for me, is the essence
of being a physician and what helps me look forward to
tomorrow. I want the next generation to have the best days
of medicine as well.

From Burning Out to Burning Brightly
Richard Gunderman, MD, PhD (AΩA, University of
Chicago, 1992)

A radiologist closing in on retirement had lost his
enthusiasm for work. Escalating demands for
productivity left him feeling exhausted, and new
information technology rendered his connections with pa-
tients and referring health professionals increasingly tenu-
ous. He found himself questioning whether he was making
a real difference in the lives of his patients and colleagues.
This physician was burning out.

One day, he learned of a patient who suffered from ad-
vanced cancer. In her mid-50s, she had struggled to come
to grips with the realization that her disease would soon
overtake her. Yet there was one aspect of her cancer jour-
ney to which she could not reconcile herself. Her daughter
was pregnant, and she longed desperately to live long
enough to meet her first grandchild.

It became increasingly clear that she would not survive
to her grandchild’s delivery. Her disease was moving too
fast, and the only assurances were to keep her comfortable
and ensure that she would not die alone. An obstetrical ul-
trasound had shown that the fetus was a boy, and his par-
ents had named him Adam. She was genuinely anguished
that she would never lay eyes on Adam.

Learning of the patient’s plight set the burnt-out ra-
diologist thinking, and before long, a plan began to take
shape. At first, it seemed preposterous. It did not fit any
existing guideline for the appropriate use of imaging, and
would never fit into available coding and billing criteria.
Moreover, it would take a perfectly good piece of imaging
equipment out of service, prolonging wait times for other
patients.

Yet the radiologist was undaunted. After making ar-
rangements with the nurses and speaking with the ultra-
sound technologists, he unplugged one of the ultrasound
machines and wheeled it up to the patient’s room. Her
daughter was lying beside her mother in the hospital bed,
her protuberant belly uncovered.

The radiologist plugged in the machine, spread sono-
graphic gel on the daughter’s lower abdomen, and spent
the next hour introducing Adam to his grandmother. He
showed her all his parts—his 10 fingers and 10 toes, his
beating heart, and the features of his face, even catching a
fleeting smile. She could not hold or touch Adam, but she
could see him.

In one sense, the radiologist’s actions didn’t count for
anything. No order for the examination had been placed,
no report generated. The unmet need he responded to
corresponded to no ICD-10 classification, and there was
no CPT code by which to give credit for it. The medical
record contained no evidence—no images, no report, and
no explanation for why an ultrasound machine had been
taken out of service for 90 minutes. Some might question
whether the event really took place.

In another sense, the radiologist’s actions counted for
everything—for the patient, her family, the other health
professionals caring for her, and perhaps someday even
for Adam. It counted for the radiologist, too. His outlook
on work and life began to change. He began to look past
productivity and revenue to the hearts of his patients. He
rediscovered the human story behind the image, and sa-
vored the opportunity for service.

His inner flame began to burn a bit more brightly. The
burden of exhaustion, isolation, and meaninglessness that
had been weighing him down lifted, and he became a
reliable source of light and warmth for patients and col-
leagues. He ceased dreading his days at work, and began
embracing them as chances to contribute.
Medical student turned patient

Kush S. Patel, MD

Illustration by Erica Aitken
It was the end of February and I had just taken the most important exam of my life, the STEP 1 Boards. I was finally about to begin my third year of medical school. Like most students who had been confined to the pages of a textbook for two years, I eagerly, and nervously, anticipated walking in and out of hospital rooms multiple times each day. What I did not foresee, however, was doing so as a patient. For a period of 10 weeks during my clinical rotations, I was not myself, battling an unrelenting febrile illness that defied evaluation—a fever of unknown origin (FUO).

It all began one day near the end of my first month on surgery when a temperature of 39°C hit me. I felt completely fine the previous day, and the next I was lying in bed reviewing my own differential. The last thing I wanted to do was jeopardize the health of those around me, so I notified my team’s upper-level resident. As I had expected, he recommended staying home a day or two. In doing so, I was already beginning to feel a sense of weakness—physical from my illness, and emotional in letting my team and my patients down.

Unfortunately, a day or two was not enough, and my symptoms worsened over the ensuing weeks. Daily temperature spikes were accompanied by severe myalgias, appetite loss, and overwhelming fatigue. I was more and more drained, to the point where simply walking became painful. Although staying at home and resting would have been in my best interest, I chose to go back to work after only two days since I did not want to appear to be a person who couldn’t handle a minor illness.

Balancing my ongoing illness with the responsibility I had to my patients was difficult. I kept thinking back to my first week of medical school where the concept of patient first was instilled in us. As health care providers, we were to be impervious to external forces. Despite my body repeatedly telling me to give it a rest, my mind instructed me to soldier on.

For most, a worsening of symptoms would have been an indication to see the doctor; however I was reluctant to do so. I kept telling myself that this wasn’t a big deal, that it was probably just a prolonged viral infection, and that I didn’t really need to see a physician. After all, I was in medical school and should be in a better position to know when to actually see a doctor.

Several weeks passed, and I presented as a walk-in patient at the university student health clinic, hoping that I would be able to avoid attracting attention. After multiple visits without any answers or improvement, my workup ascended from the student health clinic to the university hospital, with input from infectious diseases, rheumatology, and hematology/oncology, and serial labs, scans, and biopsies. What previously was a preoccupation with appearing weak and unduly worried turned into a genuine concern for my health and well-being.

“In more than 10 percent of patients with FUO, we never come to a diagnosis,” I was repeatedly told.

Dr. Patel (AΩA, University of Virginia School of Medicine, 2017) is a recent graduate of the University of Virginia in Charlottesville, VA. He is currently a resident physician in Internal Medicine at Brigham and Women’s Hospital in Boston, MA.
I knew that the list of possible etiologies for FUO was vast, ranging from infectious to inflammatory to neoplastic. I spent countless nights mulling over the details of my case. When I wasn’t resting, I was on PubMed combing through the literature. What I found was unsettling. What if this was a developing lymphoma, or an autoimmune disorder? I began to frantically palpate every lymph node I could possibly reach, but felt no enlargement.

My symptoms continued to progressively worsen. Daily headaches became the norm, and assisting in the operating room felt like running a marathon. Making it through the night was no easy task either—for the first time in my life, I understood the true meaning of night sweats. The idea of lymphoma quickly soared to the top of my differential, and my greatest fear started to become tangible. An extensive and ongoing workup remained frustratingly (though reassuringly) negative.

On Memorial Day, I returned to my hometown, hoping that a change in scenery and family support would facilitate recovery. Quickly, I found myself in the emergency department (ED)—this time with a fever of 40°C. I wondered, at what point would I set aside my educational responsibilities to take care of my own needs, as a person and patient? I sought a consult on my own, this time to a trusted faculty member.

“"In order to take care of patients, you must first take care of yourself," she said. I recall having heard this expression before, though I believe it took an outside voice to let the message sink in—I was being too hard on myself.

I returned to campus a few days later in anticipation of an upcoming clinic appointment. After two months, I was worn out and near my breaking point. I went to sleep that night as usual, anticipating the onset of the now routine night sweats.

“You woke up abruptly and sprung out of bed, only to make your way down to the floor. You then started crawling on the floor, complaining of an unbearable, excruciating headache. Your words were incoherent and you were totally out of it. It was terrifying,” explained my significant other.

Rather than head back to the ED, an unpleasant experience in the best of circumstances, I presented to my scheduled clinic appointment the following day. After a thorough HPI and ROS update, the combination of fever, severe headache, and recent altered mental status (emphasized by my significant other who had accompanied me) prompted my physician to suggest hospital admission, which I gratefully accepted.

My three day stay in the hospital afforded no shortage of lessons. I quickly learned how difficult it was to get sleep at night; empathized with patients uneasy about lying in an MRI scanner; and lived, rather than learned, the steps of a lumbar puncture.

I realized that over the last several weeks, what I craved was not concrete answers to this medical mystery, but rather, caring physicians who had my best interests in mind, and would serve as my advocates. It was these individuals, with their concerned demeanor, who kept me going.

By the middle of June, I had undergone more diagnostic testing than I care to remember. I again presented to clinic, this time for a routine hospital follow-up. I anxiously awaited the final word on my diagnosis. “Pathology showed a necrotizing lymphadenitis,” my doctor reported.

I never could have imagined that those words would bring me so much relief. I was reassured that I did not have lymphoma. What I had was Kikuchi disease, a rare condition for which the etiology and pathogenesis remain unclear, and treatment is empiric at best. For once, my literature search was encouraging: the disease was completely benign and the prognosis, for the most part, excellent.

Exactly 10 weeks after the onset of my initial fever, I was back on the wards, this time looking forward to delivering my first baby.

Though my time battling Kikuchi disease was not the setback I had feared, experiencing the vulnerability that defines being a patient was transformative. After having spent countless hours learning the pathophysiology and clinical presentation of various diseases, I became the very patient about whom I had been reading. As health care providers, we may not always have the opportunity to step into the shoes of our patients, but the perspective it provided me was truly invaluable.

In just a few months, I learned how arbitrary and capricious our health can be, despite practicing the best preventive health behaviors. I witnessed firsthand how the paradigms of current medical training can act as unspoken but powerful barriers to appropriate self-care. And, as a future health care professional, I came to realize that the greatest strength of physicians, as perceived by patients, may actually be their compassion rather than their knowledge or technical skills.

I hope to one day apply these lessons to my own practice in order to be a more complete and well-rounded physician.

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One hundred years ago, the 1918 influenza pandemic magnified the horrors of World War I, and changed the practice of epidemiology, public health, and human history. It struck the world at a time of mass population movement, changing cultures, and almost no understanding of virology. The bacterium \textit{Hemophilus influenzae}, whose name still confuses students, was originally thought to be the cause, since scientists could culture bacteria but not viruses.

Historians, epidemiologists and virologists are still researching the epidemic's causes and effects. Even the total number of dead—more than 50 million—is still under debate.

Spinney, a British science journalist, looks beyond the predominant focus on Europe and North America, surveying the 1918 Spanish flu's impact on Brazil, Persia, China, India, and elsewhere. She explores how the response to epidemics depends not only on the state of scientific knowledge, but on geography, politics, medical fads, popular understanding of contagion, level of trust in government, money, tradition, and prejudice.

Although \textit{Pale Rider} is intended more as multinational cultural history than as a medical text, it includes updates to previous medically focused summaries. Flu researchers are melding information from epidemiology, molecular virology, and immunology to understand 1918's perfect storm. Spinney briefly but clearly explains some of Dr. Jeffrey Taubenberger's (AΩA, Virginia Commonwealth University, 2000), and others' research on the now-sequenced virus and its unique effects.

