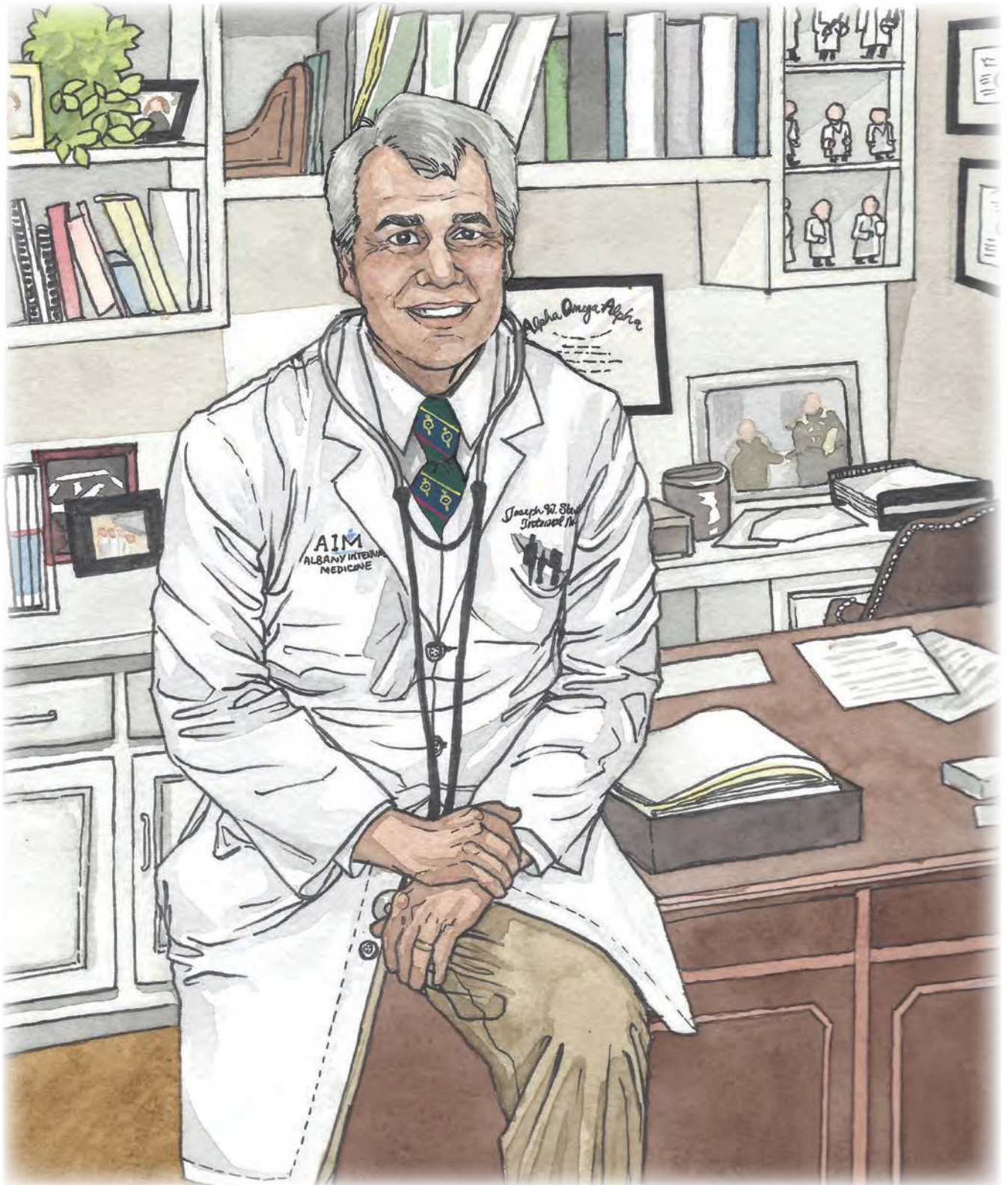


THE PHAROS

ALPHA OMEGA ALPHA HONOR MEDICAL SOCIETY

SPRING 2019



Joseph W. Stubbs, MD, MACP
Illustration by Claire Gilmore

THE

PHAROS

OF ALPHA OMEGA ALPHA HONOR MEDICAL SOCIETY

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SPRING 2019



"Be Worthy to Serve the Suffering"

Alpha Omega Alpha Honor Medical Society

Founded by William W. Root in 1902

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Private Practice: *The backbone of community health care*



The Root residence in Slaterville Springs, New York, where Dr. William Root, founder of AΩA, and his wife, Anna, raised their four children, ran his private practice, and housed the AΩA national office. His medical practice was in one of the back rooms.

Joseph W. Stubbs, MD, MACP; introduction by Richard L. Byyny, MD, FACP

Dr. Stubbs (AΩA, Emory University, 1978) is President of Albany Internal Medicine, LLC, a private practice in Albany, Georgia.

Introduction

by Richard L. Byyny, MD, FACP

“Medicine is always the child of its time and cannot escape being influenced and shaped by contemporary ideas and social trends.”

— G. Gayle Stephens, MD¹

Alpha Omega Alpha Honor Medical Society (AΩA) was founded by a group of medical students 117 years ago. Since then, medical education and the practice of medicine have drastically changed.

In 1902, most medical schools were proprietary with variable quality curricula that included apprenticeship training by fellow physicians. Farming was the major industry, and production was increasing with the Industrial Revolution. Health care was unstructured, and doctors primarily worked as the only physician in a community, hanging out a shingle for a private practice run out of their home. Payment was fee-for-service, doctors often bartering with patients and accepting goods and services—chickens, pies, and other fair trades—in exchange for care.

William Root, MD, the physician credited with establishing AΩA, was a community physician who for several decades cared for the people of Slaterville Springs, New York, and surrounding communities.

Medical residency training in hospitals began in the late 19th century to provide more experiential education and training with increasing responsibilities for physicians. Residencies in medicine became structured and institutionalized for the principal specialties in the early 20th century, but even by mid-century only a minority of physicians participated. After World War I, the medical doctor degree was given upon graduation from medical school, but the license to practice was administered by each state board. Doctors-in-training became known as interns. By the mid-1920s the internship had become required of all United States medical graduates to get a medical license.

By 1935, there were major changes to medical education, including standardization of the pre-doctoral medical education, that awarded all physicians the same medical degree; specialization was based on extended graduate education or residency. That led to increased specialization and subspecialization; and the use of technology. Hospitals became a major focus of medicine using and developing technology, and medicine became more institutionalized, based in medical schools and city/county hospitals and evolving health systems.

The medical residency became the defining educational feature providing residents with the responsibility of patient management. Residents evaluated patients, made decisions about diagnosis and therapy, and performed procedures and treatments. They were supervised by—and accountable to—attending physicians, but they were allowed considerable clinical independence. The residency experience emphasized scholarship and inquiry as much as clinical training, and was considered the best way for learners to be transformed into mature physicians.

Between 1940 and 1970, the number of residency positions at United States hospitals increased from 5,796 to 46,258. Thus, the number of residents seeking specialty training soared.² However, during this time, private practice and fee for service medicine remained the predominant praxis of medicine.

Private practices in the U.S.

The American Medical Association has conducted several surveys with physicians in private practice. In the 1980s, physician practice ownership was dominant. In 1983, 76.1 percent of physicians were practice owners; however, in 2012 that number had dropped to 53.2 percent. The year 2016 marked the first year in which physician

practice ownership was no longer the majority. According to data from that year's survey, only 47.1 percent of physicians were practice owners, of which 27.9 percent were under the age of 40, and 36.6 percent were females with some ownership stake.³

The report indicated, "most physicians—55.8 percent in 2016—continue to work in practices that are wholly owned by physicians."³ The report also showed that 13.8 percent of physician work at practices with more than 50 physicians; however the majority, 57.8 percent, practice in offices with 10 or fewer physicians. The most common practice type is the single specialty group.

Multispecialty group practices are more likely to be wholly or partially hospital owned. The number of physicians working in practices owned by a hospital or integrated delivery system is more than 50 percent.³ A number of factors are involved in these changes, including physician payment and compensation plans; outstanding student debt; the complex business of medicine; practice expenses; expanding use of technology, e.g., EMR; life-work integration; pursuit of higher paying specialties by physicians and corporate hospital and entities; complex regulations; and professional perceptions.

Despite these changes private practice remains common, especially in less populated and rural areas of the country.

A pillar of the community

Joseph W. Stubbs, MD, MACP has been in private practice specializing in internal medicine and geriatrics for 37 years in the relatively small diverse city of Albany, Georgia on the Flint River. He is a physician owner of Albany Internal Medicine.

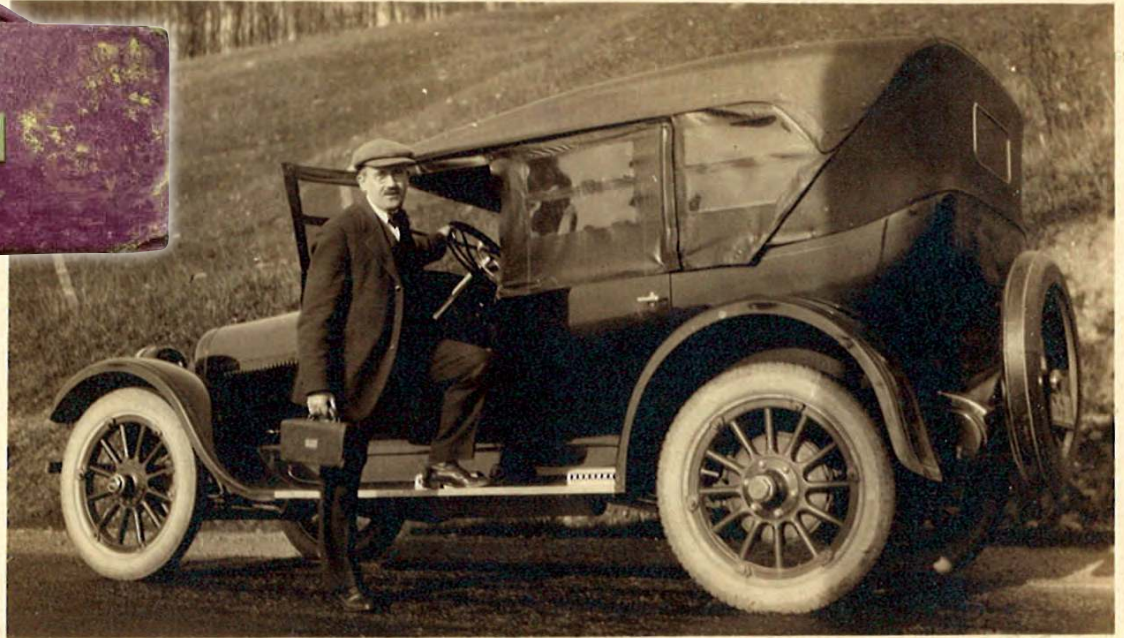
Joe graduated summa cum laude from William and Mary in 1975. He received his medical degree, also summa cum laude, from Emory University School of Medicine in 1979. He did his residency and was Chief Resident in internal medicine and primary care at the University of Washington affiliated hospitals in Seattle. Joe is board-certified in internal medicine and geriatric medicine and is a Master of the American College of Physicians.

As a community physician, Joe has published scholarly articles in *Lancet* and the *Annals of Internal Medicine*, and is very active as a physician and leader at Phoebe Putney Memorial Hospital in Albany. He is President of the Albany Internal Medicine Private Medical Group; a Clinical Assistant Professor of Medicine at the Medical College of Georgia at Augusta University; and Clinical Assistant Professor of Community Medicine at Mercer University School of Medicine.

Private Practice: The backbone of community health care



Dr. Root's medical bag.



Dr. Root setting out on a house call in his Buick, circa 1923.

He is a leader in his local community, the state of Georgia, and nationally. He is an active member of the American College of Physicians (ACP) Georgia Chapter, and joined the Georgia ACP Governor's Council in 1988 where he has served on the Public and Professional Communications Committee, the Health and Public Policy Committee, and as Chapter Secretary.

Joe was elected to serve as the ACP Governor for Georgia from 1999 to 2003. In 2003, he was named a Laureate of the ACP Georgia Chapter and was recognized by ACP with an Evergreen Award for outstanding chapter activities and advocacy. He served two terms on the ACP Board of Regents, where he was Chair of the Medical Service Committee, and the Services Committee, and served on the Scientific Program Committee, the Member Insurance Subcommittee, the Publication Committee, and the Managed Care Subcommittee. He was the Chair of the ACP Foundation in 2009/10, and served as President of the American College of Physicians that same year.

He is a Master of the American College of Physicians, Fellow of the Royal College of Physicians in Edinburgh, and Fellow of the Royal College of Physicians of Ireland.

Joe was elected to the Board of Directors of the Alpha Omega Alpha Honor Medical Society in 2008, and served as President in 2016. He serves as the Chair of the Investment Committee, and sits on the Leadership Committee.

Throughout his career as a community practice physician, Joe has been an accomplished leader, teacher, mentor, and

community member. He is the personification of the private practice physician who preserves and cultivates his local medical community as well as the medical profession at-large.

Private Practice: The backbone of community health care

by Joseph W. Stubbs, MD, MACP

I remember looking around the boardroom at my first national AΩA board meeting in 2008, and realized I was the only one practicing clinical medicine full-time in a private practice. All the others were accomplished faculty members and leaders of academic medical centers or major medical organizations, or incredible medical students. I wondered if this was just some opportunity for me to take refuge from the blistering challenges I face each day in the office, or did I really have something to contribute to this amazing group and organization. I asked myself, "Is AΩA really relevant to my work in private practice?"

Many of my colleagues in private practice perceive AΩA to be an organization that recognizes medical students for academic and professional excellence, and has little relevance to those of us in private practice.

At that first meeting, I looked at my briefing book and on the front cover was the insight for which I was searching, "Be worthy to serve the suffering." I then realized that AΩA is an organization that fosters academic excellence, teaching, and research, but more importantly, it is an institution that carries the torch of professionalism. This seemingly

simple almost trite motto contains within it profound and foundational implications for practicing physicians. The call for professionalism needs to be as loud and as central in private practice as it is in any other corner of the House of Medicine.

Our worthiness is not derived from title, status, financial wealth, or family background, but rather from an intense desire to serve. It involves a willingness to be vulnerable for the sake of others; to humbly replace our own needs with those of the patient; and to be physically and mentally present for our patients.

The ties that bind

Early in my career I was on-call for our medical practice when a patient of one of my partners who had been in the hospital multiple times with congestive heart failure was once again admitted and was not going to make it. The family and patient pleaded with me to have my partner come and see him. Though I knew how much my partners treasured their few moments away from work, I went ahead and called and informed him of the situation. He did not hesitate. He thanked me for calling and immediately came to the hospital. He met with the family expressing his condolences, and then used silence to give space for the family's grief. He held the spouse's hand and said, "You cared for him so lovingly and did all you could do." His words and presence were a defining moment in that family's ability to accept death and begin healing.

In return for the inconvenience of coming to the hospital when not on call, my partner experienced a sense of gratification and fulfillment through that deeply human doctor-patient relationship.

It's not always what it seems

Worthiness to serve requires trust—trust that as a community physician, and often times friend, you will be honest and forthcoming with patients. I once lost the trust of an elderly female patient who suffered from painful shoulder arthritis, despite multiple efforts to treat it. On one office visit she blurted out as soon as I walked in the room, "Why didn't you tell me about Viagra to help my shoulder pain?"

I replied in a confused tone, "Viagra?"

She said, "Yea, you know that drug being advertised where this guy tries to throw a football through a swinging tire but can't even get the ball to the tire, and then with Viagra he is able to throw that football like a rocket right through the center of the tire."

I hesitantly replied, "So, you think Viagra helped him with his arthritic shoulder?"

"Of course," she replied, "what else could it help?"

She had lost trust in my ability to care for her shoulder pain because I had not prescribed Viagra. Needless to say, the conversation to regain her trust was a delicate one, and not without some embarrassment as this woman was not only a patient but someone with whom I interacted with in the community.

Reliability and accountability

Trust also involves reliability and accountability. This can be simple, everyday things: returning phone calls on the same day the patient placed the call; or taking the time to alert other physicians who care for the patient about important changes in medications or conditions. Or, it can be big things like accepting responsibility and acknowledging when mistakes are made. It involves being transparent about prices you charge, and about your clinical outcomes.

A patient's trust comes from a belief that you as their physician are committed to stand by them throughout their illnesses, offering realistic hope, and doing all you can whether it be for cure or for comfort. It comes from your patients knowing you not only as their doctor, but also as their fellow community member who they see and interact with at church, the grocery store, and community events.

As a community physician you are many things to many people, all of which require confidentiality, reliability, accountability, trust, and friendship.

Opportunity trumps scorecards

The AQA motto states "to serve," not to treat or to care for. As community physicians, we must always be mindful about rendering care in a manner that respects the patient's autonomy and ability to choose. I am a physician who, like all others, aspires to excel, particularly when it comes to quality scores. I like the blood pressures under 140/90, and the A1Cs less than eight.

My patient Rosemary was a chain smoker who refused to even think of quitting, had high blood pressure for which she was always forgetting to refill her medications, and was obese but loved Coca Cola. During every visit with Rosemary my quality metrics sank lower and lower.

The quality strategists might suggest dismissing such a patient due to persistent noncompliance, but such a decision would reflect not knowing the whole person. Rosemary started a soup kitchen for the homeless, cared for a husband with dementia, always wanted a hug instead of a handshake, and always wanted to see pictures of my grandchildren. Sure, I would try to nudge Rosemary into some more healthy decisions, but often at the end of a visit,

I wasn't sure who was the patient and who was the healer.
The opportunity to serve always trumps scorecards.

Committing time and resources to the patient

Patients want to be “served” with information and options to make informed decisions with their caregiver. This requires a commitment to continuous learning of both clinical skills and scientific knowledge in order to accurately diagnose and adequately inform the patient. The exponential growth in medical research and advances in medical knowledge make this very challenging. In the blink of an eye, something in the standard of care of my patients will have changed.

“To serve” also requires communication and time. Today, for every hour in the room with the patient, physicians are spending two hours doing paperwork, documentation, and electronic health record (EHR) work. Even during the time in the exam room with the patient, physicians are spending close to 40 percent doing paperwork and documenting in the EHR.

We need to turn this communication pyramid on its head because it is paramount that patients feel their stories have been heard before they are willing to become engaged in our assessments and treatment plans. They need to feel their stories are heard not just with ears, but with eyes, hands, and most importantly with the heart.

We have powerful and effective medications and treatments at our disposal, but none more effective and potent than empathy. The words of Francis Peabody are as true today as they were when in 1927 he said, “The secret of the care of the patient is in caring for the patient.”⁵

In today's world of highly specialized health care, our responsibility as communicators is not just with the patient but also with the other physicians and health professionals. This has become extremely daunting at times as patients over 65 years of age are likely to see seven different physicians and fill 20 different prescriptions each year. Further, a primary care physician is likely going to annually interact with 220 other physicians in 117 different practices.⁶

The lack of coordinated care due to inadequate communication can prove disastrous. For example, a primary care physician refers a patient with abdominal pain to a surgeon for possible gallstone disease. The surgeon sees the patient, does a CT of the abdomen showing the gallstones but also sees a mass in the liver that turns out to be a hepatocellular carcinoma. The surgeon removes the gallstones and sends the patient back to the primary care physician, but the primary care physician never hears about the CT report showing a mass in the liver, resulting in a tragic delay of diagnosis.

We need to break down our silos of practice and expertise and find ways of sharing and communicating with one another. Much has been written about measures to resolve these care coordination problems such as Health Information Exchanges and referral contracts. All of these may be beneficial, but sometimes the simplest thing to do is just pick up the phone and call one another.

We are not there to serve just one sufferer or one patient, but to serve the population of “suffering,” as a whole. As practicing physicians, we must take responsibility and accountability for the stewardship of the needed health care resources for all patients if we are to continue to have those resources for our own individual patients.

In 1970, total health care spending was about \$75 billion, or \$356 per person. In less than 40 years these costs have grown to \$2.6 trillion, or \$8,402 per person. As a result, the share of economic activity devoted to health care grew from 7.2 percent of the Gross Domestic Product (GDP) in 1970 to 17.9 percent of the GDP in 2010. The United States' health care costs far exceed other nations. Our \$8,000 per person per year expenditure on health care is 50 percent more than the next highest industrialized nation (Switzerland), and 90 percent higher than many global competitors.⁷ Yet, our quality of health metrics, such as infant mortality, mortality amenable to health care, and safety are in the cellar when compared with other industrialized nations.⁸ To make matters worse, the Institute of Medicine estimates that approximately \$750 billion annually, or 30 percent of medical expenditures, are spent on unnecessary care, inefficiently delivered care, excessive administrative costs, or fraud.⁹

Private practice/community physicians understand these issues all too well. They bring an expertise on what is needed, and what is important, on the front lines of patient care. They are leading the way in the implementation of care models that are more patient centric where the patient is not a care recipient but a care participant. They are developing models where reimbursement is value-based rather than volume-based. New team-based models of care, such as the patient-centered medical home, are transforming the practice of medicine where physicians are leading a team of medical professionals, all working at the top of their licenses, to provide continuous, comprehensive, coordinated, quality care.

Engaging the private practice physician in AΩA

We need to find ways of fostering more continued engagement of the private practice of medicine in AΩA. Much can be done at the Chapter level. Although our 132

Chapters reside in medical schools, they need to find ways of reaching beyond the walls of academia. With the help of the national AΩA office, Chapters need to find ways of identifying active AΩA members in private practice in their locales. AΩA physicians in the community need to be invited and encouraged to participate in the programs for electing and recognizing new AΩA members.

Each year, Chapters can elect as members three to five alumni who were not previously selected to AΩA but who have excelled in leadership, teaching, service, and professionalism. Chapters need to find ways of engaging AΩA members in the community to help in the identification and selection of such individuals. The broadening of the AΩA community beyond medical schools and academic health centers has a plethora of dividends. It fosters mentoring opportunities and encourages community physicians to serve as volunteer clinical faculty.

Participation in my local AΩA Chapter activities and ceremonies has had a powerful impact on me, reminding me, again and again, of why I became a physician, and reinforcing my commitment to “being worthy.”

At the national level, the engagement of AΩA members in private practice needs to continue to be a priority. The majority of those “worthy to serve the suffering” are indeed in private practice. And, the AΩA Board of Directors needs to continue to find ways of seeking out qualified candidates in private practice to serve as Board members.

Engaging the interest of private practice AΩA members could occur through some of the national programs, such as the Fellows in Leadership program, which enhances the leadership skills of early to mid-career physicians in academic centers, medical organizations, or private practice. Since the inception of the program in 2014, there have been very few applications from people in private practice, and only one Fellow from private practice.

Additionally, to create engagement of the private practice physician, AΩA could consider the creation of a new award for private practice physicians, such as an AΩA Innovator’s Award for members who in the practice of medicine help create novel solutions for health care delivery that create more patient centric, less costly, and better quality care.

Efforts to enhance the engagement of the private practice of medicine in the AΩA will be challenging but a benefit for all. With it, AΩA will be a stronger, more diverse organization and have a greater impact on the quality of health care in this country. Likewise, AΩA members in private practice need AΩA as a compass that always points

them North, in the direction of professionalism, as a beacon illuminating a path of joy and fulfillment that being a physician can offer.

Ultimately, it is the suffering who we are worthy to serve who benefit the most from the unique breadth and knowledge that the private practice/community physician brings to the profession of medicine. These physicians have been a staple of the community for centuries, and with the shared knowledge of their academic health center partners, they will continue to be the local doctor with a shingle and black bag caring for families.

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Now cancer is in the room

I do best one-on-one
I'm what I call a one-on-one
person. I have, and thrive on,
deep connections,
honest raw
conversations. Delving into what matters.
Laughing about the darkness too.
Sure, I can work in a group setting but
for the most part, like 98%,
it is not my first choice.
But now, someone else is in the room
and I did not invite them. I did not even subtly
welcome them. I am positive I never
unlocked the door
let alone
left it ajar. It's not my way.
I am careful with doors and locks.
I learned young to barricade doorways,
my feeble attempt to
keep people out. I was always on alert
for intruders even if
they were my caregivers.
And since, I've always locked the door
to our home.
We live in the middle of nowhere.
Far down a country road
in the woods. I'm sure
most of my neighbors and
many of my friends never do.

But from a childhood of terror and
a young adulthood of criminal
break-ins, I don't take chances. Chances are for
those naïve to my experiences.
And this time, I don't see how
they slithered in. I don't.
I'd never allow for that. Yet, before I knew it,
before I was able to brace, prepare, hide, or protect
they were inside, getting all comfy
without permission.
Ok, I admit, we did go to the ER...not
by calling 911 though—it wasn't like we
alerted anyone—giving them an opportunity
to sneak in. We did, however
head out in the middle
of the night. We found our way there,
not a single car was on the road.
There were no headlights
blinding us even for a brief moment.
Going to find help for relentless pain
and we did find it.
But in the finding, we seemed to have
opened the door
to one we did not wish to meet, ever. And now,
no matter where we sit—car,
couch, chairs, even the bed
or what we eat or how we move—they are here.

A harsh unwanted
presence peering over our shoulders.
Making dark sweat
marks on the tweed couch, imprinting it with
an unfamiliar stench.
And I am odor sensitive too!
I did not, nor never would,
invite them.
They want to grow, take over,
take you over,
to fill you.
But then where does
that leave me? I did not marry them.
I did all I could to stay away
from their kind
the manipulative bottom feeders.
Those that suck
the life literally
from you.
I did my best to not feed them.
But neither my best, nor yours,
was good enough.
Now we need to
learn how to be a threesome,
and like I mentioned before,
I am not that type.

— Debra Kiva



Carlos Montezuma, MD

A Yavapai American hero

Leon Speroff, MD

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Carlos Montezuma was a Yavapai Indian from Arizona who grew up in white society and was the first Indian student to attend the Chicago Medical College, which became Northwestern University School of Medicine. He graduated at 23-years-old on March 26, 1889, losing by two weeks the distinction of being the first

American Indian physician. This distinction belongs to Susan La Flesche Picotte, a member of the Omaha tribe, who graduated from the Women's Medical College of Pennsylvania in Philadelphia (now the Medical College of Pennsylvania–Hahneman University). Unlike Montezuma, she confined her efforts to her own tribe and was little known nationally.

Montezuma devoted his life to fighting for American Indians. His straightforward, strongly held views, and his personality and character, were formed by his identity as an American Indian. This identity was not a simple

commitment; it was total and passionate dedication that empowered Montezuma to make his people proud of him; to direct his abilities to helping the American Indian (especially his Yavapai tribe); to never deny who he was; and to behave in a way that made him worthy as a hero. In 1912, he took the floor during a discussion period at the meeting of the Society of American Indians and said, "If I should do anything disgraceful in my life or practice, it would reflect as a wrong to my people."

Montezuma was a hero to his many friends and patients, and an inspiration to countless Indians and others who met him, read about him, or heard him speak. He was a hero in American history, playing a pivotal role in shaping national events. He is still a hero to the Arizona Fort McDowell Yavapai, who now number about 1,000 with about 600 living on their reservation. He single-handedly preserved his tribe's land and water rights by obstructing the plans of the federal government. Their ongoing allegiance and affection are his lasting tributes.

The United States government repeatedly attempted to move the Yavapai Tribe, several hundred members, from their small reservation 23 miles east of Phoenix (24,680 acres measuring four miles wide east to west, and 10 miles long in the north-south direction). The federal objective was to gain use of the Verde River water on the reservation to irrigate non-Indian lands. Montezuma's intervention was crucial in a 12-year battle that ended successfully and prevented the removal of the Fort McDowell Indians.

Early life

Montezuma's Yavapai name was Wassaja (Wa-SAH-jah), which means signaling or beckoning. He was five- or six-years-old in October 1871, when he was camped with his family in an area called Iron Mountain, east of the Superstition Mountains (50 miles east of Phoenix). His family belonged to the southwestern group of Yavapai that now calls Fort McDowell home. The Yavapai people were foot nomads, roaming the land searching for food in central Arizona from the Gila River near Florence to the San Francisco mountain peaks in the north near Flagstaff. These were a few thousand Yavapai occupying about 20,000 square miles.

Pima warriors attacked the Yavapai camp early in the morning, long before dawn. Using guns, arrows,



Montezuma at age six in the Buffalo Bill Show. National Anthropological Archives, Smithsonian Institution, NAA 06702500

knives, stones, and tomahawks, most of the old men, women, and children were killed (the young men had left camp for a peace conference). The camp was burned and looted, and 13 children were taken captive. Taken by horseback to the area around Florence, Wassaja was sold to Carlo Gentile, an itinerant Italian photographer, who paid nearly all the money he had for him—30 silver dollars.

Gentile had Wassaja baptized on November 17, 1871, in the brand new "La Capila del Gila," in Florence, the first Catholic church in Central Arizona. The building still stands today, next to the newer church. Gentile named him Carlos after himself, adding an "s" for the Spanish

version, and Montezuma, either because of the Montezuma ruins nearby, or because he knew that Montezuma, the great Aztec ruler, was an important mythological figure for the Indians of the Southwest. Although the exact date of Montezuma's birth is not known, the date of record on his baptismal certificate is March 27, 1866.

Tumultuous moves

Gentile and Montezuma traveled throughout the Southwest, and then headed to Chicago, where Gentile worked in an art gallery. For a short time in 1872, Montezuma was in the cast of Buffalo Bill's first stage show. When some of Gentile's photographs were featured in exhibits and received awards, he and Montezuma then moved to New York City.

In the fall of 1878, a fire destroyed Gentile's New York store and almost all that it contained. Gentile and Montezuma moved to Boston where they met a Baptist missionary, who, learning that Gentile was seeking a stable home for Montezuma, put them in contact with The American Baptist Home Mission Society and its Indian department, directed by George W. Ingalls.

Within two or three months, Ingalls arranged the placement of 11-year-old Montezuma in the household of Reverend William H. Stedman, pastor of the First Baptist Church in Urbana, Illinois.

After one year of private tutoring, Montezuma passed the entrance exam for the Preparatory School of the University of Illinois, a special school operated by the university because of the poor quality of high schools at the time.

In 1880, Montezuma entered the University of Illinois at the age of 14, and four years later, he graduated as president of his class and president of the Adelpic Debate Society. Ten days after graduation, he entered the Chicago Medical School. Even though the school did not charge him tuition, it took him five years to graduate because he could not attend classes full-time, maintaining a job in a pharmacy throughout his medical school years.

At the Chicago Medical School

During his early years as a student in Chicago, Montezuma presented many lectures on Indians to a variety of groups ranging from ladies' clubs to church organizations. His standard speech was entitled, "The Indian of Tomorrow."

At that time, Montezuma totally accepted and enthusiastically promoted the philosophy of assimilation, which is not surprising given his immersion in the prevailing Protestant environment.

The objective of assimilation, to make white men out of red men, was derived from a fundamental conflict between the communal life and customs of American Indians and the Protestant focus on individualism, based strongly on the Puritan work ethic. The fervent reformers believed that the force of Christianity could bring about changes within one generation. They viewed Indian culture and way of life as heathen and pagan.

Working for the Indian Bureau

After graduating from medical school, Montezuma opened an office on the south side of Chicago. He had little business. It would have been nearly impossible to attract paying patients by a young inexperienced Indian physician with no family or business connections. Montezuma had to continue to work as a pharmacist. This financial difficulty motivated him to accept a post as a physician in the Indian Service.

He began work with enthusiasm and optimism at Fort Stevenson, a military fort converted into a school for the children of the Fort Berthold Reservation in the northern part of North Dakota. The frustrations he encountered and the conflict between Montezuma's message of assimilation and the old tribal ways kept Montezuma moving. After less than a year in North Dakota, he moved to the Western Shoshone Agency in Nevada, and two-and-one-half years

later, he was appointed as physician on the Colville Agency in Washington. He became increasingly disillusioned.

Boarding school physician

Richard H. Pratt, the founder and supervisor of the Carlisle Indian Industrial School in Pennsylvania became

Montezuma's mentor and hero. Carlisle was the foremost example and proponent of assimilation. The boarding school's mission was summarized in the masthead of its weekly newspaper, "To Civilize the Indian; Get Him Into Civilization. To Keep Him Civilized; Let Him Stay."

Pratt heard of Montezuma's unhappiness and suggested that Montezuma apply for the position of school physician. Montezuma served in this position from July 1893 to December 1895, with an annual salary of \$1,200.

Besides his medical duties, Montezuma made inspections, taught hygienics, lectured the Indian children

about being on the grass, and worried about his financial affairs. Part of his shortage of money can be attributed to his generous practice of providing notes to allow the bearers (colleagues and older students) to draw funds against his school account.

Toward the end of the 19th century, American Indians, now locked on reservations, had become completely dependent on federal programs. A traditional way of life, including the methods of achieving economic well-being, had been destroyed. Instead of assimilation into mainstream society, Indian communities had sunk into a dispirited existence on the dole, which was barely sufficient to sustain life.

Montezuma's experiences on the reservations convinced him that the Indian Bureau and the reservation system were failures, and prisons. He believed that the path to success required the insertion of Indians into civilized communities. This was the primary objective of the Carlisle School, to transform the Indian into a copy of the European-derived white man—the philosophy and process of assimilation. This became Montezuma's credo until late in his life.

Montezuma came to believe that working in the more civilized environment of the Carlisle School was not sufficient, that he had a higher mission in mind. His time on the reservations had forged his resolve to succeed in white society. He



Montezuma at the University of Illinois, circa 1880. Courtesy of the University of Illinois Archives. (PD-US expired)



Montezuma, circa 1906. Source: Wood, Norman B. *The Lives of Famous Indian Chiefs*. Aurora: American Indian Historical Publishing Company, 1906

had to prove to people that an Indian could succeed in white society; he would be a model, proof that the process of assimilation was the right solution for Indians.

In November 1895, he resigned from the Indian Service and entered private practice in Chicago. He turned from being an Indian Bureau employee to a major opponent and antagonist—a thorn for the U.S. Government.

Private practice

Montezuma maintained a private medical practice of medicine on the south side of Chicago from 1896 to 1922.

He was a lecturer in the Postgraduate Medical College, a school that no longer exists, and he was on the faculty of the College of Physicians and Surgeons, affiliated with the University of Illinois, supervising medical students in the medical clinic on Tuesday and Friday mornings. He was also on the faculty at the Chicago Hospital College of Medicine (a school that later merged with the Mount Sinai Hospital) and lectured on gastrointestinal disorders.

When Montezuma began his private practice at age 30, his challenge was to attract patients by using his knowledge and personality in a competitive environment. This competition was a powerful force in causing physicians to use methods and treatments that would yield obvious short-term effects, easily recognized by patients. Montezuma had his special salve.

Montezuma's special salve

Patients who moved away from Chicago wrote to Montezuma and requested that he send his special salve. He also mailed it to his relatives at Fort McDowell. His salve, which he first developed when he was working on Indian reservations, was a mixture of vaseline (a purified petroleum jelly) and menthol, a preparation that became familiar in later years as Vicks VapoRub.

Vicks was developed by Lunsford Richardson, a druggist in Selma, North Carolina, who combined petroleum jelly and menthol just like Montezuma did. The commercial promotion of the product began around 1907 by

Richardson's son in Greensboro, North Carolina. H.S. Richardson named the product after his brother-in-law, Joshua Vick, who was a physician. BenGay was introduced in the early 1900s, a combination of methanol and methyl salicylate.

Montezuma's salve predated the commercial products by many years, and was a principal weapon in his armamentarium. It never occurred to Montezuma to patent and promote his salve.

In the middle of the day, Montezuma saw patients in his downtown office at 100 State St. in the Reliance building. The rest of the time he worked in his office at home. His downtown office was on the 14th floor (Suite 1400), a location known to require higher rental fees. Seeing patients for only one hour a day in a high-rent office made it extremely likely that Montezuma shared the office with other professionals; he paid rent of only \$10 per month.