Spinney describes the standard of living and state of medical capacity in various countries, drawing a picture of life in 1918 around the world. The pandemic spurred many nations to begin creating modern health care and public health systems. The writing turns more speculative on the flu's effect on political events (Woodrow Wilson's peace negotiations, and the independence movement in India), on culture (loss of traditions in decimated Alaskan villages and Pacific islands), and on art and literature.

The author abstracts lessons for future pandemics, illustrating the need for transparent public health infrastructure:

"[T]rust is not something that can be build up quickly. If it is not in place when a pandemic declares itself, then however good the information being circulated, it probably won’t be heeded."\textsuperscript{p283}

Media has changed in form, but an informed populace will be critical to epidemic management:

"Newspapers were the main means of communicating with the public in 1918, and they played a critical role in shaping compliance [with public health measures]—or the failure of it…and different newspapers expressed different opinions, sowing confusion."\textsuperscript{p102}

Spinney’s narrative skips around and is sometimes superficial—perhaps unavoidable in surveying disparate parts of the globe. References could have been more complete, for readers to explore in greater depth, and to clarify which conjectures are her own or others’ and how well they are substantiated. She often conflates attack rate and fatality rate, making comparisons between populations difficult. At the time, numerical documentation was sparse outside Europe and the U.S., so her regional vignettes are most valuable as cultural histories of public health rather than improvements to the tally of global fatalities.

For medical personnel, more detailed descriptions of the clinical carnage and unfolding virology are found in books such as Gina Kolata’s \textit{Flu: The Story Of The Great Influenza Pandemic of 1918 and the Search for the Virus that Caused It} (2001); Alfred Crosby’s \textit{America's Forgotten Pandemic: The Influenza of 1918} (2003); John Barry's \textit{The Great Influenza: The Story of the Deadliest Pandemic in History} (2005).

For historians, epidemiologists, and anyone with an interest in the effects of disease on populations, Spinney’s emphasis on the pandemic outside the U.S. and Europe will spark curiosity for more in-depth investigations. As
Spinney cites, the National Academy of Medicine estimates a 20 percent chance of four or more pandemics in the next 100 years; we will need everything we can learn from the past.

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The Swerve: How the World Became Modern
Stephen Greenblatt
W. W. Norton & Company; September 26, 2011; 356 pages
Reviewed by David A. Bennahum, MD (AΩA, University of New Mexico, 1984)

Physicians with an interest in science and history will find the Pulitzer Prize winning book, Swerve, by Stephen Greenblatt, who previously published, among other books, Will in the World: How Shakespeare Became Shakespeare. In Swerve, Greenblatt tells the story of the discovery, in the winter of 1417, by the Vatican Scribe, Poggio Bracciolini, of the lost Latin manuscript of De rerum natura or On The Nature of Things by the first century BCE Roman poet Lucretius.1 The hunt, encouraged by the 14th century humanist, Petrarch, for the lost books of the classical world of Greece and Rome, had an extraordinary influence on European thought, stimulating the coming of the Renaissance, the scientific revolution, and the making of our modern world.

The first part of the book retells the difficulty of searching through obscure monastic libraries for lost texts. “Petrarch in the 1330s had pieced together Livy’s monumental History of Rome and [had found] copies of forgotten masterpieces by Cicero,” and others in monastery libraries.2 The hunt for the lost classics of the past was on.

As manuscripts became available, the new invention of movable type by Gutenberg in the mid-15th century would ensure widespread dissemination of both the rediscovered classics, new texts, and radical ideas of reformation.

The author tells the story of 15th and 16th century Italy and the Catholic church as it came under siege from reformist and Protestant movements. At the time there were three Popes who were called before the Council of Constance in 1416 where the cruel execution at the stake of the Czech reformer Jan Hus, and his acolyte Jerome, took place. Poggio’s master, Pope John XXIII, was imprisoned, another Pope died, and the third was installed as the sole leader of the church.

Without a job, Poggio was free to hunt for lost manuscripts in monastery libraries in northern Europe where he found Lucretius. Precisely in which monastery is not known. But once copied and eventually printed, the poem would have an extraordinary influence.

In trying to explain the influence of Lucretius on the Renaissance, Greenblatt writes extensively on the contrast between Christian theology and its emphasis on sin, suffering, faith, and an afterlife. As a contrast to the ideas of the poet and the Epicureans he writes:

On the Nature of Things is not an easy read. Totaling 7,400 lines, it is written in hexameters, the standard unrhymed six-beat in which Latin poets like Virgil and Ovid, imitating Homer’s Greek, cast their epic poetry.3

As a follower of the Greek philosopher Epicurus, Lucretius did not believe in life after death and that suffering takes priority over pleasure in order to ensure faith. The author discusses this contrast with Christian theology and shows how Epicurean beliefs became an anathema to early Christianity, which accused Epicureans of hedonism. In the poem one can listen to Lucretius’s distress at how belief in the gods led to the sacrifice of Iphigenia by her father Agamemnon in order to bring the winds that freed the Achaean fleet to sail for Troy.

Here is an example from a recent translation by A.E. Stallings of the first stanzas. You can hear and almost see the famous painting by Botticelli of Venus rising from the waves, a Renaissance painting influenced by Lucretius:

Life-stirring Venus, Mother of Aeneas and of Rome
Pleasure of men and gods, you make all things beneath
the dome
Of sliding constellations teem, you throng the fruitful
earth
And the ship-freighted sea—for every species comes to
birth
Conceived through you, and rises forth and gazes on the
light.
The winds flee from you, Goddess, your arrival puts to
flight
The clouds of heaven. For you the crafty earth contrives
sweet flowers,
For you, the oceans laugh, the skies grow peaceful after showers,
Awash with light.¹

In another example he writes of atomic theory, for the Epicureans believed that all substance was composed of indivisible atoms that were continuously constituted and reconstituted.

Nor can external blows slamming from every side maintain
The integrity of a world composed of atoms.

Greenblatt writes that while “it is possible to argue that despite his profession of religious belief, Lucretius was some sort of atheist, a particularly sly one, since to almost all believers of almost all religious faiths in almost all times it has seemed pointless to worship a god without the hope of appeasing divine wrath or acquiring divine protection and favor. Imagining that the gods actually care about the fate of humans or their ritual practices is, he observed, a particularly vulgar insult—as if divine beings depended for their happiness on our mumbled words or good behavior. The serious issue is that false beliefs and observances inevitably lead to human mischief.”¹

Greenblatt lucidly offers a brief list of what he calls the Lucretian challenge, “Everything is made of invisible particles that cannot be divided,” what he called seeds, we call atoms.

The elementary particles of matter—“the seeds of things”—are eternal. Time is infinite. “The Spanish-born Harvard philosopher George Santayana called this idea—the ceaseless mutation of forms composed of indestructible substances—the greatest thought that mankind has ever hit upon.”¹

The elementary particles are infinite in number but limited in shape and size, and like the letters of an alphabet, an idea that presages our understanding of the genetic code.

All particles are in motion in an infinite void. Space, like time, is unbounded. The universe has no creator or designer.

Everything comes into being as the result of a Swerve, “which Lucretius called variously declination, inclination—or clinamen—is only the most minimal of motions, nec plus quam minimum. But it is enough to set off a ceaseless chain of collisions. Whatever exists in the universe exists because of these random collisions of minute particles.”¹

There are so many ideas of this sort, including that the Swerve is the cause of free will. Nature ceaselessly experiments. The universe was not created for or about humans. Humans are not unique. Human society began not in a Golden Age of tranquility and plenty, but in a primitive battle for survival.¹

Swerve in describing the thoughts of Lucretius is filled with challenging ideas for the reader.

The rediscovery of Lucretius stimulated many artists, scholars, and scientists such as Leonardo da Vinci, Copernicus, Vesalius, Montaigne, Cervantes, Galileo, Harvey, Shakespeare, and Botticelli. Embracing Lucretius probably caused the death of Giordano Bruno, and perhaps the physician theologian Michael Servetius who described pulmonary circulation, but whose religious ideas seemed too radical for both the Catholic church and Calvin.

For Lucretius and the Epicureans:

…the highest goal of human life is the enhancement of pleasure and the reduction of pain. Life should be organized to serve the pursuit of happiness. There is no ethical purpose higher than facilitating this pursuit for oneself and one’s fellow creatures. All the other claims—the service of the state, the glorification of the gods or the ruler, the arduous pursuit of virtue through self-sacrifice—are secondary, misguided, or fraudulent. The militarism and the taste for violent sports that characterized his own culture seemed to Lucretius in the deepest sense perverse and unnatural. Man’s natural needs are simple. A failure to recognize the boundaries of these needs leads human beings to a vain and fruitless struggle for more and more.”¹

Greenblatt has written a most interesting and stimulating book finding in this two millennia old text, much that describes our world today.

References


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The success of the television drama, *House MD*, largely lies in the surly and outlandish antics of its titular character, the Vicodin-addicted physician, Gregory House. The show, ran for eight seasons, and still maintains a faithful fan base despite going off the air six years ago.

House’s behavior, an acerbic combination of diagnostic acumen and arrogance, thrills audiences because he acts in ways we all wish we could.1,2 He embodies a maverick force who gives the finger to hospital bureaucracies, gleefully violates the Health Insurance Portability and Accountability Act, and nearly always saves his patients from certain death.

The show’s structure follows a predictable pattern: a patient presents with a rare disease or a baffling set of symptoms that other physicians find impossible to diagnose. House’s ability to solve the diagnostic riddle, seems to justify his bad behavior and absent bedside manner. Viewers can be certain of how each episode will end; what surprises them and keeps them coming back for more is never knowing what outlandish things House will do along the way.

One episode denies viewers these reassuring pleasures. “One Room, One Day” features Eve, a young woman who has been raped, and despite House’s stated disinterest in her case because he doesn’t find it scientifically challenging, insists that he be her doctor.

Stuck doing clinic duty, House meets Eve, who, along with a parade of other patients, believes she may have a sexually transmitted disease (STD). Of all the patients he sees that day, only Eve tests positive. When House tells her the results—she has chlamydia—Eve becomes emotional. As he hands her a prescription, she knocks it away, yelling, “Don’t touch me.” House, understanding immediately what has happened to Eve, says, “Oh, God.”

It is this scene of recognition that ties Eve to House. Asked why she wants him to be her doctor, she explains, “It’s like you hurt, too.”

The episode then turns away from its winning formula, becoming a study of House encouraging a patient to tell her story, in order to begin healing. Given that House prefers consulting test results over listening to patients—who he believes always lie—this task proves particularly challenging given that Eve wants House to disclose the source of his suffering before she will discuss the night she was raped. House, who never refutes her belief that he suffers from some hurt, eventually recounts a history of child abuse by his father, to which she replies, “I’d like to tell you what happened to me now.” Although the veracity of House’s disclosure is questionable, the value of sharing stories is not.