Montezuma in his Chicago State St. Office, in 1903. DN-0001055, Chicago Sun-Times/Chicago Daily News collection, Chicago History Museum

In his State St. office

One day, as Montezuma was walking slowly along State St., a hand clapped him on the back. "How are you, Monty?" exclaimed Fenton B. Turck, a former classmate and now director of his own clinic specializing in gastrointestinal problems. Learning of Montezuma's difficulties in establishing a practice, Turck offered him a position in the Turck Clinic, and the two physicians worked together for the next 17 years.

Montezuma developed his expertise as a gastroenterologist by means of an apprenticeship with Turck. When Turck moved to New York City in 1913, Montezuma continued to work in the specialty clinic.

Montezuma learned colonic lavage from Turck. Turck and Montezuma introduced hot or cold air into the colon. They also used large volumes of water, hot water with temperatures increasing to a high of 131°F, alternating with ice-cooled water to 41°F. They even inserted a flexible cable high into the colon to produce “mucosal massage” by electricity. These methods were used to treat a host of diagnoses including chronic liver disease, diabetes, kidney problems, early stages of appendicitis, and typhoid fever. This vigorous treatment was best applied with the hips markedly elevated, and for this purpose, Turck constructed a special table.

Montezuma saw most of his patients in his home office where the door of his house announced his name and office hours in gold letters. Opening the door, a first-time patient would have been surprised to see two Indians in full traditional regalia sitting in a corner awaiting advice and counsel from Montezuma before resuming their journey to visit Washington bureaucrats.

The walls of his study held various Indian artifacts.

Montezuma was a short man (five-feet, six inches) with a thick, stocky (but not fat) body. His skin and eyes were dark; his hair was straight and jet-black. His voice was deep, soft, and gentle, and like modern Yavapai Indians, had a lyrical rhythm that was pleasant and easing.

Montezuma would never make a house call, even in the middle of the night, until he was well dressed in his collar and cuffs. He was always careful to represent himself well, not allowing even a single opportunity for a derogatory thought or comment to be directed against an American Indian. He was consistent and serious in his decision to represent his people.

Montezuma never became wealthy as he funneled his energy and resources into his fight for his people and against the Indian Bureau. He did have time for lady-friends and fell in love easily. But he was repeatedly unsuccessful in convincing women to join him in marriage until he married Marie Keller in 1913, a blue-eyed, fair-skinned, German-speaking Romanian immigrant, 22 years younger than Montezuma, and the daughter of his housekeeper.

Staying afloat

Money became a problem for Montezuma in the last 10 years of his life. His patient volume declined at the same time he was writing hundreds of letters; paying for travel, lodging and meals at national meetings; and supporting his monthly newsletter, *Wassaja*. Even a \$2 payment from a patient was noteworthy and highly appreciated.

Most of Montezuma’s patients came to his home

office from the surrounding neighborhood. After 1910, Montezuma’s neighborhood dropped lower on the socio-economic scale, and after 1915, his home office was in the middle of a rapidly growing Black community.

Beginning in 1914, he would write gripping notes on the bills he mailed to patients: “I am in need. Do for me as I have done for you.”

At times there was no cash, and Montezuma would go a day without eating. For many years, he supplemented his income with small honoraria from lectures.

His many lectures were variations of the same basic speech with the same fundamental message: the process and value of assimilation. He was a splendid speaker, and by 1914, had a collection of 200 hand-colored glass lantern slides, most of which were pictures taken by Gentile. Despite different titles, every talk had the same call to arms:

Are we to disappear as the buffaloes or rise above the horizon of the twentieth century and respond, ‘We are here!’ The sound of your own voice at the roll call will be at the end of the final battle to gain your freedom by your individual self.

Wassaja

In 1915, Montezuma gave his speech “Let My People Go,” at the annual meeting of the Society of American Indians. Newspaper accounts of the speech and its publication in the *Congressional Record* gained Montezuma a wave of publicity.

Montezuma published the first edition of his newsletter in April 1916, and soon was receiving letters from all over the U.S. with subscriptions to the newsletter, and invitations to speak. *Wassaja* was published monthly until November 1922 (the last issue appeared only two months before Montezuma died), costing five cents a copy or 50 cents for a year’s subscription.

Currently, *Wassaja* is the name of a weekly television news series dedicated to Indian stories and events.

The public response to *Wassaja* was limited. The years of *Wassaja* were during Woodrow Wilson’s presidency, a time when America first tried to avoid war, then fought in a world war, and then turned victory in war into an international defeat. Republicans and Democrats were focused on gaining ascendancy over each other. American Indians and their problems dropped lower and lower on the list of interests and issues.

Montezuma’s political activism got him into trouble during World War I. Montezuma was against the war writing “Well, can you beat it? Just think, Christian nations

killing each other by millions. And sending missionaries to teach 'Thou shalt not kill.'" The government regarded his statements as unpatriotic. The Justice Department considered treason charges. In August 1919, the Bureau of Justice (the forerunner of the FBI) sent an investigator to Montezuma's home.

It is evident in the investigator's report that the interview was lengthy, and the investigator was the recipient of a good lecture by Montezuma. His report was objective and reasonable, stating that Montezuma was a single man making a lonely noise about 300,000 people who were not organized, not meeting in rallies, and of the 150,000 eligible, not many voted. The government decided to ignore Montezuma.

Saving the Yavapai land and water

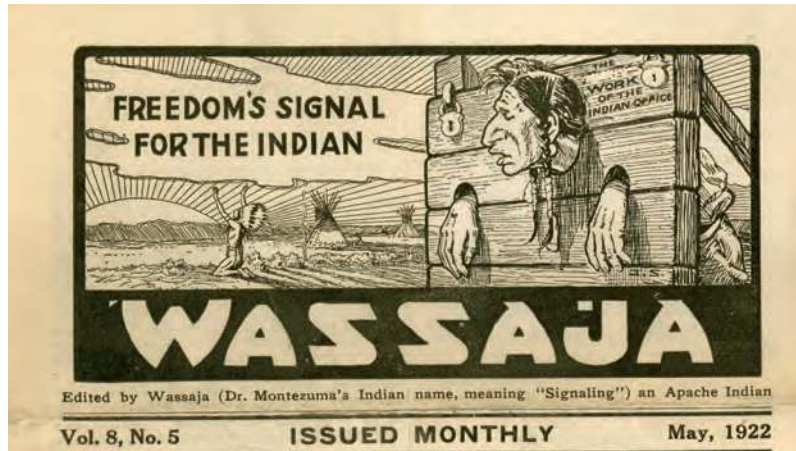
In the first decade of the 20th century, Montezuma rediscovered his tribe. Every autumn from 1901 to 1920 he spent several weeks in Arizona with his cousins. The U.S. government, responding to white businessmen and farmers who coveted the water of the Verde River, repeatedly tried to move to the Salt River Reservation the several hundred Yavapai from their small reservation, Fort McDowell, established by an executive order in 1903 by Theodore Roosevelt.

In 1910, the Fort McDowell Yavapai formally enlisted the aid of Montezuma, naming him their official representative. He was granted power-of-attorney to act with the authority of the Tribe. No other Yavapai had his education and experience.

The Bureau of Indian Affairs expected those on reservations to show absolute cooperation and total obedience to superintendents and agents. Montezuma made sure that the Yavapai signed nothing without his approval.

Government officials came to view Montezuma as a major obstacle and troublemaker very early in this 12-year battle. He was more articulate and educated than most of the Bureau employees and his intervention was pivotal in preventing the removal of the Fort McDowell Indians.

Montezuma went to Washington, D.C. early in June 1821, and established himself in an inexpensive hotel. The trip was a considerable sacrifice for Montezuma. His income depended on his being home and seeing patients.



Wassaja newsletter. The Picture Art Collection/Alamy Stock Photo

By 1921, his practice had dwindled; he was seeing patients only in his home office and earning only \$200 per month. He had only \$500 in available cash.

Frustrated by his repeatedly unsuccessful attempts to meet with government officials, after two weeks,

he left for a trip to Rochester, Minnesota. Charles H. Mayo (AQA, Northwestern University, 1927) had invited his fellow classmates in the Chicago Medical College Class of 1888 to visit the Mayo Clinic; to watch surgery and clinical demonstrations; to attend a formal meeting with medical presentations; and to have a class dinner. With his sense of honor and loyalty, Montezuma felt obligated to respond to Mayo's invitation. But also, Montezuma, nattily dressed in his blue serge suit, cuffs, collar, and white bow tie, could mingle as an Indian, as an equal among his Anglo-Saxon classmates—an opportunity that Montezuma could not resist.

When Mayo learned of Montezuma's mission in Washington, and his frustration in gaining an audience with those at the top, he provided Montezuma with a letter of introduction to Harding's personal physician, Carl E. Sawyer. Montezuma returned to Washington and visited Sawyer. Sawyer gave Montezuma a letter of introduction to present to President Harding's secretary, George B. Christian. When Christian asked Montezuma if he had seen the Commissioner of Indian Affairs or the Secretary of Interior, Montezuma responded, "No, they have refused me a hearing." The secretary immediately telephoned the Commissioner of Indian Affairs, Charles H. Burke, and ordered him to grant Montezuma a hearing.

The very next morning, Montezuma was in Burke's office for a two-hour meeting. The official transcript of Montezuma's meeting with Burke on June 24, 1921, fills 16 pages with single-spaced typing. The language is blunt and tense. At one point, Burke said, "But, Doctor, don't discuss this in an unfriendly spirit," and he accused Montezuma of sedition.

Montezuma replied, "I want the Indian Bureau abolished."

Burke said, "That isn't going to happen in this immediate time—you think it is, but you and I will not live to see it happen."

"I would be ashamed of that flag that floats over there [visible through the window] where it tells of freedom, where it tells of justice, and democracy. You are violating

the freedom of that flag and what it expresses just as long as you uphold that view and the Indian Bureau," Montezuma explained.

"And when you preach that doctrine to Indians you are preaching sedition," was Burke's retort.

"If America is going in the wrong direction, I would not be a citizen should I encourage it to go in the same direction; that is not sedition," Montezuma said.

"We differ in our opinion of sedition. When a man preaches a doctrine contrary to what the courts of the country have decided, he is preaching sedition," Burke concluded.

To his credit, Burke responded to Montezuma by reopening the Fort McDowell case. Colonel L.A. Dorrington, assigned to investigate, concluded only a month later, on July 23, 1921, "They [the Yavapai] are not receiving enough water on Salt River to irrigate five acres. They should be given preference on their own reservation."

Fortified by Dorrington's report, Burke decided that ir-ri-gable land at Fort McDowell should remain tribal land. Secretary of the Interior Albert Fall agreed with the decision and referred it to the president. President Warren G. Harding approved and signed the decision on February 8, 1922.

Montezuma practically single-handedly prevented the loss of Fort McDowell land and water rights, changing the plans of the federal government.

Last days on the reservation

On a cold Sunday at midday, in the middle of December 1922, Montezuma, a man who had been to almost all parts of the U.S., boarded the Navajo train in Chicago for the last journey of his life, on the Santa Fe Railroad to Phoenix. The decision to go to Arizona was made almost impulsively and quickly carried out. Marie was to stay in Chicago and sell everything they had because "we will need all the money we can get to keep us alive."

In the last stages of tuberculosis, Montezuma awaited death in an *oo-wah*, a brush hut constructed by his relatives in a secluded spot along the river bank on the Fort McDowell reservation.

Nineteen days before he died, Montezuma wrote his last letter to his wife. He signed it: "Your sick and useless husband, Wassaja."

Montezuma died at the age of 56, on Wednesday, January 31, 1923, at 3 p.m.. It was a breezy, cloudy day, but dry until evening when a light rain began to fall. The Yavapai burned the *oo-wah* and all of its contents.

After a funeral in Phoenix, Montezuma's body was taken to Fort McDowell. Marie was concerned over the impression the usual black hearse would have on the

reservation, and therefore his body was wrapped in canvas and roped to the body of a truck. The next day, a second funeral attended by the Yavapai and led by the Masons was held at the Fort McDowell Presbyterian Church. The rain had stopped, and Montezuma was buried in the Fort McDowell cemetery on Sunday, February 4.

When he died, all that he had left for his wife were his files, his collection of Indian artifacts, the payment (amount unknown) from his life insurance, and his house.

The change in Montezuma's philosophy

Montezuma's philosophic position was one of rigid opposition to the Indian Bureau and the reservation system. But it was overly simplistic. Leaving Indians to abruptly fend for themselves was true to his assimilationist ideas, but inconsistent with his inner generosity and compassion. Until late in his life, he never succeeded in bridging his public policy with the subsequent plight of individuals. Montezuma, true to his acquired late 19th century, Protestant philosophy, focused on the individual, ignoring Indians as a group, a community. He failed to consider that preservation of tradition does not preclude evolution and change in response to contemporary political and economic problems and pressures.

Montezuma was an educated, assimilated, Protestant American Indian, who for decades wanted to eliminate the reservations and make Anglo-Saxons out of Indians. Yet he chose to die as a reservation Indian, and in the last years of his life, he successfully fought for his tribe's land and water rights.

His philosophy in his early adulthood was understandable considering his many years of immersion and development in the dominant, white, Protestant society of the late nineteenth and early 20th centuries. In recent years, Montezuma received criticism and dislike because of his early efforts as an assimilationist. He collected Indian artifacts, but he viewed these pieces as historical relics, not as symbols of an ongoing heritage.

Historians have repeatedly concluded that Montezuma's return to the Yavapai was a simple, emotional return to his roots. But Montezuma was a very intelligent, orderly, and rational man. He lived in a time of acute and profound change, and his behavior reflected the changing times.

Montezuma's formative years (1872–1900) spanned decades of Protestant dominance in America, with its focus on the individual: individual property ownership, individual accumulation of wealth, and survival of the most rugged, fittest individual. In the last decades of his life, the political and social philosophy of America changed

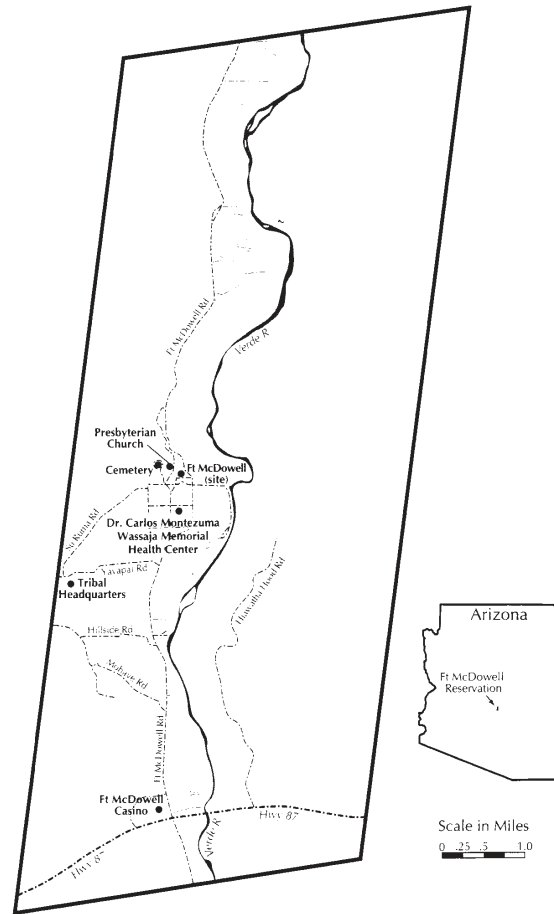
to a greater consideration of the public good. The shift had its roots in the rapid acceleration of scientific and technologic knowledge, and the social unrest that was a consequence of industrialization. The emphasis moved from the individual to social reform, with an effort to establish political and economic controls.

For years, Montezuma lectured on the importance of environment over nature, emphasizing that the Indian was dependent upon his environment. Repeatedly articulating this theme, he was sensitive to his environment. He could perceive social changes simply by reading the Chicago newspapers, and he viewed social forces through the lives of his patients.

As a member of the Chicago Medical Society and the faculty of three academic medical centers, he had multiple opportunities to learn and assess the new advances in medicine.

His interactions with the Yavapai demonstrated for him that philanthropic kindness and generosity were not sufficient to solve social problems, that laissez-faire individualism did not work for everyone, especially those oppressed by difficult political and social conditions. Scientific progress and the changes it brought in medicine and industry had challenged the simple notion of Puritan rugged individualism.

The philosophic shift in Montezuma from assimilation of individual Indians to concern for his tribe was a testimony to his ability to respond to the intellectual and social world around him. One of his strengths was the ability to adapt and remain influential and effective. Just as state and federal governments took on the collective interests of the people, Montezuma began to think collectively of his tribe. He knew from his own experience that the problems of American Indians were low on the priority list of the federal government, and that the Bureau of Indian Affairs would do little to change conditions without prodding and



Map of Fort McDowell Reservation. Illustration by Becky Slemmons

agitation. It was appropriate for Montezuma to fight for the rights and welfare of his tribe. Thus, it also became appropriate for him to choose to die as a Yavapai in his tribal home.

The Dr. Carlos Montezuma Wassaja Memorial Health Center

The Fort McDowell community re-organized as the Fort McDowell Yavapai Nation under a new constitution approved by the Secretary of the Interior on November 17, 1999. The Fort McDowell Yavapai are proud of the role played by Montezuma from 1910 to 1922, and Montezuma would be proud today to see his band of the Yavapai on their own land and doing well,

benefitting from their gaming center with solid income, new houses, and better and free education. In addition, they have better health care with specialized counseling.

On December 12, 1996, the Fort McDowell Yavapai community dedicated its new health center, the Dr. Carlos Montezuma Wassaja Memorial Health Center.

Montezuma was an energetic man of honor. The force within him that formed his life was his identity as an American Indian. He lived a life of decency, responsibility, and honesty that merits admiration; he was a man who kept his word. Montezuma was an American physician who deserves to be remembered as a man of historical importance.

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FOLLOW YOUR GUT

*The illustrious
career of
John G. Bartlett, MD*

Petros C. Karakousis, MD

Dr. Karakousis (AQA, Washington University School of Medicine, St. Louis, 1998) is Professor of Medicine, Division of Infectious Diseases, Department of Medicine, Johns Hopkins University School of Medicine, Baltimore, Maryland.

In every field of human endeavor there are a handful of persons whose names are synonymous with said endeavor. In English literature we think of Shakespeare. In physics we think of Einstein....In the field of infectious diseases the name John Bartlett is virtually synonymous with the discipline.