The episode’s title, references an observation Eve makes during an earlier conversation with House, who has told her she is pregnant as a result of the rape, and assumes she will want to terminate. She, at first, refuses this option, declaring a belief in the sacredness of life. Most of the remainder of the scene matches House’s cool logic with Eve’s religious convictions, until, in frustration, he asks why she insists on arguing a point neither one will agree on. “Because,” she says, “life is a series of rooms and who we get stuck in those rooms with adds up to what our lives are.”

Eve’s philosophy, like the episode’s departure from its formulaic structure, asks us to remember the essential place of storytelling in our relationships with others.

References

Dr. Blackie is Associate Professor of Health and Humanities in the department of Medical Education at the University of Illinois at Chicago. His e-mail address is blackie@uic.edu.
Letters to the Editor

Three generations of Alpha Omega Alpha membership in the Douglas Family

For the Alpha Omega Alpha Honor Medical Society, its key, the “manubrium sternum hominis;” its publication The Pharos; and its motto “Be Worthy to Serve the Suffering” are testimonials to medicine and the legacies of this unique medical community of practice. As a family, we have the distinct privilege and honor to have three generations of AΩA members.

Albert H. Douglas (Weill Cornell Medical College, 1929), Steven D. Douglas (Weill Cornell Medical College, 1962), and Anne G. Douglas (Raymond and Ruth Perelman School of Medicine at the University of Pennsylvania, 2017) have each had the opportunity to be a part of this prestigious organization.

In addition, preceding the founding of AΩA in 1902, Albert’s father, Samuel D. Douglas, received his medical degree from the New York Polyclinic Medical School and Hospital in 1887, and served as a Clinical Assistant in the Department of General Medicine at the Italian Hospital of the Polyclinic in New York City.

From 1929 to his death in 1974, Albert practiced cardiology. He was a member of the initial group of internists to be board certified in cardiovascular diseases. As captured in the Simon Dack (AΩA, New York Medical College, 1966, Alumni) lecture by Eugene Braunwald1 (AΩA, New York University, 1951), cardiology underwent great advances during Albert’s time. Advances such as Einthovan’s string galvanometer and Forssmann’s self-performance of cardiac catheterization (The Pharos, Summer 2016, “The key in the lock: Cardiac catheterization”) ushered in the modern era of cardiology as an independent subspecialty. Subsequently, coronary angiography and invasive cardiology emerged, which are now standard components of cardiac care. Albert directly contributed to the fields of echocardiography and the development of cardiac pacemakers and defibrillators.2

Other contemporaries of Albert made pharmacologic discoveries that led to the now commonplace calcium channel blockers for hypertension, as well as early work on the pharmalogic development of angiotensin converting enzyme inhibitors and statins.

In addition to sharing medicine with my father, I have had the opportunity to share the joys of the life sciences with my wife and daughters. Both of my daughters are training in unique specialties—Hope is a veterinary equine surgeon, and Anne is a neurology resident. My wife, Mary Anne Forciea (AΩA, Duke University School of Medicine, 1974), is a geriatrician conducting research on aging.

I direct laboratory-based studies, which range from basic, translational, to clinical research. Specifically, I investigate immune cell receptors and diseases with a major focus on cellular immunology, tachykinins, and neurokinin receptors and HIV/AIDS.3

As a family, we reflect together on these milestones that span nearly a century. We are humbled and motivated by the advances in medical science that for centuries have endeavored to alleviate human suffering. For example, in Albert’s time, diseases such as miliary tuberculosis or bacterial endocarditis were almost inevitably fatal, but now are curable, and have nearly been eradicated. In my professional lifetime, new challenges have emerged, including HIV/AIDS. Once universally feared and fatal, HIV is now treated with powerful antiviral and retroviral drugs, allowing it to become a chronic illness.

Looking forward to Anne’s medical era, we can anticipate advances in genomics, personalized medicine, and surgical engineering to continue to increase longevity and quality of life. In her field of neurology, the next decades hold the promise of advances in diagnosis and treatment of neurologic processes by investigating immunological privilege across the blood brain barrier; the potential for broad reclassification of central nervous system disease as defining details as determined at the molecular level; and the hope of finding treatments for devastating neurodegenerative processes through ongoing research.

In disease and in health, the human species, and human condition continually challenges us as not only physicians, life scientists, and scholars, but also as individuals and members of AΩA. We are fortunate that our family tree affords us a glimpse into medical history across three generations, the roots reminding us of what has preceded us and forming a firm foundation from which to move forward.

References


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Metrical Discord

Is this what we are feeling in medicine? Experiencing in medicine? Physicians and patients long for connection—human connection—a healing relationship. Yet, what is the metric for this? A meaningful metric.

Years ago, a colleague and I met with a mentor to query the possibilities of how to explore this conundrum. Initially, he politely listened, tried to engage, asked a few questions, and then, with a smile, blurted out, “No one cares.” “Excuse me?” was what we said, although our thought was, “huh?” “No ones cares,” he said again. His smile was not strained and accompanied by a sigh of concerned disappointment, but rather, signaled a trivializing wave of the hand. My colleague and I made eye contact and graciously exited the conversation. No further energy needed to be expended there. We knew we all should care.

But this continues to be the challenge. I often hear colleagues bemoan, “They don’t care; “ “they” being “the powers that be.” We are in a caring profession, but “they don’t care.”

Kathi Kemper reminds us that our patients do the healing, it is their bodies that heal.¹ As physicians, we endeavor to facilitate healing, and to do this well, we must be grounded and centered—we must be whole in order to be at our best to help others heal.

Yet, more than 50 percent of us are “burned out.”² Our institutions are increasingly corporatized, demanding metrics that can be measured—regardless of meaning. Something is awry with this arithmetic. The human unknown is not easily bounded and described by simple algebra.

What do we do with this metrical discord? Do we need counseling? Can we listen together? Hear together? Heal together? Through kintsugi, the Japanese art of pottery repair, exquisite beauty and renewed purpose emerges from broken pieces. Imagine if we care to do this with medicine.

References


Jennifer M. Lawson, MD, MACS
AΩA, The Robert Larner, MD College of Medicine at the University of Vermont, 1990
Durham, NC

A new insight

The juxtaposition of two articles in the Spring 2018 issue of The Pharos—“The Sick Child,” by Don K. Nakayama, and “The living dead: Interactions between the living and the dead in clinical practice,” by Robert W. Putsch, III—brought about a new insight for me: stories are auditory images, and pictures (art) are visual images. And the two can be interchanged in our minds and patients’ minds. Talking about stories or thinking about and discussing pictures with patients can help to clarify and deal with grief, regret, anxiety, trauma, and the many other states of mind that sometimes plague them (and us).

Frank L. Myers, MD
AΩA, University of Iowa, 1957
Middleton, WI

Correction

In the Summer 2018 issue, the article “Gender and professionalism: Does it matter?” incorrectly identified Dr. Arjun Dayal. He graduated in 2017 from the University of Chicago Pritzker School of Medicine. We apologize for any confusion or inconvenience this may have caused.
National and Chapter News

**AΩA Board of Directors installs new officers and members**

At the conclusion of its 2018 annual meeting in October, the Alpha Omega Alpha Honor Medical Society Board of Directors installed its 2018 Executive Committee.

**President Alan Robinson, MD** (AΩA, University of Pittsburgh School of Medicine, Faculty, 1988), Distinguished Professor of Medicine, and Senior Associate Dean of the David Geffen School of Medicine at the University of California Los Angeles.

**President-Elect Sheryl Pfeil, MD** (AΩA, Ohio State University School of Medicine, 1984), Professor of Clinical Medicine; Medical Director, Clinical Skills Education and Assessment Center at The Ohio State University College of Medicine and Wexner Medical Center.

**Immediate Past President Eve Higginbotham, SM, MD** (AΩA, Morehouse School of Medicine, Faculty, 2008), Dean for Diversity and Inclusion, Perelman School of Medicine at the University of Pennsylvania.

**Secretary/Treasurer Wiley “Chip” Souba, Jr., MD, ScD, MBA** (AΩA, University of Texas McGovern Medical School, 1978), Emeritus Dean, Dartmouth Geisel School of Medicine.

The Board also welcomed three new members who replace members who have completed their terms of service on the Board.

**Lynn M. Cleary, MD** (AΩA, Ohio State University, 1978), Professor of Medicine and Distinguished Teaching Professor at the State University of New York; Vice President for Academic Affairs at Upstate Medical University in Syracuse, New York. Dr. Cleary is Councilor of the Upstate AΩA Chapter, serves on the Editorial Board of *The Pharos*, previously served as a Councilor Director on the AΩA Board and is Chair of the AΩA Councilor Task Force. She may serve three consecutive three-year terms as a Member At-large.

**Dagoberto Estevez-Ordonez, MD** (AΩA, Vanderbilt University, 2018), is a 2018 graduate of the Vanderbilt University School of Medicine. He is a resident in neurological surgery at the University of Alabama-Birmingham. He may serve a three-year term as a Student Director.

**Jill Omori, MD** (AΩA, University of Hawaii, 1995), is Associate Professor of Family Medicine and Community Health at the University of Hawaii John A. Burns School of Medicine; Director of the Office of Medical Education; and Director of the Hawaii H.O.M.E. (Homeless Outreach and Medical Education) Project. She is the Councilor for the University of Hawaii Chapter of AΩA. She may serve a three-year term as a Councilor Director.
The 2018 Alpha Omega Alpha Honor Medical Society Robert J. Glaser Distinguished Teacher awards were presented to four outstanding medical educators during the Association of American Medical Colleges’ awards dinner, November 4, in Austin, TX, as part of the AAMC’s annual meeting. The 2018 awards were presented to:

Robert G. Carroll, PhD
Associate Dean for Medical Student Education, Professor of Physiology, Brody School of Medicine at East Carolina University

Dr. Carroll brought a unique blend of pedagogy and research to his more than three decades at the Brody School of Medicine, where he has spearheaded major curricular enhancements, studied the effectiveness of those changes, and shared lessons learned with colleagues around the world.

As a professor of physiology and associate dean for medical student education, he led a preclinical curriculum revision in 2012. The reforms promoted more active and self-directed learning, including the introduction of a problem-based learning course, and collectively resulted in a significant increase in student performance on the United States Medical Licensing Examination Step 1. He also guided curricular enhancements in 2016 that accelerated the preclinical phase of training, altered testing structure, and enhanced integration around organ systems.

Underlying this work is his fundamental belief that education is a social contract between teacher and learner. “Courses flourish when the student-teacher relationship is reciprocal and includes ‘joint ownership’ of the course,” he wrote in a 2012 Advances in Physiology Education editorial.

Dr. Carroll is one of the founders of the International Association of Medical Science Educators and a contributor to the creation of the AAMC’s Core Entrustable Professional Activities for Entering Residency.

He has traveled to more than 20 countries in his efforts to improve medical education standards worldwide, presenting workshops on teaching, learning, and assessment in Sri Lanka, Grenada, Nigeria, Bangladesh, and Rwanda. “His journey from the classroom to the global community reflects his dedication to enhancing medical education,” notes Mark Stacy, MD (AΩA, University of Missouri-Columbia School of Medicine, 2016, Alumnus), dean of the Brody School of Medicine.

Dr. Carroll has numerous awards, including four Best Basic Science Instructor honors, and four Excellence in Teaching awards. His efforts helped Brody garner the prestigious ASPIRE-to-Excellence Award for social accountability in 2016.

Dr. Carroll graduated from the University of Notre Dame and earned his PhD in physiology from the College of Medicine and Dentistry of New Jersey-Newark. He completed postdoctoral training in physiology and biophysics at the University of Mississippi Medical Center.

Bennett Lorber, MD, MACP
(AΩA, Lewis Katz School of Medicine at Temple University, 1980, Faculty)

Thomas M. Durant Professor of Medicine, Professor of Microbiology and Immunology, Lewis Katz School of Medicine at Temple University

Over a 45-year career as an infectious diseases specialist and professional painter and musician, Bennett Lorber, MD, has used his deep love of art and the humanities to connect with patients and students in unique and creative ways.

Since joining the Lewis Katz School of Medicine at Temple University (LKSOM) faculty in 1973, Dr. Lorber has challenged
his students to develop well-honed observational skills. Considered an international authority on human listeriosis, Dr. Lorber encourages his students to see patients in their complete context. By incorporating art and music into his teaching, he not only expands his students’ clinical understanding in memorable ways, but also gives them permission to have interests outside of medicine that will help them stay balanced and become better doctors.

“His talents in music and art have provided an avenue in addition to medicine for him to connect with his students, and he is well-known at LKSOM for the highly effective rapport he establishes with them,” says LKSOM Dean Larry R. Kaiser, MD (AΩA, Tulane University, 1976).

Dr. Lorber has earned more than two dozen teaching awards, including Temple’s Golden Apple Teaching Award 13 times. He’s the only educator to have twice received the prestigious Russell and Pearl Moses Memorial Endowed Medical Award, conferred by LKSOM students for outstanding clinical teaching. On two occasions, the LKSOM yearbook was dedicated to Dr. Lorber. In 2013, he was recognized by the American College of Physicians with the Jane F. Desforges Distinguished Teacher Award. He was honored with lifetime achievement awards from both the Infectious Diseases Society of America and the Anaerobe Society of the Americas. In 1996, he received an honorary doctor of science degree from Swarthmore College.

Dr. Lorber graduated from Swarthmore College and earned his medical degree from the University of Pennsylvania. He completed his residency in internal medicine and a fellowship in infectious diseases at Temple University Hospital.

Gail Morrison, MD (AΩA, Raymond and Ruth Perelman School of Medicine at the University of Pennsylvania, 1970)

William Maul Measey President’s Distinguished Professor in Medical Education; Executive Director, Innovation Center for Online Medical Education; Raymond and Ruth Perelman School of Medicine at the University of Pennsylvania

Upon her appointment in 1995 as vice dean for education and director of academic programs at the Perelman School of Medicine at the University of Pennsylvania (PSOM), Dr. Morrison began a 20-year odyssey during which she would envision, build, and implement a medical school curriculum that transformed how students acquire knowledge, cultivate leadership skills, and develop clinical competencies.

Realizing that self-directed online learning was how future learners would keep pace with advances in medicine, Dr. Morrison enabled students to access much of the curriculum’s instructional content online at any time. Rather than attend compulsory live lectures, students focused on small group study, seminars that required information analysis and synthesis, and individualized elective experiences.

The result was the highly successful Curriculum 2000 (now called Learning for Life), which emphasizes integrated, cross-disciplinary learning with a focus on humanism—an approach that Dean J. Larry Jameson, MD, PhD (AΩA, University of North Carolina, 1981), calls “groundbreaking, unprecedented, and ahead of the times.” At the 2011 Aspen Ideas Festival, Dr. Morrison noted that the new curriculum reflects 21st-century medical practice as a model in which doctors “need to be continual learners.”

Dr. Morrison recently stepped down as the senior vice dean for education and director of academic programs. Her medical education work continues in her current capacity as executive director of the Innovation Center for Online Medical Education.

Dr. Morrison has received numerous accolades, including the University of Pennsylvania’s most prestigious educational award, the Lindback Award, in 1988. She has also received the Daniel C. Tosteson Award from the Carl J. Shapiro Institute for Education and Research at Harvard for her leadership in medical education. In 2018, she became only the fourth person to receive the PSOM’s Lifetime Achievement Award.

Dr. Morrison graduated from Boston University and earned her medical degree from the University of Pennsylvania. She completed her residency at Georgetown Hospital and served as staff associate for the director of the National Heart, Lung, and Blood Institute before returning to the University of Pennsylvania School of Medicine to complete a fellowship in nephrology.

Kyle E. Rarey, PhD
Professor, Department of Anatomy and Cell Biology and Department of Otolaryngology; Director, Center for Anatomical Sciences Education, University of Florida College of Medicine

Dr. Rarey grew up on a farm in Indiana and was the first person in his family to attend college.
“Dr. Rarey is a master at motivating students to strive for excellence in all their endeavors, often using stages of a triathlon to emphasize high expectations and the importance of pace and endurance—telling them to stroke, stroke, kick, kick to get around each buoy of life,” says Michael L. Good, MD (AΩA, University of Florida, 2009, Faculty), former dean of the University of Florida (UF) College of Medicine.

Between his effective motivational tactics and his readiness to adopt newer technologies, including the Sectra Table and 3D learning, Dr. Rarey has connected with thousands of students since arriving at UF in 1984. Students have consistently ranked him “outstanding” on teacher evaluations, hailing him as “an inspirational teacher who makes students love and appreciate the art of medicine through his contagious excitement for the material.”

Course director for clinical human anatomy at UF since 1991, and currently the director of the Center for Anatomical Sciences Education, Dr. Rarey has received 32 awards for excellence in teaching, including the annual UF College of Medicine Exemplary Teacher award, which he received from 2011 through 2014. He received the Golden Apple Teaching Award 11 times and the UF College of Medicine Teacher of the Year award five times. To recognize Dr. Rarey’s positive influence on students over his 49-year career, students from the class of 2020 established the Kyle E. Rarey, PhD, Award for Excellence in Anatomical Sciences in 2017. In March 2018, the Society of Teaching Scholars awarded Dr. Rarey its Lifetime Achievement Award.

He recently co-created three anatomy certificate programs and an MS-PhD program to meet the nation’s urgent need for anatomy teachers.

Dr. Rarey earned his PhD in anatomy from Indiana University. He completed a postdoctoral fellowship in inner ear microhomeostasis at the University of Michigan.

**A proud history of recognizing the nation’s best educators**

Dr. Robert J. Glaser (AΩA, Harvard Medical School, 1953, Alumnus), served as the AΩA Executive Director from 1985 to 1997, and was also extensively involved with the AAMC, of which he was Chairman from 1968 to 1969.

In the late 1980s, Glaser was working on developing a national teaching award to recognize medicine’s most deserving basic sciences and clinical educators. An educator himself, Glaser understood that medicine’s teachers are the greatest influences to develop the physicians of tomorrow. He knew that these amazing educators are often under-appreciated and unheralded.

Glaser went to then-President of the Association of American Medical Colleges, Dr. Robert G. Petersdorf (AΩA, Yale University School of Medicine, 1951), and presented his concept for this prestigious national award. Hence, the Alpha Omega Alpha Honor Medical Society Distinguished Teacher Award was developed. At the same time, it was decided to ensure that these outstanding educators would be honored and presented with their awards on a national stage at the annual AAMC meeting.

The first awards were presented to Doctors David C. Sabiston, Jr. (AΩA, Johns Hopkins University, 1947), and Robert L. Trelstad (AΩA, Harvard Medical School, 1966). Sabiston, a cardiologist at Duke University School of Medicine, pioneered the inclusion of laboratory researchers to work alongside surgeons to study nonsurgical factors that influence outcomes; helped desegregate Black and White patients being treated in medical clinics at Duke; and argued for a more active recruitment of members of minorities to the medical faculty. He also wrote and edited a preeminent reference work, *Sabiston’s Textbook of Surgery: The Biological Basis of Modern Surgical Practice*. Trelstad, from the Robert Wood Johnson Medical School, was a physician, academician, and national leader who focused his research on cell biology, developmental biology, and innovation in medical education. He was an early adopter of computers in the classroom, and as such was co-founder and editor-in-chief of Keyboard Publishing, Inc., one of the first ventures in the area of online publications. He was known for his work as a counselor and mentor to thousands of medical and pre-med students.
2017-2018 AΩA fellowship, grant and award recipients

Alpha Omega Alpha Honor Medical Society has 12 national fellowships, grants, and awards through which it provides nearly $2 million each year.

Following is a list of the 2017-2018 academic year recipients.

Administrative Recognition Award
Recognizes the invaluable work performed by Chapter administrative personnel. The seven recipients of the award are:
- Lori K. DeWillis, University of Texas Medical Branch at Galveston, School of Medicine
- Patricia Gooden, State University of New York Upstate Medical University
- Ashley Jarrell, University of Florida College of Medicine
- Leslie Lowe, University of South Florida College of Medicine
- Angie MacBryde, Washington University St. Louis, School of Medicine
- Suzanne Neff, University of Missouri-Columbia School of Medicine
- Gabrielle Redding, Medical University of South Carolina College of Medicine