— Bennett Lorber, MD¹

John Bartlett (AQA, State University of New York, Upstate Medical University College of Medicine, 1962), is credited with discovering the etiological agent of antibiotic-associated colitis. He is a preeminent authority in human immunodeficiency virus (HIV), anaerobic pulmonary infections, community-acquired pneumonia, antibiotic resistance and bioterrorism through more than 500 original papers, 330 book chapters, and 14 books. A Master of the American College of Physicians, and member of the Institute of Medicine, he has received four career awards

from the Infectious Diseases Society of America. A true visionary, he continues to be an extraordinary investigator, clinician, and educator, even in his retirement years.

The early years

Born February 12, 1937, in Syracuse, NY, Bartlett grew up near the campus of Syracuse University, where his father helped found the Newhouse School of Journalism and served as Vice Chancellor. His family lived in a former fraternity house, where he had the entire third floor to himself. Bartlett kept himself busy during the long winters making “lots of stuff—all kinds of buildings and cars, even an electric scoreboard.”²

A gifted student at William Nottingham High School, he received numerous awards, served as the senior class president, and was voted most likely to succeed. He also was a talented athlete, and was the captain and quarterback of his high school football team. His days of football came to an abrupt end, however, when he suffered a concussion after being pummeled by Ned Weinheimer, a 230-pound lineman. Several years later, Weinheimer would become Bartlett’s brother-in-law.

After receiving a bachelor's degree in zoology from Dartmouth College in 1959, Bartlett returned to Syracuse to study medicine at State University of New York Upstate Medical Center. He completed his internship in internal medicine at the Peter Bent Brigham Hospital. The faculty mentors he admired most were cardiologists.

Bartlett's program director arranged for him to study at the University of Alabama in Birmingham under Dr. Tinsley Harrison (ΑΩΑ, Johns Hopkins University, 1922), a world-renowned cardiologist and editor of the first five editions of *Harrison's Principles of Internal Medicine*. According to Bartlett, Harrison was a master clinician who made the residents "get down on their hands and knees so they could listen to heart tones, figure out the cardiac rhythm, and find the leaky valve."² Bartlett professes a love for his life in Alabama and for Harrison, whom he admired, but he said, "I did not love cardiology at all. There was something that just didn't fit very well for me."²

Although his foray into cardiology might have been a distraction, the move to Alabama was not a mistake. It was here that he met his wife, Jean Scott, a nurse on the medicine wards. They both cared for a 95-year-old patient, who, according to Bartlett, had "just about every disease you could think of—nobody thought he would ever get discharged."² After weeks of hospitalization, the patient improved dramatically. Elated by this turn of events, Bartlett turned to Jean and said, "This is a really incredible part of medicine to see this man, who was essentially moribund, now ready to go home. So why don't you and I go out and take him to dinner tonight?"²

Jean loved the date and the two were married a year-and-a-half later.

A foray into infectious diseases

Bartlett attributes his career choice of infectious diseases to the Berry Plan. Established in 1954, the Armed Forces Physicians' Appointment and Residency Consideration Program (Berry Plan) allowed physicians to defer military service while acquiring medical training in civilian institutions before fulfilling their two-year military obligation.³ When it was time for Bartlett to serve in the military, the Vietnam War was in full swing. As a captain in the Army, he was assigned to work in the emergency department



Bartlett, a freshman in college, with his father. Photo courtesy of Dr. Bartlett, from his personal collection

of the Third Field Hospital in Saigon from 1965 to 1967.

There was a steep learning curve in caring for acutely ill soldiers who were shot by enemy fire or had sustained penetrating wounds on the battlefield from punji sticks, which were used by the Viet Cong as a type of booby trap. Usually made of bamboo or wood, and sometimes rubbed with toxic plants, frogs, or feces, Punji sticks were designed to immobi-

lize the enemy and produce infections of the feet and lower legs. Tetanus was a frequent complication from such wounds.

In addition to war-related wounds, Bartlett saw cases of typhoid fever and other tropical diseases. Although many of the patients were gravely ill when they were admitted, he was amazed at their rapid recovery thanks to newly available antibiotics and surgical management of wounds. Bartlett also enjoyed the special chemistry between internists and surgeons, and the sense of unity of purpose in the military. He recalls that outside the door to the emergency room hung a huge sign that read, "If you made it this far you have a 98.2 percent chance of making it back to the States."²

The investigator

Captivated by the ability to cure sick patients, Bartlett followed the advice of a senior physician at the Third Field Hospital who recommended that he study infectious diseases at the University of California Los Angeles Medical Center/Wadsworth Hospital under Dr. Sydney Finegold (ΑΩΑ, University of Texas Medical Branch, 1949), a world expert in anaerobic infections.

Bartlett's early work described the clinical features of anaerobic pulmonary infections, and developed more sensitive approaches for bacterial diagnosis including percutaneous transtracheal aspiration, and quantitative culture of expectorated sputum.⁴ Bartlett made rounds with Finegold in the morning, worked in his lab all day, and then went to his house to translate. "A lot of the great literature on anaerobes from the turn of the century was written in French," explains Bartlett. "I spoke French and he didn't."²

Bartlett became a member of a self-proclaimed clique of anaerobic enthusiasts who tried to convince the rest of the field that *Bacteroides fragilis* was the cause of human anaerobic infections. Prior to this time, physicians and scientists disparagingly referred to the bacterium as

Bacteroides imaginalis. In 1972, Bartlett published in the *New England Journal of Medicine* that clindamycin was highly effective in treating clinical infections due to anaerobes, including *B. fragilis*.⁵

As his reputation in anaerobic research grew, Bartlett received a phone call from Sherwood Gorbach (AOA, Tufts University School of Medicine, 1962), who wanted to recruit him to Chicago. Bartlett was eager to work with Gorbach but considered it a dangerous career move since Cook County Hospital was featured in the newspapers every day as the site of some new scandal. Bartlett recalls that Gorbach told him, “Listen, Bartlett, when there’s a nuclear holocaust, there will be two things left—cockroaches and Cook County Hospital.”²

Gorbach was soon recruited to be chief of infectious diseases at the Los Angeles Sepulveda Veterans Administration (VA) Hospital, where Bartlett worked. Like Finegold, Gorbach was a flag-bearer of the anaerobic bandwagon at a time when many infectious disease experts still thought it was much ado about nothing. Although Bartlett’s research was focused primarily on anaerobic lung infections, it was Gorbach who urged him to focus on the gut, since this is where “all the activity is.”

At the time, clindamycin was a new drug promoted by the Upjohn Company for anaerobic infections. In the lab, Bartlett developed a hamster model of anaerobic infections and treated the animals with clindamycin. The hamsters treated with clindamycin always died of colitis within three days to five days. Similarly, in a clinical study by Dr. Francis J. Tedesco (AOA, Saint Louis University, 1968) et al., of 200 patients given clindamycin, 21 percent developed diarrhea and 10 percent developed colitis with pseudomembranes,⁶ prompting an FDA warning about this potentially life-threatening drug-related complication.

The colonic pathology of these antibiotic-treated hamsters matched that of a patient originally described as having “pseudodiphtheritic colitis” in 1893 by John M.T. Finney, a surgeon at Johns Hopkins Hospital. After the introduction of antibiotics by the mid-20th century, the number of cases of antibiotic-associated diarrhea with pseudomembranes in the colon increased. This disease entity was originally attributed to *Staphylococcus aureus* because *staphylococci* were frequently isolated from the stool of such patients. Oral vancomycin was an effective treatment. However, Koch’s postulates could not be fulfilled, since *S. aureus* could not be isolated from all such cases, and pseudomembranous colitis could not be reproduced by inoculating *staphylococci* in animal models.

In 1975, Gorbach was recruited to Tufts New England Medical Center. Bartlett followed him there and set up his own lab at the local VA hospital to study the cause of what was then called clindamycin colitis. Bartlett’s team found that concurrent administration of vancomycin with clindamycin provided protection to the hamsters, suggesting a gram-positive bacterial pathogen as the etiology.

Another clue came from the observation that direct inoculation of fecal contents from an infected hamster into human lung fibroblasts caused a cytopathogenic effect within four hours, suggesting the presence of a bacterial toxin.⁷ These effects could be prevented by giving an antitoxin raised in horses in the 1930s against the gas gangrene-causing bacterium, *Clostridium sordellii*. Bartlett’s group then showed that the *Clostridium* toxin was sufficient to reproduce colitis in hamsters.⁸ The final step, representing a culmination of more than 400 experiments, came when his group found that a patient from California with antibiotic-associated colitis also had extremely high levels of this toxin in their stool. This seminal work was published in 1978 in the *New England Journal of Medicine*.⁹ Although the disease was originally ascribed to *C. sordellii*, Bartlett noted that neutralization of the bacterial toxin by *C. sordellii* antitoxin likely represents “antigenic cross-reactivity between clostridial toxins...but the weight of evidence strongly supports the pathogenic role of *C. difficile*.”¹⁰

Now known as *C. difficile* antibiotic-associated diarrhea (CDAD), it is the primary bacterial cause of diarrhea in much of the developed world, and a significant cause of morbidity and mortality across hospitals and in the community. The cytopathogenic toxin assay used to discover the etiological agent, although expensive and difficult to perform routinely, remains the gold standard in many countries, including the United Kingdom.

In later years, Bartlett and Tedesco demonstrated that vancomycin is a highly effective treatment for patients with CDAD,¹¹ but clinical relapses may occur in up to 25 percent of treated cases.¹² Bartlett openly acknowledges the significant contributions of his research team, including Andrew Onderdonk, Te-Wen Chang, Sandra Willey, Nancy Taylor, and Ron Cisneros.¹³

The downside of working with hamsters, according to Bartlett, is that the lab members become attached to them. One technician loved a hamster so much that she wanted to take it home as a pet. Bartlett warned her that if she stopped giving the hamster vancomycin it would relapse with *C. difficile* colitis and die. “Well, she gave him vancomycin every day,” says Bartlett, and the hamster lived over two years, which is the average life span of a hamster.”²

The clinician and administrator

In 1980, Bartlett was recruited to the Johns Hopkins Hospital in Baltimore to serve as the Stanhope Bayne Jones Professor of Medicine, and Chief of Infectious Diseases.

In 1981, two reports were published in the *Morbidity and Mortality Weekly Report (MMWR)* describing a total of nine young homosexual men with pneumocystis, a rare form of pneumonia that afflicted transplant patients, and Kaposi sarcoma, an unusual systemic disease characterized by lesions of the skin, and gastrointestinal and respiratory tracts.^{14,15} By 1984, it was determined that HIV infection was the cause of the acquired immunodeficiency syndrome (AIDS), leading to progressive failure of the immune system and eventual death due to opportunistic infections and cancers.

Joel Gallant, one of Bartlett's trainees who became an international authority on HIV/AIDS, describes his former mentor as a "true visionary, who always knows what the next big thing will be, and embraces it long before it becomes the next big thing."² According to Gallant, "unlike the majority of infectious disease clinicians at the time, John Bartlett actually wanted to do something about AIDS."²

Bartlett recalls the story of one woman who was visibly distraught when she came to see him in the clinic. When he asked what was bothering her, she replied, "When I signed into register in the hospital, the person at the front desk asked me to put the pen down. She took up a Kleenex, picked up the pen and threw it into the waste paper basket. You know how that made me feel?"² This story, and many others like it, moved Bartlett to start an AIDS service, which was lacking in Baltimore and the surrounding region. At the time, there was only one other clinic serving AIDS patients in the nation—at San Francisco General Hospital.

As Bartlett recalls, many "people were afraid it was going to tarnish the Hopkins name,"² but the Chairman of the Department of Medicine Victor McKusick (AQA, Johns Hopkins University, 1962), was supportive of Bartlett's early efforts to recruit patients to Hopkins. Frank Polk, an infectious disease physician from Harvard, was recruited to Johns Hopkins in 1982, and like Bartlett, held a deep conviction that there should be a clinic dedicated to the care of patients with AIDS. The Johns Hopkins AIDS clinic opened in 1984 in the basement of the hospital, next door to McKusick's clinic for congenital dwarfism.

Under Bartlett's tenure as Chief of Infectious Diseases, the Johns Hopkins AIDS service was recognized as the second-best service in the country, after the one at San Francisco General Hospital. Bartlett was known to quip,



Bartlett, dressed as Santa Claus, making rounds on the inpatient HIV service during the holidays, circa 1980s. Photo courtesy of Dr. Bartlett, from his personal collection

"We're one earthquake away from being number one!"²

Bartlett attributes the success of the AIDS service to the extraordinary nurses, who "knew the disease, the patients, and the families—they ran the service."²

For many years, Bartlett attended on the inpatient AIDS service over the winter holidays so that other faculty could spend time with their families. He enjoyed dressing up as Santa Claus and handing out presents. One Christmas, he offered a wrapped present to a 65-year-old man who had tears in his eyes. When Bartlett asked him what was wrong, the man replied, "It's the first Christmas present I ever got in my life."²

Bartlett enjoyed caring for the forgotten patients with HIV, including the homeless, injection drug users, and inmates in the Baltimore prisons. According to Lisa Wolf, one of the original nurses on the AIDS service, "Dr. Bartlett's fame and full schedule could have limited his patient panel to the gliteratti, but instead, it was full of men and ladies named Melvin, Joseph, and Annie, normal people from Baltimore's neighborhoods surrounding Johns Hopkins Hospital. They were poor folk, who bought their clothing from the same used clothing stores where Dr. Bartlett bought his ties and reading glasses."² A patient of Dr. Bartlett's for 18 years says of him, "Dr. Bartlett was the gold standard of doctors; not only did he know the medicines better than anyone—he took the time to get to know me personally. He was never judgmental and I felt comfortable telling him anything."²

When Bartlett became chief of the Johns Hopkins Division of Infectious Diseases in 1980, there were three

faculty members with a total research budget of less than \$285,000. By the time he stepped down in 2006, the division boasted 44 tenure-track faculty, an annual research budget of more than \$40 million, and internationally renowned research programs in HIV/AIDS, tuberculosis, viral hepatitis, sexually transmitted diseases, hospital epidemiology and infection control, antibiotic stewardship, enteric infection, and transplant/oncology infectious diseases. Most of these programs “sprang up from fellows trained under Bartlett and were inspired to remain in the division to tackle the next big thing in infectious diseases.”¹⁶

The academic leader and educator

As president of the Infectious Diseases Society of America (ISDA), Bartlett significantly shaped the direction of infectious diseases. Together with Anthony Fauci (AQA, Weill Cornell Medical College, 1965), a leading expert in HIV and the long-time director of the National Institute of Allergy and Infectious Diseases, Bartlett developed HIV treatment regimens as co-chair of the Department of Health and Human Services Panel on Antiretroviral Guidelines for Adults and Adolescents from 1996 to 2013.¹⁷

Bartlett’s *Medical Management of HIV Infection*, originally published in 1994 and now in its 18th edition, remains the definitive textbook on HIV clinical care. In addition to his effective writing style, which has been characterized as “cogent, persuasive, lucid, direct, and no nonsense,”¹ Bartlett has a unique ability to summarize and highlight important scientific and medical advances. According to Cynthia Sears (AQA, Sidney Kimmel Medical College, 1976), an expert in intestinal bacteria and their role in colon cancer, “I don’t know anyone who can synthesize and distill the clinical literature as well as John Bartlett.”²

Bennett Lorber (AQA, Lewis Katz School of Medicine at Temple University, 1980), an expert on listeriosis and anaerobic infections remarked, “Very few individuals become known as a world expert in a single area; John

is internationally recognized as a leader in at least six,” and he “has reinvented himself more times than the pop singer Madonna.”¹

Bartlett is also widely recognized as a leading figure in antimicrobial resistance, community-acquired pneumonia, and bioterrorism. His contributions to each of these fields are numerous, in the form of white papers, lectures, and advocacy, helping to change long-held prevailing perceptions, and illuminating the path forward. Together with the self-proclaimed Bartlett’s Renegades, David Gilbert (AQA, Oregon Health & Science University School of

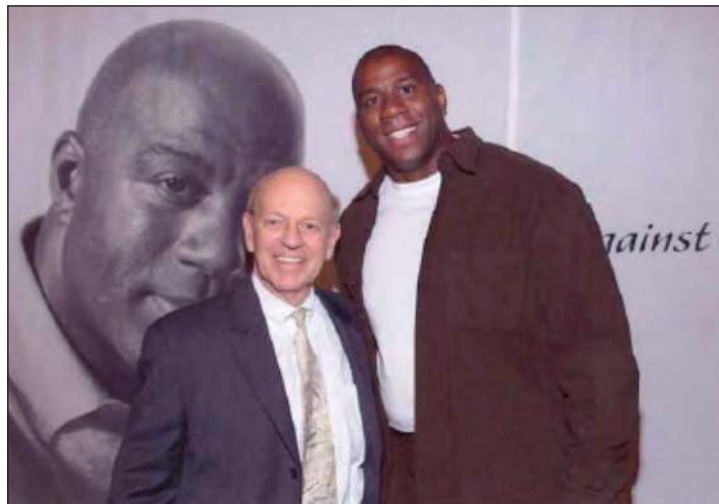
Medicine, 1963) and Brad Spellberg (AQA, David Geffen School of Medicine at University of California, Los Angeles, 1998),¹⁸ Bartlett outlined in an editorial in the *New England Journal of Medicine* a set of specific tasks to combat the worsening problem of antimicrobial resistance, shifting the focus from an impossible-to-win us versus them war on microbes to peaceful cohabitation.¹⁹

On September 13, 1997, at the annual IDSA meeting, Bartlett con-

vened the first ever symposium on bioterrorism to educate colleagues about biological weapons and emerging infections. On the heels of intelligence leaks about the Soviet Union’s biological warfare program, as well as the 1995 sarin and anthrax attacks in Tokyo by a Japanese religious cult, the symposium drew a standing-room-only audience of 2,500 clinicians.²⁰

The next year, together with D.A. Henderson, who is credited with the global eradication of smallpox, Bartlett started the Center for Civilian Biodefense Studies to implement and coordinate medical and public health responses to the emerging bioterrorism threat. He and his colleagues published a series of seven papers in *Journal of the American Medical Association* reviewing various biological warfare agents.