Carolyn L. Kuckein Student Research Fellowship
Supports medical student research for clinical investigation, basic laboratory work, epidemiology, social science/health services, leadership, or professionalism. The 69 recipients of the 2018 fellowships are:
- Zachary Abecassis, Class of 2020, Northwestern University The Feinberg School of Medicine
  Dissecting GPe neurons from the Dbx1 lineage: Their effect on behavior and the pallidothalamic pathway
  Mentor: C. Savio Chan, PhD
  Councilor: Shilajit Kundu, MD (AΩA, University of Illinois, 2000)
- Jacob Adney, Class of 2020, Saint Louis University School of Medicine
  Smoking-induced changes in myocardial pigment epithelium-derived factor (PEDF): Implications for cardiovascular disease
  Mentor: Jane McHowat, PhD
  Councilor Matthew Broom, MD (AΩA, Saint Louis University, 2015)
- D. Patterson Allen, Class of 2021, Medical University of South Carolina College of Medicine
  The Impact of aCT1 nebulization on ischemia reperfusion injury in brain death donor lung transplantation
  Mentor: Satish Nadig, MD, PhD (AΩA, Medical University of South Carolina, 2014)
  Councilor: Christopher G. Pelic, MD (AΩA, University of Toledo, 2000)
- Neil Almeida, Class of 2021, George Washington University School of Medicine
  Development of mass cytometry probes to evaluate function & phenotype of T-cells reacting to a multi-epitope vaccine in glioma patients
  Mentor: Hideho Okada, MD, PhD
  Councilor: Alan G. Wasserman, MD (AΩA, MCP Hahnemann, 1972)
- Aria Attia, Class of 2020, Drexel University College of Medicine
  Osteogenic potential of MC3T3 E1 cells on mineralized nanofiber shish
  Mentor: Michele Marcolongo, PhD, PE
  Councilor: Kathleen Ryan, MD (AΩA, MCP Hahnemann, 1994)
- Joseph Azar, Class of 2021, American University of Beirut School of Medicine
  Identification of Salt Inducible Kinase 1 (SIK1)’s role in modulating human trophoblast differentiation using CRISPR/Cas9-mediated knockdown
  Mentor: Georges Daoud, PhD
  Councilor: Ibrahim S. Salti, MD, PhD (AΩA, American University of Beirut, 1962)
- Pegah Bakhshi, Class of 2021, Georgetown University School of Medicine
  Impact of HBO2 treatments on eustachian tube function
  Mentor: H. Jeffrey Kim, MD (AΩA, University of Cincinnati, 1990)
  Councilor: Sean A. Whelton, MD (AΩA, Georgetown University, 2014)
- Tabitha Banks, Class of 2022, Ohio State University College of Medicine
  The Effects of the Notch Ligand Jag1 on Vascular Reactivity and Homeostasis
  Mentor: Brenda Lilly, PhD
  Councilor: Sheryl Pfeil, MD (AΩA, Ohio State University, 1984)
- Ryan Bender, Class of 2021, State University of New York Downstate College of Medicine
  Toward a Vascular Flap: Cellular Multi-Culture for Generation of Perfusion-Viable Tissue-Engineered Networks within a Hydrogel Scaffold
  Mentor: Jason Spector, MD (AΩA, New York University, 1996)
  Councilor: Michael H. Augenbraun, MD (AΩA, State University of New York Downstate, 2009)

Neil Almeida, George Washington University School of Medicine, Class of 2021 receives his first check from Dr. Hideho Okada for the Carolyn L. Kuckein Student Research Fellowship.
Thinh Chau, Class of 2019, University of California Davis, School of Medicine
A Temporal Profile of Human Motor Endplate Degradation after Brachial Plexus Injury
Mentor: Oswald Steward, PhD
Councilor: Ranjan Gupta, MD (AΩA, Albany Medical College, 1992)

Justin Chan, Class of 2020, University of California, Irvine
Mentor: Ian F. Parney, MD, PhD (AΩA, University of Alberta, 1997)
Councilor: Jose Prince, MD (AΩA, Yale University School of Medicine, 2000)

Melissa Chua, Class of 2019, Boston University School of Medicine
Combining oncolytic virotherapy and immunotherapy for the treatment of glioblastoma
Mentor: Khalid Shah, MS, PhD
Councilor: David McAneny, MD (AΩA, Boston University School of Medicine, 2008)

Leah Cohen, Class of 2019, Florida International University
Detection of somatic cancer associated mutations in tampons of women with germline BRCA1 mutations
Mentor: Rebecca L. Toonkel, MD (AΩA, Johns Hopkins University, 2004)
Councilor: Simon Cheng, MD, PhD, and Peter Canoll, MD, PhD

Samuel Daly, Class of 2020, University of Minnesota Medical School
Detection of epileptogenic foci with combined transfer entropy and granger causality calculations of interictal electrocorticography recordings
Mentor: Michael C. Park, MD, PhD
Councilor: Charles Billington, MD (AΩA, University of Kansas, 1978)

Joshua Diamond, Class of 2019, University of Virginia
School of Medicine
Phase shift over subdural leads for localization of the epileptic source
Mentor: Kareem Zaghloul, MD, PhD
Councilor: Amber Inofuentes, MD (AΩA, University of Virginia, 2009)

Natasha Edman, Class of 2021, Case Western Reserve University
Genetic modification of GREM1 to improve the efficacy of cardiac stem/progenitor cell therapy
Mentor: Chuanxi Cai, PhD
Councilor: Peter Scacheri, PhD
Councilor: Jonathan M. Fanaroff, MD, JD (AΩA, Case Western Reserve, 1998)

Andrew Gabrielson, Class of 2019, Tulane University School of Medicine
Characterizing the inflammatory microenvironment of the prostate in hypogonadal men
Mentor: Wayne J.G. Hellstrom, MD (AΩA, Tulane University, 2013)
Councilor: Bernard M. Jaffe, MD (AΩA, New York University, 1963)

Cassandra Gross, Class of 2021, Hofstra Northwell School of Medicine
Clinical-pathological correlations between poor mobility and neuropathological burden in the brainstem
Mentor: Veronique VanderHorst, MD, PhD
Councilor: Jose Prince, MD (AΩA, Yale University School of Medicine, 2000)

Leo Hall, Class of 2020, Wayne State University School of Medicine
Alpha-7 nicotinic acetylcholine receptor-expressing bipolar cells play a role in motion detection
Mentor: Tomomi Ichinose, MD, PhD
Councilor: Michael T. White, MD (AΩA, Wayne State University, 1990)

Benjamin Hamel, Class of 2021, Medical College of Wisconsin
Verbal memory as outcome predictor in adults with cochlear implants
Mentor: Michael S. Harris, MD
Councilor: Michael R. Lund, MD (AΩA, University of Iowa, 1996)

Sakibul Huq, Class of 2020, Johns Hopkins University School of Medicine
Use of the FDA-approved anti-viral drug ribavirin as targeted therapy for nasopharyngeal carcinoma
Mentor: Henry Brem, MD (AΩA, Johns Hopkins University, 2010)
Councilor: Charles W. Flexner, MD (AΩA, Johns Hopkins University, 1982)

Diana Jeang, Class of 2020, Emory University School of Medicine
The impact of traditional health practitioners on HIV viral load monitoring in KwaZulu-Natal
Mentor: Vincent C. Marconi, MD
Councilor: Thomas C. Pearson, MD, DPhil (AΩA, Emory University, 2004)

Amit Jethanandani, Class of 2019, University of Tennessee Health Science Center College of Medicine
Predicting radiation-attributable changes in the temporomandibular joints of nasopharyngeal cancer patients
Mentor: Clifton D. Fuller, MD, PhD
Councilor: Susan C. Brewer, MD (AΩA, University of Tennessee, 1990)

J. Dixon Johns, Class of 2020, University of Alabama School of Medicine
Novel mucolytic disruption of an alginate biofilm infection model of CF respiratory disease
Mentor: Steven M. Rowe, MD, MSPH (AΩA, University of Alabama, 2017)
Councilor: Silvio H. Litovsky, MD (AΩA, University of Alabama, 2014)

Jaret Karnuta, Class of 2021, Case Western Reserve University
School of Medicine
The role of MEIS1 and intragenic enhancer elements in the development of osteosarcoma metastasis
Mentor: Petter Sccheri, PhD
Councilor: Jonathan M. Fanaroff, MD, JD (AΩA, Case Western Reserve, 1998)

Gurleen Kaur, Class of 2021, Albay Medical College
Genetic modification of GREM1 to improve the efficacy of cardiac stem/progenitor cell therapy
Mentor: Chuansai Cai, PhD
Councilor: Neil Lempert, MD (AΩA, Albany Medical College, 1978)

Rohan Khazanchi, Class of 2021, University of Nebraska College of Medicine
Diagnostic utility and timing of routine head ultrasound screening in preterm infants
Mentor: Eric Peeples, MD
Councilor: Jason Shiffermiller, MD (AΩA, University of Nebraska, 1998)

Connor Kinslow, Class of 2019, Columbia University College of Physicians and Surgeons
Targeting IDH1-Mutant Gliomas with Radiation Therapy and Glutamine Blockade
Mentors: Simon Cheng, MD, PhD, and Peter Canoll, MD, PhD
Councilor: Timothy C. Wang, MD (AΩA, Columbia University, 1983)
Nikolai Klebanov, Class of 2019, Tufts University School of Medicine
*Early B-cell factor (EBF3) is a novel tumor suppressor gene in cutaneous melanoma*
Mentor: Hensin Tsao, MD, PhD (AΩA, Columbia University, 1993)
Councilor: Amy L. Lee, MD (AΩA, Tufts University, 2002)

Joshua Kogan, Class of 2021, Stony Brook University School of Medicine
*Effect of sucrose exposure on sucrose perception and neural processing in mouse gustatory cortex*
Mentor: Alfredo Fontanini, MD, PhD
Councilor: Jack Fuhrer, MD (AΩA, Stony Brook University, 1997)

Jin (Vivian) Lee, Class of 2021, Washington University in St. Louis School of Medicine
*Role of heparan sulfate proteoglycans in cerebral amyloid angiopathy pathogenesis*
Mentor: Gregory Zipfel, MD (AΩA, Northwestern University, 1994)
Councilor: Morton E. Smith, MD (AΩA, University of Maryland, 1959)

Lawrence Lin, Class of 2019, University of Texas McGovern Medical School
*Validation and characterization of spectral domain optical coherence tomography as a non-invasive indicator of intracranial pressure in craniosynostosis*
Mentor: Jordan Swanson, MD, MSc
Councilor: Eugene Boisaubin, MD (AΩA, University of Missouri, 1970)

Wejie Violet Lin, Class of 2019, Baylor College of Medicine
*Longitudinal analysis of telerectal imaging: applying machine learning to identify predictive factors for retinopathy and treatment response*
Mentor: Christina Weng, MD, MBA (AΩA, University of Michigan, 2008)
Councilor: Daniel Chelius, MD (AΩA, Baylor College of Medicine, 2004)

Pashayar Lookian, Class of 2021, Creighton University School of Medicine
*Gender bias in DDX3X modulation of non-melanoma squamous cell carcinoma*
Mentors: Holly Stessman, PhD, and Laura Hansen, PhD
Councilor: Lee Morrow, MD (AΩA, Creighton University, 2009)

Daniel Mai, Class of 2021, Eastern Virginia Medical School
*Characterization of ETS in shear stress-mediated gene expression and recruitment of chromatin remodeling factors*
Mentor: Marlene Rabinovitch, MD
Councilor: Leonard Weireter, MD (AΩA, Eastern Virginia Medical School, 2002)

Matthew McMillan, Class of 2020, University of Michigan Medical School
*Targeting DNA repair pathways in homologous recombination-deficient pancreatic cancers*
Mentor: Meredith Morgan, PhD
Councilor: Sanjay Saint, MD, MPH (AΩA, University of California, Los Angeles, 1992)

Michael Murphy, Class of 2019, Loyola University Chicago Stritch School of Medicine
*Patient compliance of weight bearing status-prospective observational study*
Mentor: William D. Lack, MD
Councilor: Vikram C. Prabhu, MD (AΩA, Loyola University, 2009)

Arati Patel, Class of 2019, Keck School of Medicine of the University of Southern California
*Experimental chronic cerebral hypoperfusion results in increased blood-brain barrier permeability*
Mentor: William J. Mack, MD, MS (AΩA, Columbia University, 2001)
Councilor: Eric P. Hsieh, MD (AΩA, Keck School of Medicine of the University of Southern California, 2009)

Joseph Perosky, Class of 2020, Michigan State University College of Human Medicine
*Electronic recording and centralization of verbal autopsies for maternal and newborn deaths in Liberia via speech-to-text and geo-spatial mapping*
Mentor: Jody R. Lori, PhD, MS
Councilor: Gary Ferencich, MD (AΩA, Michigan State University, 1997)

Jessica Perry, Class of 2021, University of Massachusetts Medical School
*Effect of perfusion temperature on FAS-siRNA uptake by rat liver grafts*
Mentor: Paulo Martins, MD, PhD
Councilor: Terence R. Flotte, MD (AΩA, Louisiana State University, 1985)

William Plautz, Class of 2012, University of Pittsburgh School of Medicine
*Manifestation of ADAMTS13 deficiency following major trauma as a risk factor for acute thrombotic microangiopathy*
Mentor: Matthew D. Neal, MD (AΩA, University of Pittsburgh, 2006)
Councilor: Carl Fuhrman, MD (AΩA, University of Pittsburgh, 1978)

Karolina Plonoswska, Class of 2019, University of California, San Francisco School of Medicine
*Free flap reconstructive surgery: The patient and caregiver experience*
Mentor: Patrick K. Ha, MD (AΩA, Johns Hopkins University, 1999)
Councilor: Elizabeth Harleman, MD (AΩA, University of California, San Francisco, 2013)

Shelby Powers, Class of 2020, The Brody School of Medicine at East Carolina University
*Role of oxidative stress and fibrosis in female genitourinary dysfunction following pelvic radiation*
Mentor: Johanna L. Hannan, PhD
Councilor: Danielle S. Walsh, MD (AΩA, University of South Florida, 1994)

Frank Qian, Class of 2019, University of Chicago Pritzker School of Medicine
*Height, body mass index and ovarian cancer risk in carriers of BRCA1/BRCA2 mutations: A Mendelian randomization study*
Mentor: Dezheeng Hua, MD, PhD
Councilor: Adam Cifu, MD (AΩA, Weill Cornell Medical College, 1993)

Gabriel Redel-Traub, Class of 2020, New York University School of Medicine
*Pathologic cardiac remodeling in FHF2 deficient mice*
Mentor: Glenn I. Fishman, MD
Councilor: Linda Tewksbury, MD (AΩA, New York University, 1990)

Hannah Riskin-Jones, Class of 2020, University of California, Los Angeles David Geffen School of Medicine
*Diffusion tractography-guided deep brain stimulation for essential tremor*
Mentor: Nader Pouratian, MD, PhD
Councilor: Jessica Beth O’Connell, MD (AΩA, University of Texas McGovern Medical School, 2000)

Christopher Rodman, Class of 2021, Wake Forest School of Medicine
*Integrated single-cell and functional analyses of malignant cell subpopulations in glioblastoma*
Mentor: Mario L. Suva, MD, PhD
Councilor: Michael S. Cartwright, MD, MS (AΩA, Wake Forest, 2002)

Prasanth Romiyo, Class of 2020, Cooper Medical School of Rowan University
*NY-ESO-1 vault nanoparticles for the treatment of glioblastoma multiforme*
Mentor: Isaac Yang, MD (AΩA, University of California, Los Angeles, 2004)
Councilor: Michael E. Chansky, MD (AΩA, University of Rochester, 1980)
Arash Samadi, Class of 2020, Weill Cornell Medical College
Tissue engineering of human auricular scaffold using autologous auricular chondrocytes and 3D-printing
Mentor: Jason A. Spector, MD (ΩΩA, New York University, 1996)
Councilor: O. Wayne Isom, MD (ΩΩA, University of Texas Southwestern Medical Center at Dallas, 1965)

Alexa Semonche, Class of 2020, Rutgers Robert Wood Johnson Medical School
In vivo investigation of photodynamic therapy augmentation of laser interstitial thermal therapy's effect on the blood brain barrier
Mentor: Michael E. Ivan, MD, MBS
Councilor: Geza Kiss, MD (ΩΩA, Rutgers Robert Wood Johnson, 1994)

Farrah Shah, Class of 2020, Virginia Tech Carilion School of Medicine
Using PIK3CB and connexin-43 inhibition to sensitize primary glioblastoma cells to temozolomide
Mentor: Zhi Sheng, PhD
Councilor: Joshua T. Thornhill, MD (ΩΩA, University of South Carolina, 2015)

Adit Singhal, Class of 2020, Geisinger Commonwealth School of Medicine
Mapping glucocorticoid receptor variants with clinical outcomes of breast cancer patients in the Geisinger mycode electronic health record-linked biobank
Mentor: Jun Ling, PhD
Councilor: Gary Simonds, MD (ΩΩA, Rutgers Robert Wood Johnson, 1983)

William Shi, Class of 2021, Stanford University School of Medicine
Developing a novel next-generation sequencing method to detect cell-free tumor DNA in prostate cancer
Mentors: Maximilian Diehn, MD, PhD, and Jonathan Dudley, MD (ΩΩA, Stanford University, 2017)
Councilor: Suzann Pershing, MD, MS (ΩΩA, Medical University of South Carolina, 2005)

Eva Stein, Class of 2019, University of North Carolina at Chapel Hill School of Medicine
An evaluation of the prevalence and impact of body dysmorphic disorder in adult orofacial cleft patients
Mentor: J. Madison Clark, MD (ΩΩA, Wake Forest School of Medicine, 1995)
Councilor: Amelia Drake, MD (ΩΩA, University of North Carolina, 1996)

Marissa Suchyta, Class of 2021, University of Texas Medical Branch School of Medicine
Determination of the effectiveness of polyethylene glycol fusion in improving cross-face nerve grafting for facial reanimation
Mentor: Samir Mardini, MD
Councilor: Lisa R. Farmer, MD (ΩΩA, University of Texas Medical Branch, 2001)

Ross Tanis, Class of 2019, University of South Carolina School of Medicine
Skin remodeling in asymptomatic atopic dermatitis
Mentor: Carole Oskeritzian, PhD
Councilor: Joshua T. Thornhill, MD (ΩΩA, University of South Carolina, 2001)

Khiem Tran, Class of 2020, University of Arizona College of Medicine
The role of man1a1 in immune evasion during progression of melanoma
Mentor: Emanuel Mavarakis, MD (ΩΩA, University of California, Davis, 2012)
Councilor: Joseph S. Alpert, MD (ΩΩA, Harvard Medical School, 1969)

Eileen Wang, Class of 2021, Icahn School of Medicine at Mount Sinai
Racial/ethnic disparities in severe maternal morbidity and very low birth weight babies: A qualitative study on women's experiences of peripartum care
Mentor: Elizabeth Howell, MD, MPP (ΩΩA, Weill Cornell Medical College, 1997)
Councilor: Carrie Ernst, MD (ΩΩA, Weill Cornell Medical College, 2002)

Netsanet Woldegerima, Class of 2021, University of Maryland School of Medicine
Enhancing efficacy of cancer immunotherapy by inducing tumor antigen expression in melanoma
Mentor: Eduardo Davila, PhD
Councilors: Donna Parker, MD (ΩΩA, University of Maryland, 1999) and Zaine Makhzoumi, MD, MPH, (ΩΩA, University of Maryland), 2007)

WayAnne Watson, Class of 2020, Loma Linda University School of Medicine
Mechanism of biologic therapy to treat high-risk pediatric leukemia
Mentor: Kimberly J. Payne, PhD
Councilor: Daniel Wongworawat, MD (ΩΩA, Loma Linda University, 1996)

Elizabeth Wicks, Class of 2021, University of Mississippi School of Medicine
Immunomodulatory biological scaffolds to create a pro-regenerative environment in the eye
Mentor: Jennifer Elisseeff, PhD
Councilor: Scott M. Rodgers, MD (ΩΩA, Vanderbilt University, 1994)

Lulu Wong, Class of 2019, University of Miami Miller School of Medicine
Urine miRNA biomarkers for precision care of venous leg ulcers
Mentor: Marjana Tomic-Canic, PhD
Councilor: Alex J. Mechaber, MD (ΩΩA, George Washington University, 1998)

Therese Woodring, Class of 2019, University of Illinois at Chicago College of Medicine
Effects of sulfur dioxide flares on acute healthcare visits in an EPA-designated sulfur dioxide nonattainment area
Mentor: James F. Graumlich, MD
Councilor, Jessica Ryan Hanks, MD (ΩΩA, University of Illinois, 2002)

JaeWon Yang, Class of 2020, The Warren Alpert Medical School of Brown University
Curriculum for change: medical student editing to improve readability of health-related Wikipedia articles
Mentor: Paul George, MD, MHPE (ΩΩA, Alpert Medical School of Brown University, 2015)
Councilor: Allan Tunkel, MD, PhD (ΩΩA, Rutgers New Jersey Medical School, 1983)
Ruiyang Yi, Class of 2021, University of Hawaii John A. Burns School of Medicine
Bootstrap resampling in genetic association analysis of low-frequency variants
Mentor: Shelley B. Bull, PhD
Councilor: Jill Omori, MD (AΩA, University of Hawaii, 1995)

Frank Zhang, Class of 2021, Geisel School of Medicine at Dartmouth
Backpropagation applied to discriminative visual codebooks for lung nodule detection
Mentor: Saeed Hassanpour, PhD
Councilor: Nancy McNulty, MD (AΩA, Geisel School of Medicine at Dartmouth, 1994)

Edward D. Harris Professionalism Award
Recognizes a program in a medical school or other institution that represents best practices in medical professionalism. The 2018 recipient was:
McGill University Faculty of Medicine, Teaching Medicine as a Profession in the Service of Healing
Program leaders: Sylvia Cruess, MD, and Richard Cruess, MD

Fellow in Leadership Award
Provides mid-career physicians with an opportunity to continue to develop leadership skills and opportunities.
Jennifer Hagen, MD (AΩA, University of Nevada, Reno School of Medicine, 1998), Senior Associate Dean for Faculty, and Professor of Internal Medicine at the University of Nevada, Reno School of Medicine
Kausal Shah, MD (AΩA, Icahn School of Medicine at Mount Sinai, 2015), Vice Chair of Education, and Director of the Emergency Medicine Residency Program at Mount Sinai Hospital in New York City
Joseph Weistroffer, MD (AΩA, Uniformed Services University, 1992), Orthopaedic Surgery Residency Program Director at Western Michigan University Homer Stryker MD School of Medicine