Bartlett’s “Game Changers” and “Hot Topics in ID” lectures, in which he summarized the most important findings of the preceding year in all areas of the discipline,



Bartlett pictured with Earvin “Magic” Johnson, Jr., at an event in the 1990s. According to Bartlett, “Magic did more to destigmatize HIV than anyone else.” Photo courtesy of Dr. Bartlett, from his personal collection

have been among the most highly attended sessions at the annual IDSA meeting. He enralls audiences by recounting fascinating stories and often injecting his talks with well-timed humor. When introducing the concept of fecal microbial transplantation by endoscopy as a method for treating *C. difficile* colitis at the didactic conference for infectious disease fellows, he concluded, “It looks like it really works, but the aesthetics suck!”²

The clinical fellows love rounding with him on the inpatient consult service because they are guaranteed to learn how to diagnose and treat a particular infection, as well as how the causative organism was named, and interesting anecdotes about the discovery of the latest antibiotic. Bartlett has unique access to these intriguing backstories because he reads the literature, and often calls the lead authors directly to obtain more information. He also has a knack for coming up with witty clinical pearls, which his students can still recite. To underscore the hierarchy of efficacy in antibiotics for treating *C. difficile* colitis, he would say, “Vancomycin for your mother; metronidazole for your mother-in-law.”² In addition to his legendary story-telling skills and acerbic humor, what captivates his audiences is his palpable excitement about the topic at hand, and his “sense of awe, his sense of wonder... kind of a gee-whiz quality, a wide-eyed kid at the circus quality.”¹

Bartlett was one of the first to champion the use of the Internet for medical education, creating blogs and online forums to answer questions and generate discussion among HIV providers and patients. According to Gallant, his early espousal of new technologies for educational purposes was highly ironic since “this was a man who could barely turn on his computer.”²

Bartlett’s prodigious output in many diverse areas (his CV is more than 95 pages long and has a table of contents) has led his colleagues to laud his indefatigable work ethic.

One of his secrets is that he awakes every morning at 2 a.m., so that he can “get in at least five or six hours of work before the phone starts ringing or someone knocks at the door.”² He wastes little time, once traveling to China to give a one-hour lecture, only to immediately turn around and return to the airport. Although he occasionally may give the impression of the absent-minded professor—he was invited to give Grand Rounds once in Portland, Oregon, but mistakenly boarded the flight for Portland, Maine—any

downtime he has he spends writing, always equipped with a yellow legal pad and number-two pencil.

On more than a few occasions, Bartlett has been known to put his work above his health. His hospitalization for a herniated lumbar disc barely slowed him down, as he continued to keep all of his appointments from his hospital bed, and the infectious disease fellow would push him around on a gurney during rounds. One morning, he felt substernal chest pain while playing basketball with his son. He recognized the symptoms of angina but went on to give his scheduled Grand Rounds, and then continued working on a book chapter with an imminent deadline. It was only later in the afternoon, during a faculty meeting, that he mentioned his symptoms to the chief of cardiology. An electrocardiogram confirmed that he was having a myocardial infarction.

His wife, seeing a stack of papers under his arm as he was being admitted to the cardiac care unit, did not hesitate to tell the nurse, “I want you to snow him.”²

A kind, gregarious person

According to Fauci, “even though there are very few, if any, people in modern times who are world experts in as many areas of medicine, John Bartlett is one of the kindest, most gregarious people you will ever meet—he has a way of making everyone around him feel comfortable. He also has an amazingly positive outlook on life—for him,



Original oil painting by John G. Bartlett, MD, *Figures* (1980). The painting features a person suffering in the hands of a devoted, but helpless, caretaker. Photo courtesy of Dr. Bartlett, from his personal collection

life is a joy. He is a legend in the field of infectious diseases, but, above all, he is an outstanding human being.”²

Although his official retirement ceremony was held April 11, 2014,²¹ according to Bartlett’s wife, he “never retired—he just moved.”² They now live in Tupelo, Mississippi, near the birthplace of Elvis Presley. He still wakes up every morning at 2 a.m. and spends most of the day “on ID stuff—reviews, a few publications, lots of speeches on ID updates, guidelines, *UpToDate* edits and the NIH-funded Antibacterial Resistance Leadership Group.”² He is writing an article on the need for bright young physicians and scientists to combat emerging infectious diseases and the perennial problem of antimicrobial resistance.

Bartlett has been called a true polymath—a Renaissance man. One of his most beloved pastimes is painting. According to Finegold, “at one point during his training, he actually got tired and asked permission to go to Europe for a few months to paint and draw. He brought me back a beautiful still life.”²

Reflecting on his career, Bartlett admits, “A lot of my decisions were made without the idea that this is a really important part of my life or my career. But, of course, you often don’t know that at the time.”² When asked what advice he would give to the next generation of physician scientists, he offers, “Follow your passion, follow your gut—it might just lead you to the next big thing.”²

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Wisdom stories for medical students on graduation day

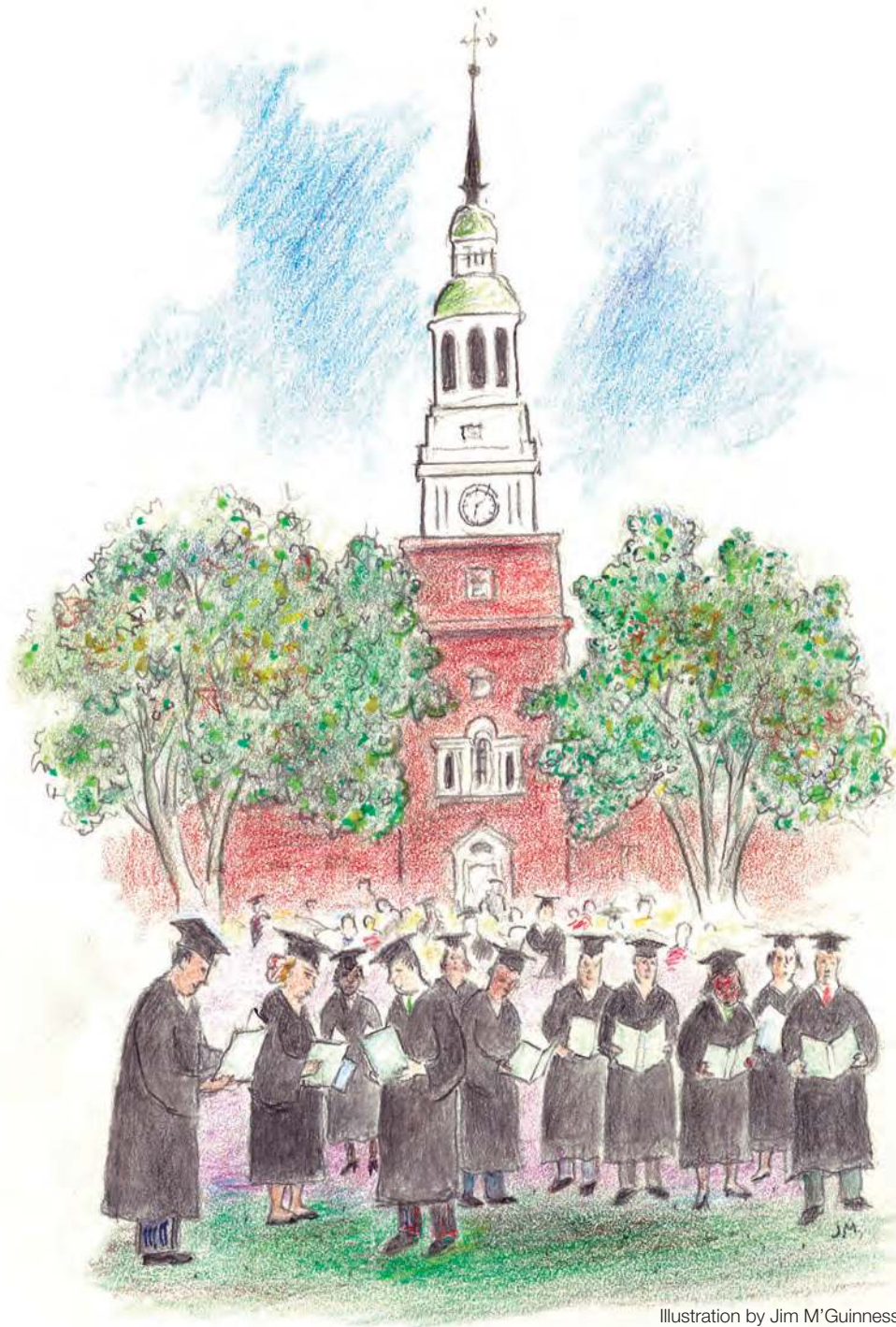


Illustration by Jim M'Guinness

A gift from alumni

Daniel R. Lucey, MD, MPH, and Joseph F. O'Donnell, MD

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In his 1905 farewell address to Canadian and American medical students Sir William Osler compared wisdom with knowledge:

What we call sense or wisdom is knowledge, ready for use, made effective, and bears the same relation to knowledge itself that bread does to wheat.¹

Alumni of the Geisel School of Medicine at Dartmouth recently initiated two new rituals to provide medical students with examples of wisdom derived from knowledge, leavened by experience.

The first ritual is intended to offer wisdom to medical students as one of their farewell gifts on graduation day. A book of stories written for the graduates by more than two dozen alumni of their medical school. The stories are based on extensive clinical and personal experiences. The book is given to students individually at the reception following their graduation ceremony. The tradition first began June 3, 2017. Additional copies are provided to parents upon request.

Thirty-four stories written by 28 alumni from the classes of 1955 to 2009. The stories are approximately 500 words in length with most of them between 400 and 800 words.

A wide spectrum of physicians contributed from the fields of cardiovascular surgery, primary care, oncology, OB/GYN, psychiatry,

pediatrics, pediatric surgery, neurology, senior hospital administration, health care delivery and policy, orthopedic surgery, infectious diseases, and public health.

Many stories illustrate medical wisdom through sharing poignant

clinical experiences, some involving their personal illness or that of someone close. Most are of a very personal and candid nature. All are distilled from years and decades of experience. Some stories discuss diagnostic, therapeutic, or ethical dilemmas. Others address iatrogenesis, medical-legal issues, resilience and remembering to take care of oneself. Some offer specific pearls of wisdom in the form of mentorship, advice, and values illustrating the importance of trust, humility, listening, and striving to heal the spirit as well as the body.

Although the inaugural book was self-financed, a generous long-term funding source has been identified that will allow new collections of stories to be given as a gift to students every year into perpetuity.

Collecting the stories

Alumni were asked to contribute stories via:

1. Class secretaries from 1942-2016 who were contacted by E-mail;
2. At a 2016 continuing medical education seminar for reunion classes; and
3. By directly contacting classmates, friends, and colleagues.

The production team met each month from September 2016 through March 2017 with a group of medical students who were actively supportive of the idea of creating this new medical school ritual. They offered multiple ideas, suggested stories of interest to them; created a website where stories could be shared in a confidential manner; and created dialogue. In addition, feedback on all the alumni stories was requested from these students as well as from two additional alumni.

A gift for second-year students

The original plan was to also share these alumni stories with second-year medical students at the annual transition ceremony in April 2017, marking their progression from the classroom to clinical work. However, it was found to be more helpful for the second-year students if senior-year (fourth-year) students were to provide medical wisdom stories and advice based on their own clinical experiences prior to graduation.

A total of 24 stories including two poems, were written by 20 fourth-year medical students. The stories were 500-800 words in length, and the collection was bound as a soft cover book. The cover had an original illustration by one of the student contributors. As with the alumni stories, most shared poignant clinical



Inaugural alumni and fourth-year books, 2017.

Wisdom stories for medical students

experiences; some were very personal; and a few offered short lists of practical advice for beginning clinical work. Several offered suggestions for balancing work and life.

The Dean of the Medical school cited several of these fourth-year stories in his graduation day address June 3, 2017. He expressed support for continuing both of these new medical school rituals.

Both books have a short dedication statement and ask that the students receiving the books contribute their own stories in the future as part of this new ritual, thereby creating what will become a tradition. The dedication, in part, reads: May these Wisdom stories from alumni be a book-end on your Graduation Day to the White Coat ceremony when you began Medical School.

Fourth-year students who expressed interest in contributing their own stories were provided the paper *Wisdom in Medicine* written by two physicians William Branch and Gary Mitchell. These authors focused on a series of narratives by doctors gathered from a workshop in 2003. Each story offered examples of wisdom. They conclude with four “facilitative pathways that may awaken hunger for wisdom in trainees and young doctors: reflection, self-awareness, storytelling, and group support.” They emphasized that “Seeking wisdom should become embedded in the culture of medicine.”²

Integrating wisdom into the culture of medicine

Adding these new medical wisdom stories from alumni for students on graduation day, and by fourth-year students for second-year students, can help integrate wisdom-seeking into the culture of medicine. Other examples of important rituals at the Geisel School of Medicine at Dartmouth include:

- › The White Coat Ceremony at the beginning of medical school for first-year students;
- › The creation of a class mission statement;
- › A memorial service of thanks to the families of the anatomy donors;
- › The transition ceremony at the end of the second-year when students are welcomed to the clinical experiences; and
- › Graduation.

The White Coat Ceremony (initiated in 1993 by Dr. Arnold P. Gold at Columbia University College of Physicians and Surgeons)³ at the beginning of medical school coupled with the alumni gift of wisdom stories at graduation are complementary bookends to the medical school experience.



Alumni and fourth-year books, 2018.

Each of these rituals contain stories as examples of a life in medicine.

Impacting lived experiences

Hopefully these wisdom stories will impact the lived experiences of the clinical clerks and graduates as they grow in medicine and encounter situations that require wisdom.

Hopefully all of these medical school rituals, both new and established, will create a culture where wisdom is recognized, nurtured, and celebrated.

As a third step in the effort to share medical wisdom, we joined two fourth-year medical students to meet with a group of 20 Dartmouth College undergraduates interested in a career in medicine. During an informal dinner we read a selection of medical wisdom stories written by medical students and alumni, and invited comments. A candid discussion followed. The focus of the conversation initially was on the specific stories, and then more generally on concerns related to the practice of medicine.

Experience is the leavening that can transform medical knowledge into medical wisdom. Sharing of medical wisdom stories in the above ways offers a model to be explored and individualized across the United States and international medical and allied health professional schools.

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Illustration by Ande Cook.

Peacocks and the Red Wolf

Katherine C. Silver, MD, MSCR, and Richard M. Silver, MD, MACR

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The name of my dread disease is Lupus Erythematosus,
or as we literary people prefer to call it, Red Wolf.

—Flannery O'Connor¹

Flannery O'Connor, the mid-20th century Southern Gothic author, achieved notable and enduring fame despite completing only two novels and 32 short stories. Her career was cut short by systemic lupus erythematosus (lupus), a disease difficult to diagnose and even more difficult to treat in the 1950s and 1960s.

Lupus is a systemic autoimmune disease characterized by exaggerated B-cell and T-cell responses and loss of immune tolerance to self-antigens.² Despite today's better understanding of pathogenesis, lupus remains a mysterious and, too often, fatal disease.

Enduring her "dread disease," O'Connor would become one of the towering figures of the American short story, comparable to Poe, her favorite writer as a child; Hawthorne, her idol; and others such as Stephen Crane, Henry James, and Ernest Hemingway.³ O'Connor's legacy is all the more amazing when one considers that the totality of her literary work was completed during her 20s and 30s while ill.

Before the wolf came knocking

Mary Flannery O'Connor was born in Savannah, Georgia, March 25, 1925, the only child of Edward Francis O'Connor and Regina Cline. The O'Connor family was an integral member of the Irish Catholic community of Savannah, a largely Protestant southern town where

Peacocks and the Red Wolf



O'Connor's childhood home in Savannah, Georgia. Photographs by Richard M. Silver



Flannery would live until she was 13 years old. With the financial setbacks of the Great Depression, the O'Connors left in 1938 for Atlanta, where Edward went to work for the Federal Housing Administration, part of Franklin Roosevelt's New Deal.

One year prior to the move, Edward had been diagnosed with lupus, his illness beginning as a whitish patch of skin on his forehead, and arthritis. His initial diagnosis was rheumatoid arthritis.⁴ When Edward's health deteriorated further, the O'Connors moved to the Cline family home in Milledgeville, Georgia. Later, Flannery would move with her mother to Andalusia Farm, a nearby estate purchased in the early 1930s by her uncle, Dr. Bernard Cline, a prominent Atlanta physician.⁴ Flannery's father died just one month after his 45th birthday when Flannery was 15-years-old.

Flannery felt the loss of her father deeply and, although she rarely spoke of him, her fiction is replete with widows and orphans. As a spiritually precocious 17-year-old, during her first year at college O'Connor wrote:

The reality of death has come upon us and a consciousness of the power of God has broken our complacency like a bullet in the side. A sense of the dramatic, of the tragic, of the infinite, has descended upon us, filling us with grief, but even above grief, wonder. Our plans were so beautifully laid out, ready to be carried to action, but with magnificent certainty God laid them aside and said, "You have forgotten—mine?"⁴

In June 1945, O'Connor graduated from Georgia State College for Women (now Georgia College & State University) with a degree in social sciences. She departed Georgia the following year to attend the State University

of Iowa, where she enrolled in the Writers' Workshop. There, O'Connor became acquainted with writers and critics of the day including Robert Penn Warren, John Crowe Ransom, and Andrew Lytle, the editor of the *Sewanee Review*. Her thesis comprised a collection of short stories entitled *The Geranium*, which would contain the seed for her first novel, *Wise Blood*, published in 1952.⁵ After two years, O'Connor received a Master of Fine Arts degree.

She remained in Iowa for another year before going to the Yaddo artists' colony near Saratoga Springs, New York. There, she was introduced to the poet, critic, and translator of the classics, Robert Fitzgerald. While writing *Wise Blood*, O'Connor lived with Fitzgerald and his wife, Sally, who would become her close friend and later would edit *The Habit of Being: Letters of Flannery O'Connor*, winner of a National Book Critics Circle Special Award.¹

O'Connor returned to Andalusia Farm in 1951, where she surrounded herself with birds of all sorts, most notably the peacocks of which she was so proud. Her passion for birds had begun as early as age five, documented when the newsreel producer *Pathe News* sent a photographer to Savannah to film the young O'Connor and her chicken that "had the distinction of being able to walk either forward or backward."⁶ In her 1961 essay *The King of Birds*, O'Connor estimated that she had about 40 beaks to feed, "though for some time now I have not felt it wise to take a census."⁷

The peacock feather would become her literary shorthand, as denoted on the 2015 Flannery O'Connor commemorative stamp issued by the United States Postal Service.

O'Connor would remain with her mother at Andalusia Farm, surrounded by her beloved birds, where she continued to live and write for the next 13 years until her untimely death.



Plantation house at Andalusia Farm near Milledgeville, Georgia, where O'Connor lived and wrote for much of her life. It is now on the National Register of Historic Places. Georgia College & State University



Flannery O'Connor commemorative stamp issued June 5, 2015, by the U.S. Postal Service depicting the author as a young woman, before the onset of lupus. ©Used by permission from The Mary Flannery O'Connor Charitable Trust and the U.S. Postal Service. All rights reserved

The wolf at the door

An early indication of O'Connor's health problems occurred in December 1949, when at age 24 she was traveling to Georgia for a holiday visit.⁸ Once back in Milledgeville, she fell seriously ill, and during a month-long hospitalization surgery was performed to correct a floating kidney. She wrote, "I have to go to the hospital Friday and have a kidney hung on a rib."⁴

The diagnosis of floating kidney (nephroptosis) was often proposed to explain pain in the back, abdomen, groin, or flank called Dietl's crisis, and treated surgically (nephropexy) in the early 20th century.⁸ Later, after learning of her lupus, a physician friend would speculate, "the Dietl's crisis, if that's what it really was, may actually have been the opening salvo in her battle with that cruel disease."⁴ Lupus nephritis, however, is usually not a source of pain, so whether this episode was the initial manifestation of her lupus is unclear.

The following year, while living in Connecticut and working on *Wise Blood*, O'Connor developed joint pain. Rheumatoid arthritis was suspected, but as with her father's illness, this diagnosis would later prove incorrect. Her friend Sally Fitzgerald wrote:

When, in December 1950, I had put Flannery on the train for Georgia she was smiling perhaps a little wanly but wearing her beret at a jaunty angle. She looked much as usual, except that I remember a kind of stiffness in her gait as she left me on the platform to get aboard. By the time she arrived she looked, her uncle later remarked, "like a shriveled old woman."¹

Upon arrival back in Milledgeville, O'Connor was immediately hospitalized. From Baldwin Memorial Hospital

she wrote to a friend, "I am languishing on my bed of semi affliction, this time with AWTHRITUS..."¹ Arthritis is often an early manifestation of lupus, and mimics rheumatoid arthritis, as in her father's case. Recurrent bouts of lupus arthritis may give rise to what is known as Jaccoud arthropathy with characteristic hand deformities that are, unlike those of rheumatoid arthritis, usually reversible and non-erosive.⁹ Photographs of O'Connor suggest that she may have developed Jaccoud arthropathy, as evidenced by ulnar deviation of the fifth metacarpal phalangeal joint along with multiple Boutonniere deformities in her fingers.

During this hospitalization kidney disease was suspected, so her physician consulted Dr. Arthur J. Merrill (AQA, Emory University, 1943), Georgia's first nephrologist. Merrill, an early president of the Southern Society for Clinical Investigation,¹⁰ suspected lupus and upon his recommendation O'Connor was transferred to Emory Hospital in Atlanta.

Letters several years later suggest that O'Connor may also have had a typical (malar) facial rash early in the course of her illness.⁸ Later photographs demonstrate a facial rash with the typical malar distribution of lupus.



Arthritis was one of the earliest manifestations of O'Connor's lupus. This photograph appears to show ulnar deviation of the fifth metacarpal phalangeal joint and Boutonniere deformity suggestive of Jaccoud arthropathy. There may also be swelling over the dorsum of the wrist. "Flannery O'Connor" by bswise is licensed under CC BY-NC-ND 2.0

A diagnosis

At Emory Hospital, O'Connor was found to have a positive LE (lupus erythematosus) cell test, confirming the diagnosis of systemic lupus erythematosus (SLE).

The LE cell was discovered in bone marrow at the Mayo Clinic by Dr. Malcolm Hargraves (ΑΩΑ, Ohio State University, 1933), and had been reported only three years before it was used to confirm O'Connor's diagnosis.¹¹

Fearing the shock of discovering she had the same disease that killed her father, her mother chose to conceal from Flannery the news that she was suffering from lupus.⁴ Familial cases of lupus are not rare. Cumulative studies have shown the tendency of SLE to cluster within families, with first-degree relatives of patients having a greater than 10-fold relative risk compared to the general population.¹²

Following another month-long hospitalization with blood transfusions and steroid treatment, O'Connor improved and was discharged on daily ACTH (adrenocorticotropic hormone) injections. One year earlier, Kendall, Hench, and Reichstein shared a Nobel Prize for their discoveries relating to the hormones of the adrenal cortex, their structure and biological effects. In his Nobel lecture, Dr. Philip S. Hench (ΑΩΑ, University of Pittsburgh, 1925) listed lupus as one of the rheumatic conditions responding to steroid therapy.¹³

By June 1951, O'Connor was well enough to return to Connecticut, and it was only then that she learned from Sally Fitzgerald that her diagnosis was lupus, not rheumatoid arthritis. "Flannery, you don't have arthritis," Sally related. "You have lupus."⁴ After a few moments of silence, Flannery responded, "Well, that's not good news, but I can't thank you enough for telling me..., I thought I had lupus, and I thought I was going crazy. I'd a lot rather be sick than crazy."³

The treatment

Steroid therapy with cortisone and ACTH was a great step forward in the management of lupus. O'Connor tersely assessed her father's earlier treatment saying, "at



Photograph of O'Connor taken in 1952 for a book signing party to celebrate publication of her novel *Wise Blood*. ©Courtesy of Special Collections, Russell Library, Georgia College

that time there was nothing to do for it but the undertaker."¹ Reports as early as 1956, however, noted, "although these steroids modify the acute phase of the disease, there is less evidence that they influence the subsequent course."¹⁴

While corticosteroids markedly improved O'Connor's symptoms, this was certainly not without high cost. In January 1953, O'Connor wrote, "I am doing fairly well these days, though I am practically bald-headed on top and have a watermelon face,"¹ signifying alopecia and iatrogenic Cushing syndrome. Another likely steroid complication occurred by early 1954, when O'Connor developed a limp and progressive hip pain,

subsequently attributed to avascular necrosis of the femoral head. O'Connor would require the use of crutches for most of her remaining years. In a letter to a friend, she wrote:

My last x-rays were very bad, and it appears the jaw is going the same way as the hip is. I had noticed a marked change in the position of my mouth.¹

Suggesting that avascular necrosis may have also affected her jaw.

A few weeks later she wrote:

What they found out at the hospital is that my bone disintegration is being caused by the steroid drugs which I have been taking for 10 years. So they are going to try to withdraw the steroids.¹

O'Connor's steroid therapy was tapered during the first half of 1961, perhaps aided by the addition of an antimalarial drug. In May of that year, O'Connor was taking chloroquine (Aralen®). Ten years prior, the first report of an antimalarial (mepacrine) for lupus had been published.¹⁵ Flannery wrote to a friend who also suffered from lupus to say, "Dr. Merrill tells me that they can control the lupus skin rash (when it is just the skin-type of lupus and not systemic lupus) entirely with Aralen."¹ Today, antimalarials,

e.g., hydroxychloroquine (Plaquenil®), are a cornerstone of the management of skin and joint manifestations of lupus.

After steroid withdrawal, her lupus appeared to be in remission, as O'Connor's correspondence mentioned no new health problems until Christmas Day of 1963, when she reported to a friend that she had fainted several days earlier and was restricted to bed. She was found to be anemic, due to bleeding from a fibroid tumor, and she was hospitalized for a hysterectomy.

The surgery appeared to be successful, however she returned to the hospital for 10 days the third week in April because "I woke up covered from head to foot with the lupus rash."⁴ Lupus often flares following stress including that induced by surgical trauma.

In late May, O'Connor was admitted to Piedmont Hospital in Atlanta with anemia, weakness, and a 20-pound weight loss. She reported that her blood pressure was "dangerously" high.⁸ She was placed on a low-protein diet,



O'Connor at Andalusia Farm with one of her peacocks. For much of her later life she required the use of crutches due to hip pain from avascular necrosis. The Habit of being / photo by Joe McTyre. Georgia, printed ca. 1979

suggesting she was azotemic, and she received transfusions because her hemoglobin was "down to 8."⁸ After almost a month, she was discharged home. "My dose of prednisone has been cut in half on Dr. Merrill's orders because the nitrogen content of the blood has increased by a third."¹

In late July, she was given another blood transfusion and wrote about receiving "a double dose of antibiotic for the kidney," also writing that "they are withdrawing the cortisone."¹ Soon afterward, O'Connor became critically ill and was rushed to the hospital. O'Connor, at only 39 years of age, lapsed into a coma and died August 3, 1964.

Living with the red wolf

It has been said that one of the most remarkable features of O'Connor's letters is how little she says about her personal suffering.⁴ Instead, she often made self-deprecating quips about her illness and its treatment.

Regarding her painful daily injections of ACTH, O'Connor wrote to a friend, "I owe my existence and cheerful countenance to the pituitary glands of thousands of pigs butchered daily in Chicago, Illinois at the Armour packing plant. If pigs wore garments I wouldn't be worthy to kiss the hems of them."¹ On one occasion, when a viral infection led to a flare of her lupus and the dose of ACTH had to be increased, O'Connor found comfort in the fact that the cost of the ACTH not covered by insurance had been "...reduced from \$19.50 to \$7.50," which she described as "a kind of Guggenheim," referring to the coveted fellowships for gifted writers and artists.⁴

By the spring of 1954, O'Connor was beginning to limp and was noted to use a cane. To a friend she wrote, "I am doing very well these days except for a limp, which I am informed is rheumatism. Colored people call it 'the misery.' Anyway I walk like I have one foot in the gutter but it's not an inconvenience and I get out of doing a great many things I don't want to do."⁴

On her later requirement for crutches, O'Connor wrote, "They say if I keep the weight off it entirely for a year or two, it may harden up again; otherwise in my old age I will be charging people from my wheelchair..."¹

Despite limited weight bearing, the hip never improved. At one point, hip arthroplasty was discussed but later dismissed for fear the stress of surgery might flare her lupus.

O'Connor continued to deal with her requirement for crutches in her inimitable style. An elderly woman she encountered in an elevator of an Atlanta department store whispered in her ear, "Remember what they said to John at the gate, darling!" In a letter to a friend Flannery recounted this experience noting that she had learned the meaning of

the elderly lady's words, i.e., "The lame shall enter first." O'Connor continued, "This may be because the lame will be able to knock everybody else aside with their crutches."⁴

In O'Connor's short story *The Lame Shall Enter First*, the main character, Rufus, is described as having a "monstrous club foot," and she describes a brace shop where "the walls were hung with every kind of crutch and brace."¹⁶

In the spring of 1958, O'Connor, made a pilgrimage to Lourdes with her mother and a wealthy Savannah cousin who financed the trip. O'Connor wrote, "Lourdes was not as bad as I expected it to be....They passed around a thermos bottle of Lourdes water and everybody had a drink out of the top. I had a nasty cold so I figured I left more germs than I took away."¹

It was not physical health that O'Connor was after at Lourdes or anywhere else, "I prayed there for the novel I was working on, not for my bones, which I care less about," she wrote.⁴

In early 1960, soon after her second book *The Violent Bear It Away* went on sale, O'Connor realized her greatest fear of having her life and her disease exposed.⁴ In an unflattering book review for *Time*, a critic mentioned (and mischaracterized) her lupus. To a friend, O'Connor wrote, "My lupus has no business in literary considerations."¹

In her introduction to *The Habit of Being*, Sally Fitzgerald wrote of O'Connor, "...her offhand way of speaking of her physical ordeal, when she did, tells more about her gallantry than any encomium could make real."¹ One month before her death O'Connor wrote, "The wolf, I'm afraid, is inside tearing up the place."¹

Undeterred by the "Red Wolf," O'Connor will be remembered for her darkly comic and unsettling stories, and as one of the most brilliant and provocative writers of the 20th century.

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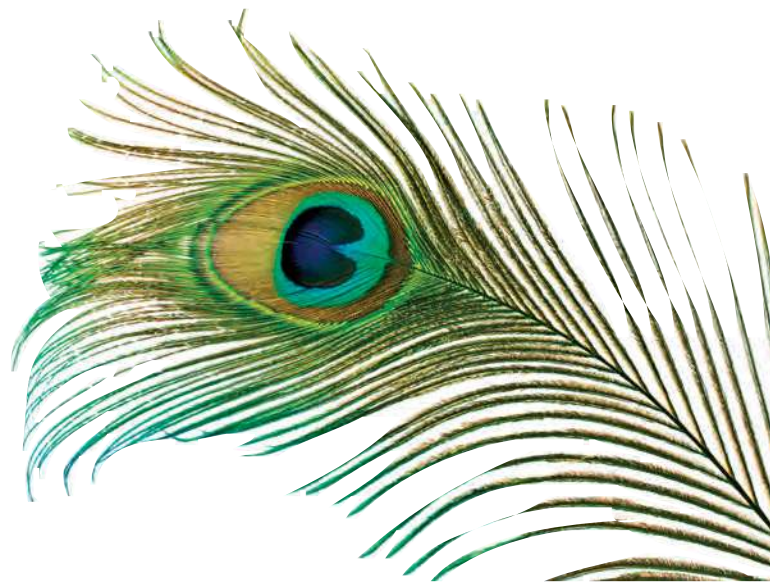
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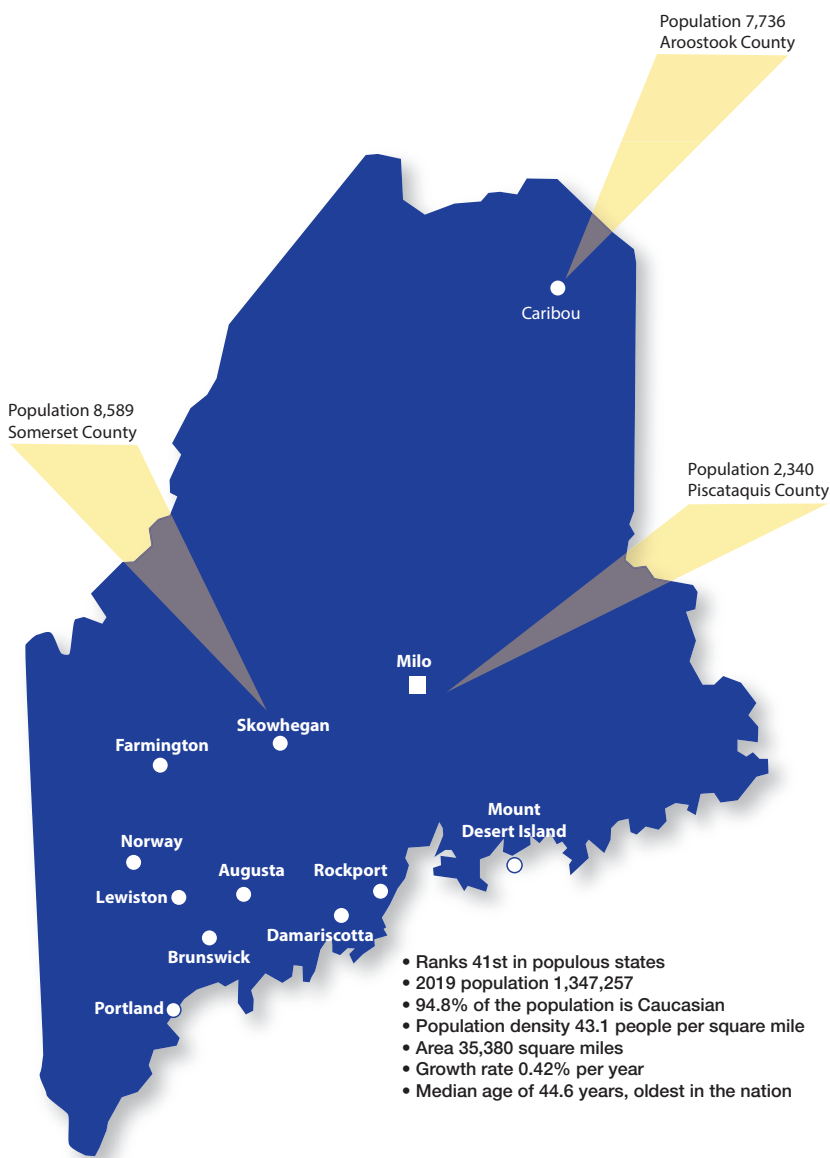
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Improving rural health and health care through medical education: The Maine Track

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Rural America is hurting from quietly losing population for decades. When communities suffer, so do their health systems. Over the past century, the departure of traditional industries and declining employment have threatened the existence of rural communities across the country. Home to a majority of Americans a century ago, only 20 percent of Americans live in rural communities today. As J.D. Vance puts it in his memoir of a rural childhood, *Hillbilly Elegy*, “You see, I grew up poor, in the Rust Belt, in an Ohio steel town that has been hemorrhaging jobs

and hope for as long as I can remember.”¹

Rural communities and hospitals struggle with health care provider shortages, financial pressures, and disproportionate rates of chronic illness and addiction. Hospitals are often the dominant employer in small towns. Rural hospitals are closing,² reducing access to care, and threatening the communities they serve.

According to the U.S. Census Bureau (2017), Maine is America’s most rural state with more than 60 percent of its 1.3 million residents living in locales of less than 2,500. Maine also has the oldest population, with a median age of 44.6 years, followed by New Hampshire (43.0 years), and Vermont (42.7 years).³

Small Maine communities face challenges different from, and in some instances greater than, urban communities. Chronic illness, social determinants adversely affecting health, addiction, geographic access to health care, lower life expectancy, and physician shortages are more common in rural settings.⁴ Delivering primary and

subspecialty care, while often rewarding, is challenging; health care resources are often limited and professional isolation is common. Continuing professional development and lifelong learning in the midst of a busy rural practice, while necessary, is difficult. Rural communities, like all communities, have their own proud culture—an understanding of local culture and rural demographics is fundamental to succeeding in rural practice.