Helen H. Glaser Student Essay Award
Encourages medical students to write creative narratives or scholarly essays relevant to medicine. Winners are published in the Autumn issue of The Pharos.
First Place—“Medicine's Uncompromising Champion of Racial Justice,” by Vidya Viswanathan, Class of 2019, Raymond and Ruth Perelman School of Medicine at the University of Pennsylvania
Second Place—“Hope in Hopeless Causes,” by Ethan Song, Class of 2021, Morsani College of Medicine University of South Florida
Third Place—“A Gift Undeserved,” by Jacob Abou-Hanna, Class of 2020, University of Michigan Medical School

Medical Student Service Leadership Project
Supports leadership development in medical students. The 2018 award recipients were:

Baylor College of Medicine—The Baylor College of Medicine Refugee Health Initiative: Leadership Development Through Service
Student leader: Geneva White (AΩA, Baylor College of Medicine, 2017)
Student members: Elizabeth Adams, Grace Gannon, Abigail Garbarino (AΩA, Baylor College of Medicine, 2017)
Mentor leaders: Daniel C. Chelius, MD (AΩA, Baylor College of Medicine, 2004), and Jill D’Souza, MD (AΩA, Northwestern University, 2017)
Mentors: Ellis Arjmand, MD, PhD, MMM, Ellen Friedman, MD (AΩA, Baylor College of Medicine, 2017), Larry Hollier, MD (AΩA, Tulane University, 1990), Jean Raphael, MD, MPH, Teri Turner, MD, MPH, MEd (AΩA, University of Oklahoma College of Medicine, 1989)
University of Chicago Pritzker School of Medicine—Building a Leadership Consortium Across Chicagoland Free Clinics
Student leaders: Stephanie Bi, Phillip Hsu, Annie Zhang
Student member: Lukas Matern (AΩA, University of Chicago, 2018)
Mentors: Karen E. Kim, MD (AΩA, University of Chicago, 2016), James Woodruff, MD, (AΩA, University of Chicago, 2016)
University of Michigan Medical School—Medical Educational Consulting Group (Med E.C.G.)
Student leader: David Portney
Student members: Matt Carey, Daniel Semaan, Taylor Standiford, Paige VonAchen
Mentors: Michael Englesbe, MD, (AΩA, Rutgers Robert Wood Johnson Medical School, 1997), David Fessell, MD, Katherine Klein, MD

Pharos Poetry Competition
Encourages medical students to write poetry. Winners are published in the Summer issue of The Pharos.
First Place—“Dissection Manual,” by Irtiqa Faili, Class of 2021, University of Tennessee Health Science Center College of Medicine
Second Place—“Anatomy of the Physician,” by Mark Rudolf, Class of 2021, University of Virginia School of Medicine
Third Place—“My Mother’s Hands,” by Gabrielle Espiritu, Class of 2020, Louisiana State University School of Medicine in New Orleans

Postgraduate Award
Supports residents or fellows in their pursuit of a research or scholarly project in the spirit of the AΩA mission. The eight recipients were:
Clinton Enos, MD, MS, Eastern Virginia Medical School
Investigating Geographic Trends in the Choice of Systemic Therapies for the Treatment of Moderate-to-Severe Psoriasis
Mentor: Abby Van Voorhees, MD
David Hermel, MD, Keck School of Medicine of the University of Southern California
The Role of the CXCL1/CXCR2 Signaling Pathway in Breast Cancer Dissemination
Mentors: Amir Goldkorn, MD, and Ed Crandall, PhD, MD
Burles Johnson, MD, PhD (AΩA, Medical College of Georgia at Augusta University, 2014), Johns Hopkins University School of Medicine
Targeting Indoleamine 2,3 Dioxygenase to Improve Anti-tumor Immunity
Mentor: Linda Smith-Resar, MD
Kimberly Kopecky, MD, Stanford University School of Medicine  
*Interactive Communication Curriculum for Surgical Residents*  
Mentor: Marc L. Melcher, MD, PhD (AΩΩA, Columbia University, 1999)

Edmund Lee, MD, Icahn School of Medicine at Mount Sinai  
*A Competency-based Accelerated Intern Preparatory Curriculum for Incoming Surgical Residents*  
Mentor: James Lau, MD

Christine Moore, DO (AΩΩA, East Tennessee State University James H. Quillen College of Medicine, 2018), East Tennessee State University James H. Quillen College of Medicine  
*Development of Metformin and γ-tocotrienol for Prostate Cancer Prevention*  
Mentor: Koyamangalath Krishnan, MD (AΩΩA, East Tennessee State University James H. Quillen College of Medicine, 2004)

Mikhail Szczupak, MD (AΩΩA, University of Miami Miller School of Medicine, 2015), University of Miami Miller School of Medicine  
*Fluorescein-Guided Detection of the Tumor-Nerve Interface in a Xenograft Model of Vestibular Schwannoma*  
Mentor: Christine Dinh, MD (AΩΩA, University of Miami Miller School of Medicine, 2008)

Jesse Xie, MD, University of Arkansas for Medical Sciences  
*Validation of Dual-Energy X-ray Absorptiometry and Phase Angle from Bioelectrical Impedance as Reliable Markers for Sarcopenia in Liver Transplant Candidates*  
Mentor: Andres Duarte-Rojo, MD

**Robert J. Glaser Distinguished Teacher Award**

Recognizes outstanding contributions to medical education by honoring inspired teaching of basic and clinical sciences. The four 2017 recipients were:

Lynn M. Cleary, MD, FACP (AΩΩA, Ohio State University, 1978), Professor of Medicine, State University of New York Upstate Medical University

John H. Coverdale, MBChB, MD, Med, FRAMZCP (AΩΩA, Baylor College of Medicine, 2010, Faculty), Professor, Psychiatry and Behavioral Sciences, and Medical Ethics, Baylor College of Medicine

Joseph P. Grande, MD, PhD, Professor, Laboratory Medicine and Pathology, Mayo Clinic School of Medicine

Richard C. Vari, PhD (AΩΩA, University of North Dakota School of Medicine and Health Sciences, 1999, Faculty), Professor and Senior Dean for Academic Affairs, Virginia Tech Carilion School of Medicine

**Visiting Professorship**

Medical schools with an active AΩΩA Chapter may host one visiting professor during each academic year. The 65 ΩΩA Visiting Professors,* their home institution, and title of their talk:

Amy Abernethy, MD, PhD (AΩΩA, Duke University School of Medicine, 1994), Flatiron Health, “Observations from the Interface of Medicine & Tech: Leading Through Influence and Inspiration”

David Adams, MD, FACS (AΩΩA, Medical University of South Carolina, 1991, Faculty), Medical University of South Carolina, “The Mythic March of Medical Progress: Revolution or Evolution?”

Jesse Aleman Ortiz, MD (AΩΩA, Ponce Health Sciences Center, 2008), Ponce Health Sciences Center, “End of Life Care”

Nancy Andrews, MD, PhD, Duke University, “Reflections on a Career in Medicine”

David Ansell, MD, MPH, Rush University, “The Death Gap: How Inequality Kills”

Ayobami Ward, Medical College of Georgia, Class of 2019, receives his first check for the Carolyn L. Kuckein Student Research Fellowship from Dr. Laura Carbone.

Tabitha Banks, The Ohio State University College of Medicine, Class of 2022, dissects an aorta. She is the recipient of a 2018 Carolyn L. Kuckein Student Research Fellowship.
Brian Appleby, MD, Case Western Reserve University School of Medicine, “Prion Disease”

Vineet Arora, MD, (AΩA, University of Chicago, 2009, Faculty) University of Chicago, “Using the FORCE to Teach Value in Academic Health Centers”

Mohammed Aziz-Sultan, MD (AΩA, George Washington University, 2018, Alumnus), Harvard Medical School, “Stroke Prevention”

Gust Bardy, MD, Director of the Seattle Institute for Cardiac Research, “Cardiac Resuscitation: State of the Art”

Timothy Brennan, MD, Icahn School of Medicine at Mt. Sinai, “Substance Abuse Disorders and the Impact on the Family and Society”


Robert Carpenter, MD, MPH (AΩA, Vanderbilt University, 2006, Resident), “Physician Wellness and Resiliency”

Gurpreet Dhillival, MD (AΩA, Northwestern University, 1998), University of California San Francisco, “Clinical Problem Solving” & “No One Cares How Much You Know”

Liselotte (Lotte) Dyrbøe, MD, MHPE (AΩA, University of Wisconsin School of Medicine, 1996), Mayo Clinic Medical School, “Becoming a Physician is an Occupational Hazard”

Norman Fost, MD, MPH, University of Wisconsin School of Medicine, “What Is Wrong with Genetic Engineering?”

Howard Francis, MD, MBA, FACS (AΩA, Johns Hopkins University, 2017, Faculty), Duke University School of Medicine, “Journey into Otolaryngology/Neurotology: Obstacles, Achievements and Work-Life Balance”

William Frishman, MD (AΩA, Albert Einstein College of Medicine, 1978, Faculty), New York Medical College, “The Quest for Excellence”

Thomas Gellhaus, MD (AΩA, University of South Dakota, 2018, Alumni), University of Iowa, “Words of Wisdom”

Benjamin Gilmer, MD, MS, University of North Carolina School of Medicine – Chapel Hill, “Reverence for Life: Finding compassion in medicine,” “Uncovering our perceptions: The Tale of two Dr. Gilmers,” and “Discovering a path of advocacy in medicine”

Atul Grover, MD, PhD (AΩA, George Washington University, 1995), Association of American Medical Colleges, Executive Vice President, “Is Academic Medicine Under Siege or Entering a Bright New Day?”