Medical education in the United States has, for decades, acknowledged the rural physician shortage and responded with innovative programs like those in the state of Washington. The University of Washington School of Medicine's Regional Medical Education Program (WWAMI) encompasses Washington, Wyoming, Alaska, Montana, and Idaho.⁵ North Dakota and Minnesota, among others, also have successful rural medical education programs designed to encourage and support rural practice. While these initiatives have been individually successful, the rural provider shortage appears to be worsening, according to the Center for Work force Studies of the Association of American Medical Colleges (AAMC).⁶ This shortage is contributed to by a decline in medical school applicants seeking a rural practice career, rural physician retirement, and recruitment competition from urban areas (also experiencing provider shortages).

One northern New England regional initiative specifically designed to improve rural physician recruitment and retention is the Maine Track—a partnership between Tufts University School of Medicine (TUSM), Maine Medical Center (MMC) and rural Maine communities and their hospitals.

Maine Track origins

In 2005, the Council on Graduate Medical Education (COGME), in a departure from prior reports, released its 16th report recommending a 15 percent increase in U.S. medical school enrollment (about 3,000 graduates per year) by 2015 to meet rising demand.⁷ The AAMC quickly followed that recommendation with a call for Liaison Committee on Medical Education (LCME) accredited medical schools to increase enrollment by 30 percent through increases in existing class size, and by establishing new schools.⁸

In Maine the collective realization dawned on health systems leaders that the impending national work force

shortage would only worsen physician recruitment and the high recruitment costs that hospitals and independent practices were already experiencing. Maine was not positioned well to produce its own physicians through existing undergraduate (UME) and graduate medical education (GME). In 2008, Maine was one of six states without an LCME accredited medical school and in 2014 ranked well below the national median in GME positions per capita.⁹ Maine does have the University of New England College of Osteopathic Medicine. There was also a recognition that Maine could no longer look to regional or national GME programs to address its physician work force needs as only a small proportion (<5 percent) of GME graduates nationally were choosing rural practice.¹⁰ Maine did not have the educational infrastructure to grow its own physician work force, and to be successful, needed to invest more in medical education within Maine.

To address the physician work force shortage, MMC leaders—Peter Bates, MD, Chief of Medicine; Robert Bing-You,

Vice President of Medical Education; CEO Vincent Conti; and his successor Richard Petersen; and Heidi Hansen, Trustee—began to develop a vision for a Maine medical education model that would create a partnership between a respected medical school, Maine Medical Center, and Maine communities and hospitals. William Medd, MD (AQA, University of Rochester School of Medicine and Dentistry, 1968), a general internist and community leader at Stephens Memorial Hospital in Norway, Maine and other community physicians, hospital CEOs and health care leaders played a key role in planning the needs of Maine communities. Tufts University President Larry Bacow, JD, PhD, and TUSM leaders Dean Michael Rosenblatt, MD, and his successor, Dean Harris Berman, MD (AQA, Tufts University School of Medicine, Faculty, 2018), embraced the vision of a Maine-based TUSM-MMC medical education—The Maine Track (which recently celebrated its 10th anniversary).

Maine Track model

Once the partnership was agreed to, a Maine Track Steering Committee composed of medical education leaders was appointed. Chaired by the TUSM Dean and MMC CEO, the committee included members of the TUSM Dean's leadership team and MMC educational, research,



During a prenatal visit, Marya Spurling, MD, listens to fetal heartbeat, with the help of the patient's five-year-old daughter.

and financial leaders. The steering committee chairs appointed a Maine-based Academic Dean, MMC's then Chief Medical Officer Peter Bates, to provide strategic and operational leadership. Meeting at least twice yearly, the steering committee routinely communicated on the key areas of admissions, student performance, program assessment, and expansion and innovation. The personal and professional relationships developed among steering committee members were fundamental to addressing the inevitable program challenges as they arose.

For this educational experience to meet both the needs of Maine communities and national medical educational standards, the steering committee decided that Maine Track students must meet the same curricular objectives of all TUSM students, while also participating in a customized learning environment designed to encourage a career in rural medicine. Three Maine Track foundational building blocks were established:

1. Recruit qualified applicants from Maine and from other rural states;
2. Provide scholarship support to minimize financial pressures on student career choice; and
3. Foster community careers through a community-based experience.

The steering committee agreed to an initial class size of 36 students, with an admissions subcommittee based in Maine. The subcommittee was charged with ensuring that applicants recommended for admission met TUSM standards and, embraced the rural mission of the program. Those who had lived in rural areas or who demonstrated a commitment to rural life were of special interest to the subcommittee. The admissions process required coordination between the Maine-based subcommittee and the TUSM admissions committee, which retained authority over the selection process.

Assuming responsibility for the Maine Track brought medical student education to the forefront of MMC and its community hospital partners' strategic thinking. For many of the community hospital partners, medical student education was an entirely new experience.

To facilitate this collaboration, an independent consultant conducted interviews of MMC executive and board leaders, community hospital faculty, and the leadership of TUSM. It was clear from the interviews that MMC executive leaders and board members embraced the goal of medical education supporting the recruitment and retention of Maine physicians. Critical to creating program alignment meeting the needs of all stakeholders, the program must improve the lives of patients (access, quality, and cost) and teaching hospital conflict must be avoided.

While community faculty were excited about teaching and the value of medical student education for their communities and hospitals, there was concern about the impact of teaching responsibilities and academic bureaucracy on their clinical work. TUSM leadership was responsive to these concerns, expressing a commitment to creating a tailored program to meet Maine's medical education needs while meeting community concerns. TUSM was also open to expanding the Maine Track class over time.

The intersection of these stakeholder preferences led to a value proposition approach to this multilevel partnership. All parties united around the mission to grow the Maine physician work force by providing access of qualified students to an affordable, state-of-the-art medical education with a focus on rural health care. At the same time, TUSM and MMC, along with each participating community hospital, developed their own value proposition. Implicit in this shared-value model is an accountability structure designed to address local and overall program needs. TUSM would hold primary accreditation responsibility for the medical school program through the LCME and would be the degree granting authority. MMC and each community partner recognized this relationship and their respective accountabilities to TUSM to ensure that LCME standards were met. A faculty development, appointments and promotions, and financial responsibility relationship existed among the partners. MMC assumed primary responsibility for educational leadership and operations of the Maine Track. Each rural community was granted the flexibility to customize the educational program to meet local objectives so long as the standards determined by the steering committee were met. This distributed model required frequent review to ensure the program functioned smoothly and met its objectives.

A financial model meeting overall standards while preserving local authority supported the program. Each participating organization agreed to meet faculty and other resource requirements set by the steering committee, and retained the flexibility to fund their portion of the Maine Track according to their budgeting process. The financial model is inefficient by traditional measures—a distributed educational program carries higher faculty expenses than a centralized one—requiring each organization to fund a portion of their participation costs. However, when savings in physician recruitment and other costs borne by participating communities were considered, the value proposition made financial sense.

The Maine Track is supported by dedicated philanthropy, which has raised more than \$40 million for

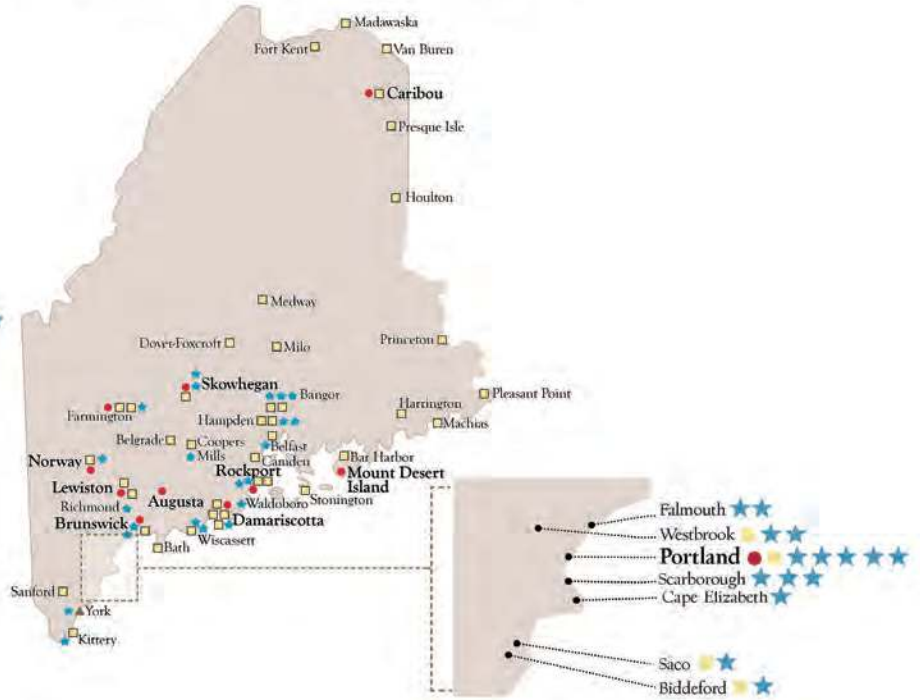
TUSM MMC Program *Maine Track*

Undergraduate Medical Education Teaching Partnership

Teaching Sites

- LIC Site
- Orientation Sites
- ★ CAP Sites

- | | |
|------------------------|-----------------------|
| Augusta ● | Machias ■ |
| Bangor ■ ★ ★ ★ | Madawaska ■ |
| Bar Harbor ■ | Medway ■ |
| Bath ■ | Milo ■ |
| Belfast ★ | Mount Desert Island ● |
| Belgrade ■ | Norway ● ★ |
| Biddeford ■ ★ | Pleasant Point ■ |
| Brunswick ● ★ ★ ★ | Portland ● ★ ★ ★ ★ ★ |
| Camden ■ | Presque Isle ■ |
| Cape Elizabeth ★ | Princeton ■ |
| Caribou ● | Richmond ★ |
| Coopers Mills ★ | Rockport ● ★ ★ ★ |
| Damariscotta ● ■ ■ ■ ★ | Saco ★ |
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| Hampden ■ ★ ★ | Van Buren ■ |
| Harrington ■ | Waldoboro ★ |
| Houlton ■ | Westbrook ● ★ ★ |
| Kennebunk ■ | Wiscasset ★ ★ |
| Kittery ★ | York ★ |
| Lewiston ● ■ ■ | |



half-tuition scholarships, a critical factor in attracting the best students, regardless of their ability to pay, and limiting the impact of educational debt on career choice. Maine Track philanthropy is coordinated through the MMC and TUSM development departments with goals set by the Maine Track Steering Committee and approved by the MMC Board of Trustees. The generosity of Maine individuals and foundations such as the Libra Foundation cannot be overstated. The scholarship program has allowed the Maine Track to attract students who may have chosen other medical schools or been unable to attend the Maine Track due to debt burden.

Financial stability provided by TUSM financial aid, MMC’s medical education funding, community hospital support, and dedicated philanthropy allowed program leadership to explore and implement an educational model tailored to Maine—the Longitudinal Integrated Clerkship (LIC)—a signature feature of the Maine Track. The LIC, originally developed at Cambridge Hospital,¹¹ fosters longitudinal third-year medical student clinical experiences, unlike the traditional specialty block structure. The Maine Track sponsors the LIC at MMC, nine Maine community hospitals, and the Veterans Administration Healthcare System in Togus, Maine. The value of the LIC for each participating community, in spite of its complexity and costs, is key to the success of the Maine Track. A central value question for each of the nine communities was, “are we willing to commit scarce resources over years to an educational program that will hopefully enhance the recruitment of physicians, improve patient care, and the health of our community?” An affirmative answer to this question

required trust, leadership, and the courage to innovate while acknowledging the potential risk for hospital leaders.

At its simplest, the Maine Track curriculum consists of two pre-clinical years at the TUSM Boston campus and two years of clinical experience in Maine. Within this framework, other Maine Track features encouraging rural practice include a three-day rural immersion during orientation; a rural-oriented second-year introduction to clinical medicine; optional Maine summer research internships including community-based research projects; and fourth-year electives in rural medicine.

The LIC has proven to be the most attractive and impactful feature of the Maine Track program. Envisioned to bring educational continuity¹² into the clinical clerkship experience, the rural LIC offers a patient- and learner-centered approach during the third year of medical school. Further, the LIC is readily adaptable to smaller community hospitals where students are fully immersed in patient care with meaningful patient and teaching-physician relationships, medical decision-making and continuity throughout a patient’s illness. These formative experiences promote interdisciplinary and interprofessional practice learning with students often becoming patient advocates throughout a variety of care venues.

Students immersed in a community setting gain an understanding of local culture and demographics, social determinants of health, and the relationship between health and health care. The LIC faculty experience often reinvigorates careers, bringing joy and fulfillment to demanding professional lives. For LIC hospitals, faculty participation supports the clinical staff through recruitment

of future graduates, retention, and improved performance by clinicians. Learning is bidirectional—students acquire knowledge and skills from community preceptors, and in turn, faculty learn as they prepare to teach. Many LIC clinicians have expressed sentiments such as, “I’m a better doctor because of the students.”

Early results

A new medical educational program must be accountable and quickly establish credibility in multiple domains including applicant and student characteristics; academic performance of students in the program; faculty and student satisfaction; and placement of graduates in Maine careers. With the exception of longer-term measures such as career placement, these goal measures are captured in the Maine Track Scorecard, owned and managed by the steering committee.

Initially, 25 percent of the financial support from TUSM to MMC was driven by annual scorecard results, and conceived as a payment for quality. Scorecard measures and student survey results are shared with all faculty, administrative, and governance colleagues. The results also help to make curricular adjustments to improve the program, and recognize outstanding faculty. A subset of the scorecard is shared with each community LIC site during their annual visit, and when appropriate, quality payments are shared proportionately to support local program costs.

MMC sponsors an annual full-day medical education retreat for community hospital faculty and leaders, MMC faculty and leaders, and TUSM leadership. This event ensures that all parties remain focused on the shared educational and health system goals for the program.

The academic year 2014-15 scorecard demonstrates that the mean undergraduate Grade Point Average and Medical College Admission Test scores of Maine Track students are comparable to those of the overall TUSM class. This is also true over time for the Observed Structured Clinical Examination, United States Medical Licensing Examination steps 1 and 2, and student and faculty satisfaction scores.

A key test of the Maine Track is career choice, particularly student interest in primary care, and placement of its graduates in Maine residencies. Data from the 2018 AAMC Graduation Questionnaire¹³ support

the intention of many graduating Maine Track students to practice in smaller communities and care for underserved populations. Compared with a national average of 3.4 percent, 33.3 percent of graduating Maine Track students plan to practice in communities with a population of less than 10,000. Regardless of location, 45.5 percent said they intend to care primarily for an underserved population compared with 34.7 percent of students nationally.

The 2017 match results were typical of the first six graduating classes: 51 percent chose a primary care residency (internal medicine, family medicine, pediatrics, and medicine-pediatrics). Students who participated in the LIC had a higher primary care match rate (68 percent) as did those receiving Maine Track tuition scholarships (58 percent); 39 percent chose a MMC residency, significantly more than MMC’s residency recruitment from non-TUSM medical schools prior to the Maine Track relationship with TUSM.

As Maine Track graduates complete their residency programs, the steering committee is beginning to understand

2014-2015 Maine Track Scorecard			
Admissions Data			
M18 Matriculant Mean Total GPA	Goal	Actual	Percentage
	≥TUSM mean GPA (3.67)	3.66	6%
M18 Matriculant Mean MCAT	Goal	Actual	Percentage
	≥TUSM mean score (32.6)	32.6	6%
M19 Maine applicant number	Goal	Actual	Percentage
	75	81	8%
		Total	20/20%
Exam Data			
M17 & M18 COURSES	Goal	Actual	Percentage
	> TUSM % Pass (89%)	92%	5%
M16 EOY OSCE	Goal	Actual	Percentage
	> TUSM % Pass (94.9%)	86.20%	5%
M17 USMLE Step 1	Goal	Actual	Percentage
	> TUSM % Pass (97%)	97%	5%
M17 USMLE Step 1	Goal	Actual	Percentage
	≥ TUSM Mean Score (227)	227	5%
M15 USMLE Step 2	Goal	Actual	Percentage
	> TUSM % Pass (98.7%)	97%	5%
M15 USMLE Step 2	Goal	Actual	Percentage
	> TUSM Mean Score (243)	243	5%
		Total	30%
Student Satisfaction Data			
M16 LIC Student Satisfaction	Goal	Actual	Percentage
	≥TUSM mean score (4.3)	4.2	10%
M16 Block Student Satisfaction	Goal	Actual	Percentage
	≥TUSM mean score (4.3)	4.3	5%
M15 GQ Overall Satisfaction	Goal	Actual	Percentage
	≥TUSM mean score (4.3)	4.4	15%
TUSM Dean's Assessment			
Discretionary	Goal	Actual	Percentage
	Qualitative assessment	20	20%

GPA = Undergraduate Grade Point Average, MCAT = Medical College Admission Test score, M17 = student class graduating 2017, EOY OSCE = End Of Year Observed Structured Clinical Examination, USMLE = United States Medical Licensing Examination, LIC = Longitudinal Integrated Clerkship, GQ = Graduation Questionnaire, satisfaction scores based on a scale from 1-5, TUSM mean score () = overall class performance, same year.

the early impact of the program on Maine's physician work force. When the analysis focuses on those who have completed all of their GME training, 43 percent of Maine Track graduates have chosen to practice in Maine. Placing graduates in Maine communities and the impact of the program on overall recruitment of clinicians continue to be benchmarks of the program.

Beyond objective outcomes, an intriguing story has emerged from the participating LIC communities. Community hospitals without a prior history of medical student education have begun to take note of how engaged staff are with their students. LIC students are immersed in their communities and local cultures learning the virtues and challenges of life in small Maine communities. Their curiosity leads them to learn about local health patterns, industries, educational systems, history, and to get involved.

Through these experiences and their clinical education, each student acquires a deeper understanding of what it means to be a physician in a rural community. Local health care leaders, fatigued by external authority white papers and consensus recommendations about physician recruitment and retention, have begun to appreciate medical education in a new light.