Richard Gunderman, MD, PhD (AΩA, University of Chicago, 1992), University of Indiana, “The Vital Role of Ethics in Medical Excellence”

MaCalus Hogan, MD, University of Pittsburgh, “Creating Value Beyond the Operating Room”

Larry Hollier, Jr. MD (AΩA, Tulane University, 1990), Baylor College of Medicine, “Leadership in Complex Times”

George Karam, MD (AΩA, Louisiana State University in New Orleans, 1977), Louisiana State University Health Baton Rouge, “Symbolic Challenges of the White Coat”

Murray Korc, MD (AΩA, Albany Medical College, 1973), Indiana University School of Medicine, “Obesity, Diabetes, and Chronic Pancreatitis: Connections to Pancreatic Cancer”

Deborah Kuhls, MD, FACS (AΩA, University of Nevada, Reno School of Medicine, 2014, Faculty), University of Nevada Las Vegas School of Medicine, “Preventing Suffering Caused by Injury and Disease: Reflections of a Trauma Surgeon”

Anna Lembke, MD, Stanford University School of Medicine, “The Opioid Epidemic: What Health Care Providers Can Do”

Kenneth Ludmerer, MD (AΩA, Washington University in St. Louis School of Medicine, 1986, Faculty), Washington University in St. Louis School of Medicine, “Reflections on Being a Doctor”

Thomas Mawhinney, PhD (AΩA, University of Missouri—Columbia, 2010, Faculty), University of Missouri

Emeran Mayer, MD, PhD, University of California Los Angeles, “The Emerging Science and Practice of Brain Gut Microbiome Disorders”

Steven Miles, MD, University of Minnesota, “Gun Mortality: A Public Health Perspective”

Steven B. Miller, MD, MBA (AΩA, Washington University in St. Louis School of Medicine, 2000, Faculty), Express Scripts-Chief Medical Officer, and “A New Vision for Healthcare”

Darilyn Moyer, MD, FACP (AΩA, Temple University School of Medicine, 1985), CEO, American College of Physicians, “Growing Physician Wings and Other Wisdom Accumulated Along My Journey in Medicine”

Barbara Matterson-Norowitz, MD, University of California Los Angeles and Harvard University, “Zoobiquity—The Astonishing Connection Between Human and Animal Health”

John H. Newman, MD (AΩA, Vanderbilt University, 1988, Faculty), Vanderbilt University, “A Diagnostic Odyssey”

K. Patrick Ober, MD (AΩA, Wake Forest School of Medicine, 1995, Faculty), Wake Forest School of Medicine, “A Life of Healing”

James O’Connell, MD, (AΩA, Wake Forest University School of Medicine, 2000, Faculty), New England Journal of Medicine, “On Call: Lessons from the Street: Three Decades Caring for Boston’s Rough Sleepers”

Paul Offit, MD (AΩA, University of Maryland, 2018, Alumnus), University of Pennsylvania, “How to Communicate Science to the Public or Die Trying”

James Patrick O’Leary, MD, FACS (AΩA, University of Florida, 1967), Florida International University, “Discovery”

Frank Opelka, MD, FACS (AΩA, Rosalind Franklin University of Medicine & Science, 2018, Alumnus), American College of Surgeons-Medical Director of Quality and Health Policy, “Surgery & AΩA Success”

Douglas Paauw, MD, MACP (AΩA, University of Michigan, 1983), University of Washington School of Medicine, “What Matters Most”
National and Chapter News

Matthew Provencher, MD (AΩA, Geisel School of Medicine at Dartmouth, 1998), The Steadman Clinic, Vail, Colorado, “Humanitarian assistance and disaster relief—Leadership lessons from the Navy to Improve Medical Care”

Natalie Rasgon, MD, PhD, Stanford University School of Medicine, “Insulin Resistance in Patients with Mood Disorders”

Sonja Rasmussen, MD, MS (AΩA, University of Florida, 1989), University of Florida, “Responding to Pandemic Influenza, Ebola, Zika and other Infectious Disease Threats”

T.R. Reid, Chairman, Colorado Foundation for Universal Health Care, “Healing of America—The Quest for Fair, Quality, & Cost Effective Care”

Tyler Reimchisel, MD, MPHE (AΩA, Vanderbilt University, 2013, Faculty), Vanderbilt University, “Leadership in Medicine”

Joseph Rencic, MD (AΩA, Tufts University Medical School, 2012, Faculty), Tufts University Medical School, “Clinical Reasoning at the Bedside”

Taylor Riall, MD, PhD, FACS (AΩA, Johns Hopkins University, 2004, Resident), University of Arizona, “Enjoy the Journey: Physician Well-being, Resilience, and Intentional Culture”

Wayne Riley, MD, MPH, MBA (AΩA, Morehouse School of Medicine, 2007, Alumnus), State University of New York Downstate, “Health Disparities and Health Inequity: A Call to Action”

Griffin Rodgers, MD, ScB, MMSc (AΩA, Brown University, 2008, Alumnus), Director National Institute of Diabetes and Digestive and Kidney Diseases, “The Clinical & Economic Impervious to Diabetes Preventions”

John Sampson, MD, PhD, MBA, MHSc (AΩA, Duke University, 2011, Faculty), Duke University, “Entrepreneurship in Medicine”

Stuart Slavin, MD (AΩA, Saint Louis University School of Medicine, 1984), “Medical Professional Mental Health: Challenges and Opportunities”

Wiley Souba, MD, ScD, MBA (AΩA, University of Texas Medical School Houston, 1978), Dartmouth Medical School, “Seeing Differently: The Physician Leader’s Edge,” and “The Responsibility that Comes with Privilege,” and “Unleashing the Leader Within”

Lello Tesema, MD, University of Southern California, “Racism in Medicine—Perspective from Work in the Criminal Justice System”

Luke Tomycz, MD, Rutgers New Jersey Medical School, “Treatment Refractory Epilepsy in Children”

Aleksandra Wesolowska, PhD, Medical University of Warsaw, “Human Milk: Saving Pre-term Lives”

Walter Wilson, MD (AΩA, Baylor College of Medicine, 1966), Mayo Clinic College of Medicine, “A Personal History of the Care of Infective Endocarditis”

Shale Wong, MD, University of Colorado, “Parents, Peers, Pediatricians and Policy: Working Together to make Health Whole”

John Zic, MD (AΩA, Vanderbilt University, 1990), Vanderbilt University, “Lessons in Leadership”

* Some professors visited multiple schools.

Volunteer Clinical Faculty Award
Recognizes community physicians who contribute to the education and training of students. The 36 recipients were:

Lily Somwaru Ackermann, MD, ScM (AΩA, George Washington University, 2006), Sidney Kimmel Medical College at Thomas Jefferson University

Michael Albert, MD, Johns Hopkins University School of Medicine

Scott A. Beckman, MD, Indiana University School of Medicine

Tyler Bradford, MD, University of Washington School of Medicine

Mitchell Brody, MD, State University of New York Upstate Medical University

Julie Burdin, MD, University of Missouri—Columbia School of Medicine

Taj Deen, MD, New York Medical College

Tami Dodds, MD, University of Nebraska College of Medicine

Kim Grahl, MD, University of Chicago Pritzker School of Medicine

Keith Hagan, MD, Vanderbilt University School of Medicine

Catherine Hart, MD, (AΩA, Raymond and Ruth Perelman School of Medicine at the University of Pennsylvania, 1979), Weill Cornell Medical College

Randolph Heisinger, MD, University of South Dakota Sanford School of Medicine

Sixtine Herold, MD, Boston University School of Medicine

Stephen Hines, MD (AΩA, Vanderbilt University, 1988), University of Texas Southwestern Medical Center Southwestern Medical School

Derek P. Jakes, MD, University of South Carolina School of Medicine

Frank Kane, MD, Rutgers New Jersey Medical School

Shiv Khanna, MD, University of Maryland School of Medicine

Miriam Kraus, MD, University of Louisville School of Medicine

Vance Lassey, MD, University of Kansas School of Medicine

Christina Lee, MD, University of Hawaii John A. Burns School of Medicine

Ralph Levy, MD, Florida International University

Theresa Mahon, MD, The Robert Larner, MD College of Medicine at the University of Vermont

Devendranath Mannuru, MD, University of North Dakota School of Medicine and Health Sciences

John Marsh, MD, University of Virginia School of Medicine

Andrew C. McNeil, MD, Drexel University College of Medicine

Ukpong Nwankwo, MD, FACP, Meharry Medical College

Jill Owens, MD, University of Pittsburgh School of Medicine

Annamarie Paulsen, MD, Morehouse School of Medicine

Carolyn Robinowitz, MD, George Washington University School of Medicine

Roberto H. Quinonez Robinson, MD, CMD, FAAFP, State University of New York Downstate College of Medicine

Joyce Rosenfeld, MD, FACEP, University of Massachusetts Medical School

Mitchell Rosenfeld, MD, University of Miami Leonard M. Miller School of Medicine

James Soldano, MD, Ohio State University College of Medicine

Victor Sta. Ana, MD, MSED, Icahn School of Medicine at Mount Sinai
‘Twas the night before Christmas and all through the house,
Not an iPad was stirring, not even its mouse.
Internet-secure routers all set to be ON
In hopes that Amazon would come before dawn.

The children were nestled all snug in their beds,
While visions of consumables danced in their heads.
And Ma in her kerchief and I in my cap
Had eased ourselves onto piled bubble wrap.

When out on the doorstep there occurred such a clatter,
I sprang from my bed to see what was the matter.
Away to my flat screen video I flew
To observe the front landscape by remote view.

When what to my wondering eyes should appear,
A FedEx truck with another, UPS, at its rear.
The moon on the breast of the new-fallen snow
Gave luster of midday to boxes below.

With little old drivers, so lively and quick,
I feared in a moment it must be a trick.
My credit cards sadly were maxed as before.
So why’d they drop presents at my front door?

The drivers they sprang to their trucks with a whistle,
Away they both sped like an airborne missile.
I heard them exclaim as they drove out of sight,
“Merry Xmas to you, and that’s no sound bite.”

*Frederick G. Guggenheim, MD*

Dr. Guggenheim (AΩA, University of Arkansas for Medical Sciences, 1998) is Clinical Professor Psychiatry, Alpert Medical School of Brown University; Professor of Psychiatry and Behavioral Sciences; and Chair Emeritus, University of Arkansas for Medical Sciences. Illustration by Jim M’Guinness.
## 2019 Submission Deadlines

Fellowships, Grants, and Awards

Visit [http://alphaomegaalpha.org/programs.html](http://alphaomegaalpha.org/programs.html) for applications and more details.

<table>
<thead>
<tr>
<th>Date</th>
<th>Award</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 4</td>
<td>The Pharos Poetry Award</td>
</tr>
<tr>
<td>January 14</td>
<td>Helen H. Glaser Student Essay Award</td>
</tr>
<tr>
<td>January 31</td>
<td>Carolyn L. Kuckein Student Research Fellowship</td>
</tr>
<tr>
<td>February 15</td>
<td>Medical Student Service Leadership Project Grant</td>
</tr>
<tr>
<td>March 1</td>
<td>Fellow in Leadership</td>
</tr>
<tr>
<td>April 5</td>
<td>Robert J. Glaser Distinguished Teacher Award</td>
</tr>
<tr>
<td>May 31</td>
<td>Postgraduate Fellowship</td>
</tr>
<tr>
<td>October 1</td>
<td>Edward D. Harris Professionalism Award</td>
</tr>
<tr>
<td>October 15</td>
<td>Robert H. Moser Essay Award</td>
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Gurleen Kaur, Albany Medical College, Class of 2021 receives her first check for Carolyn L. Kuckein Student Research Fellowship from Dr. Neil Lempert.