Maine Track stories

Milo is a town of 2,340 residents in Piscataquis County, Maine. A center of tourism near Baxter State Park and Mount Katahdin, 19th century Milo hosted the timber industry and was an important railroad center. Its population peaked in 1940 at 3,000, and has declined since. Its newest physician is John Daggett, MD, a Maine native who graduated from the Maine Track in 2014, and completed an internal medicine residency at MMC in 2017. He practices in a Federally Qualified Health Center (FQHC) in Milo and lives in nearby Sebec, Maine. Daggett's practice encompasses poverty, chronic illness, and addiction. In confronting these challenges, Daggett notes:

Having been engaged in health care throughout my training in Maine, I feel I am better prepared to tackle the unique challenges presented by the delivery of rural health care.

Skowhegan, Maine is a community of 8,589 residents in Somerset County. Marya Spurling, MD, is a 2013 graduate of the Maine Track, and completed a family medicine residency in Alaska before returning to Maine to enter practice in Skowhegan. Spurling comments:

As a Maine native, I felt privileged to be able to train in

rural Maine through the LIC. My third-year experience in Farmington had a direct impact on my family's decision to return to central Maine after residency, and the foundation built during the LIC has helped shape more than my medical knowledge and experience but also my community ties, which are incredibly important to rural practice. I am also excited to become more involved in the LIC as a Family Medicine Preceptor for the Maine Track's next generation of Maine physicians.

Dick Willett is CEO of Redington-Fairview General Hospital (RFGH) in Skowhegan where Spurling practices. Provider recruitment and retention is a constant challenge to maintain critical services for this community hospital. RFGH had previously hosted medical students and residents for one-month rotations, but the nine-month Maine Track LIC represented a major organizational commitment to medical education. When asked about the Maine Track, Willett didn't hesitate to say:

Our medical staff leadership was enthusiastic from the beginning. Once our first two students arrived, we knew it was a good decision. Their enthusiasm and desire to learn was infectious and the entire organization became involved. The opportunity to teach also became an asset to recruit new physicians and other clinicians. We're proud to have a member of the inaugural Maine Track class now practicing family medicine in our community.

Caribou is a community of 7,736 in Aroostook County, Maine, near the Canadian border. Its hospital, Cary Medical Center, recently welcomed Caleb Swanberg, MD (AQA, Tufts University School of Medicine, 2015), a Maine native, back to the community following his graduation from the Maine Track and a family medicine residency in Utah. Swanberg states:

The importance of community was one of the most significant values I learned growing up in rural Maine. As I entered medicine, I knew that I wanted to become a rural family practice doctor. The Maine Track reinforced the importance of community. In the first week of medical school, we were sent to small towns, learning how important and rewarding primary care medicine can be in a rural area. We discovered that by living in, and giving back to, our community, we can better care for those within it. I have been able to return to my hometown. The Maine Track fostered a love of community medicine that has made me the doctor I am today.

For TUSM and Dean Harris Berman, the Maine Track offered an opportunity to expand TUSM's class size, and access to clinical sites at Maine Medical Center and in Maine rural communities. The chance to create an innovative educational program focused on rural practice was an added incentive. Berman stated:

The Maine Track, now in its 10th year, has solidified the relationship between TUSM and Maine. The focus on preparing physicians for careers in rural practice has attracted high quality medical school applicants and added new depth to our educational offerings.

Maine Medical Center's CEO Rich Petersen shares a similar view on the benefit of the program for MMC and Maine:

The Maine Track has helped fuel a transformative change in Maine Medical Center. Teaching excites our faculty, and the presence of smart, curious medical students has created new energy in our organization. Our recruitment of physicians and other leaders has also benefited, bringing new talent to our growing clinical enterprise.

Patients in LIC hospitals enjoy assisting student learning. A patient recounting her experience with an LIC student said:

I felt touched and honored...surprised that my story could have any sort of impact on anyone. It will be something that I will always remember.

And, when asked about their medical student, a family member of a hospitalized patient stated:

I think she learned that the patient is a fellow human being with emotions.

Why does the Maine Track work?

The identity of the Maine Track begins with its structure and culture of broad ownership and shared values designed to benefit all partners. Rural physician work force development is a strategic priority for TUSM, MMC, and the Maine Track community hospitals.

The Maine Track Steering Committee continues to be the primary vehicle guiding the partnership at multiple organizational levels, from high-level leadership and governance to individual faculty members.

For TUSM, this relationship strengthens its network of teaching hospital partners, increases its visibility in rural and primary care education and brings a new cadre of teaching faculty to the school.

MMC recognizes that this program brings distinction to the organization, helps recruit highly-skilled clinicians and leaders, and supports its pipeline of future physicians. Bond rating agencies have identified the strength of the TUSM-MMC relationship in their assessment of MMC.

The Maine Track hospitals have embraced medical education as a strategic asset supporting their respective health care vision, and is complementary to clinical work. The LIC faculty and staff, hospital leadership, and boards of trustees are making the necessary financial and programmatic investments to make the LIC model work. Medical students quickly assess how interested faculty and staff of teaching hospitals are in their education and professional development. The Maine Track LIC student satisfaction scores affirm the strength of this support.

Faculty development provided by TUSM and MMC, coupled with the dedication of local clinicians to teaching excellence, has ensured a solid Maine Track educational experience. The evolution of experienced clinician to clinician-educator, observed by nearly every participating hospital CEO, has had a favorable impact on local medical staff retention. The Maine Track and TUSM student body have recognized the teaching excellence of community faculty, ensuring an authentic and rewarding rural health care experience, and influence on residency training and career selection.

Contemporary medical education themes, such as interprofessional and team care, population health, critical clinical reasoning, social determinants of health, quality, safety, and improvement science bring a new learning dimension to Maine Track hospitals. Community faculty development translates into early adoption of contemporary concepts into local health care culture and practice. Students are favorably impacted by the collegial environment in a community setting, and incorporate those acquired skills into their developing professional practice. Students have been known to ask awkward questions provoking a re-examination of long standing practice, often resulting in improvement by clinicians and organizations. The impact of this imprinting process is difficult to measure but readily acknowledged by local faculty and hospital leaders as a benefit of the Maine Track program.

The scholarship program has proven to be very important to the Maine Track's success. Financial support helps deserving students obtain a medical education with lower debt, making residency and career choices less complex. Maine state government has converted a student loan program into scholarships for Maine Track and other medical students, renaming the program "Doctors for Maine's Future." Endowed legacy scholarships from individuals, foundations, physician

groups and health care organizations are increasing. For physicians, the opportunity to teach and contribute to the scholarship program allows them to give back to their profession and increase fulfillment in their careers.

This collective generosity and the sense of responsibility engendered among student recipients are fundamental to realizing the vision and long-term future of the Maine Track.

Future opportunities

As the Maine Track enters its 11th year, planning is under way to further strengthen the pipeline of future physicians and other clinicians, while supporting local communities and their hospitals in new ways. In collaboration with Stephens Memorial Hospital in Norway, Maine, MMC's internal medicine residency has launched a shared rural track, believed to be the first in the nation. Known as the Rural Internal Medicine in Maine (RIMM) Track, it is designed to prepare graduating internists for careers in underserved communities. This offering has attracted significant attention among internal medicine residency applicants, and has placed its first graduate in a rural practice.

The Maine Track has also developed a Certificate in Health Care Improvement in collaboration with TUSM and the Dartmouth Institute for Health Policy and Clinical Practice. This program is designed for medical students in the Maine Track and LIC community hospital and clinic leaders—executives and clinician leaders, including nurses and physicians. The program consists of five modules presented in a distance-learning format covering principles of population health, quality and safety, improvement science, practice variation and leadership. For community hospitals adapting to greater and greater performance requirements, this certificate experience has proven to be a cost effective and impactful opportunity. Upon completion of the program, participants receive a certificate in health care improvement.

The Maine Track collaboration has recently extended its focus to include clinical research. In 2017, MMC and University of Vermont researchers were awarded a \$20 million Clinical and Translational Research (CTR) award by the National Institutes of Health. The CTR funds the Northern New England Clinical and Translational Research Network, providing rural patients access to cutting edge clinical trials and therapies.

Medical education can do more to improve the health of rural America. The Maine Track, as an academic partnership between a medical school, an academic medical center, and rural community hospitals, is an educational model with verifiable outcomes and impact that is likely transferrable and scalable to other rural settings.

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FROSTBITE

Though I saw that
winter through, I was
too thin for the task
and had brought
the wrong body, packing
it along with the many
misguided supplies a
good-sized grant could buy.

Sitting in our tent,
nesting on caribou
over cut spruce,
the elder of the family
teased me in Athabaskan:
“Are you reading? With all
we did today, you
should be taking notes.”

Who is studying
whom?

In the small space of
a sigh and the popping
of sap in the stove,
my calf muscles uncurled and
the question eased
the pain until the blood
swam slowly back,
pulsing,
pausing,
pulsing,
to scream its silent anger
to the bears and the stars.

When I undressed and,
following the ritual orders,
changed my socks,
I saw that around
the prow of my toes
the tissue had put out
its white flags, a colony
of button-sized swans,
aching with embarrassment,
riding the current in a
mute reproof to hubris.



Illustration by Jim M'Guinness

Are we teaching our students to think?

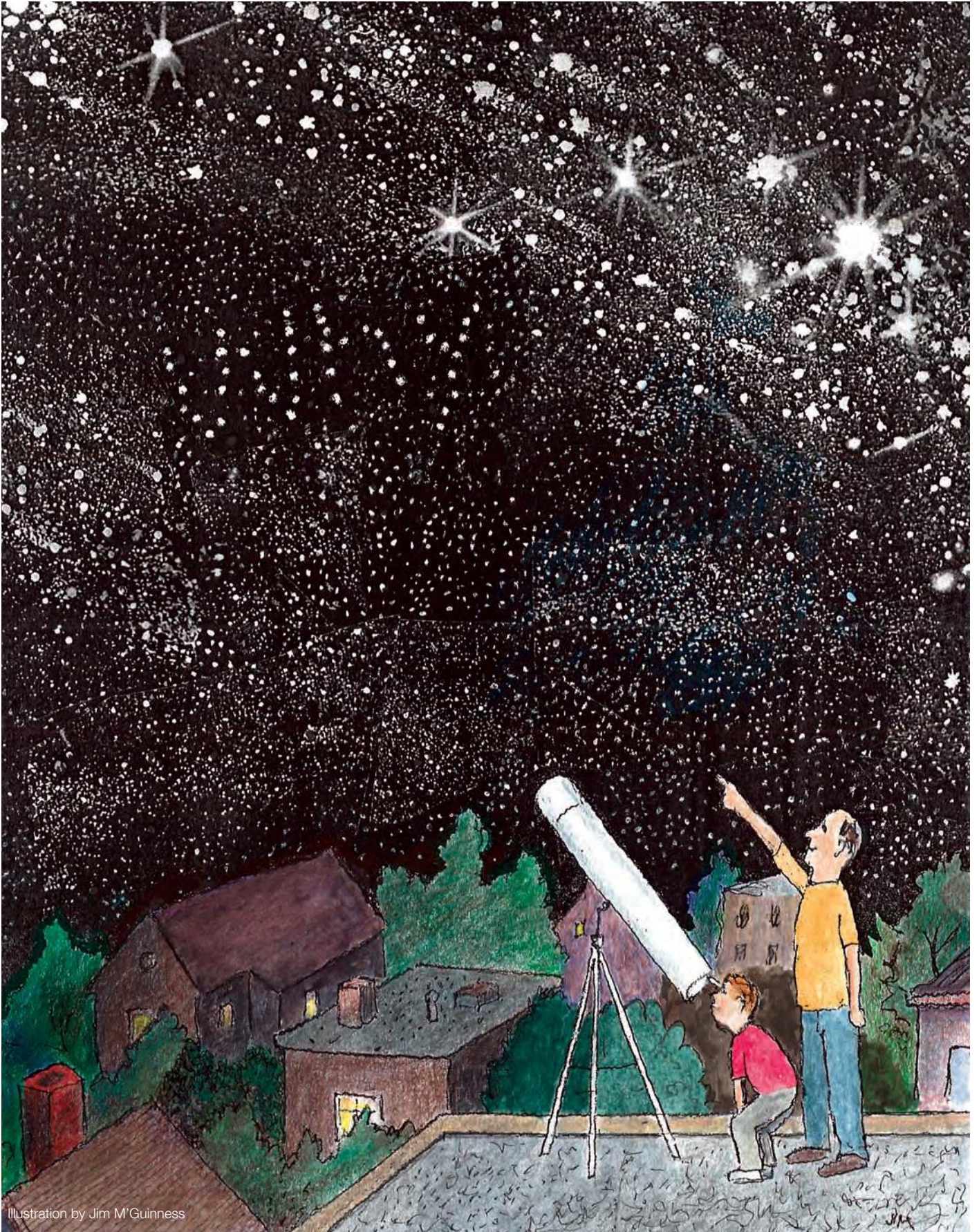


Illustration by Jim M'Guinness

Guido Santacana-Laffitte, MD

Dr. Santacana-Laffitte (ΑΩΑ, University of Puerto Rico School of Medicine, 2016) is a Diagnostic Radiologist at vRad, Fairfax, Virginia and Volunteer Science Educator at the Smithsonian National Museum of Natural History.

As a child I remember gazing at the stars and the planets through my father's telescope as he taught me about the wonders of the universe. Through the lenses of his microscope he explained that life existed in a drop of water. Household items became experimental variables when he introduced me to the laws of physics, and the changing colors of my childhood chemistry set seemed like pure magic. However, all these mysteries of the natural world had a reason, and my father taught me to always look for that reason, to think, to analyze, and to ask "Why?"

My dad is a teacher, and a scientist. Although I do not consider myself a true scientist, I do dedicate most of my free time to one of my greatest passions—teaching. I have watched my father closely and learned about his teaching technique, while at the same time adding my own twist. During my years as a teacher, I have stumbled upon a most dangerous obstacle, one that dad always talked about but I failed to see: the confidence with which students memorize facts without understanding them, without asking "Why?"

I detest memorization, especially of worthless facts. Although I accept that there are some facts that one may have to commit to memory, it is my belief that they are of lesser importance, and that they may be easily sought when needed. It is the understanding of why things happen, and the processes by which they happen which is of real importance. The curiosity to understand "why" is what fuels the mind to think, to reason, to analyze, and to discover.

We are slowly losing interest in these processes and prefer a faster "just tell me the facts" approach. Perhaps this is fueled by our fast paced life filled with standardized exams that test memorization, not analysis. Maybe we are not engaging our students to think, but rather bombarding them with facts to memorize. Maybe we are overusing the phrase, "I don't have time to explain why it happens, but it does. You can look it up on your own." Whatever the reason, students are more interested in memorizing without understanding.

I am a physician and have spent the last 14 years of my life studying. I lost track of the number of standardized board examinations I've had to take, not to mention the myriad exams in medical school. I don't remember half of the material that was taught, especially all the material I had to cram and memorize.

A few years ago, I started to question the medical knowledge I had crammed into my brain. I began to realize that I had memorized a monsoon of facts, most of which I took for granted without ever questioning where they came from. I asked myself, "Was all that cramming worth it? Or would it have been better to ask 'why?'"

During those early years in medical school, I like many others forgot the importance of the word "why." I let myself be influenced by the beast of medicine, the board exams. I am sad to say that I had become consumed by the fatal illness which we call cramming. I lost interest in asking "why?" Perhaps because time was extremely limited, all I wanted to know was what would be asked on the boards. I didn't care whether I understood it or not, I just wanted to know if it was going to be asked so that I could memorize it. It took me almost 10 years to find out how wrong I was.

The board exams

I don't blame the students for wanting to memorize facts. I believe this is something that is taught, mostly by fear. That fear, at least in medical school, is usually brought about by the boards, which test memorization.

I am all for standardization of procedures and examinations to demonstrate core knowledge, but we take four United States Medical Licensing Examination (USMLE) tests¹ (including the clinical skills), the objective structured clinical examinations (OSCE), the board for a specialty, and possibly a subspecialty board. Also, specialty boards may be subdivided in at least two different parts.

The average medical student spends thousands of dollars to take the boards, not counting review courses, question banks, review books, and travel which add even more money to the equation. The 2017 fees for the USMLEs (Steps 1, 2, Cs, and CK, and 3)² are \$3,335, not including review courses, travel, question banks, or review materials and other expenses. For the specialty board in radiology, approximately \$3,150 is added to that cost.

The board exams have become the ultimate goal in medicine. Maybe even a greater goal than good and compassionate patient care.

Perhaps medical students are mentally and physically trained to fear the boards. Most have heard the phrase, "You have to pass the boards, it is the most important thing in your medical school training. You must become board certified, with it you can secure jobs and will be highly regarded as a board certified physician."

To me a highly regarded physician is one who cares about his patients and who treats them like family. One who is compassionate and knowledgeable. A pediatric

attending physician once told me, “The most important aspect of medicine is compassion and patient care. Patients won’t care about the 25 diplomas hanging on your wall, or how many boards you have, the only thing they want to know is if you can help them in the most compassionate way possible.” She was a wonderful teacher, always explaining how everything worked.

We have placed such an importance on these board exams that our way of teaching revolves completely around them.

Board exams are important, as there must be a standard set upon practicing physicians. However, the monetary, social, and hierarchical value placed upon them dictate the way we teach medicine, which is not the same as real life, day-to-day medicine. One of my teachers told me, “Very few patients read the book, and in the majority of cases you have to sit down and think! Put all the facts together and come up with the best diagnosis. That, my dear, is what you have to learn, to think!”

I did not become aware of this fact-driven/memorization/board-oriented extravaganza until I was teaching a radiology chest trauma class. The students asked me for a copy of my presentation so that they could have it to study. I gladly obliged, and sent it to them via E-mail. My inbox quickly flooded with replies, most of which read:

There is almost no text in your presentation.
Where are the facts we have to memorize?
Where are we going to study from?
We always memorize all the slides because that is what they ask in the tests!!!!
Do you have slides with text to study from?

I replied:

Don’t worry. Just come to class and take notes. Read the chapters from the book I recommended and you will be fine.

The day of the class came, and as I walked down the amphitheater, all I could see was fear. Most of the students were flipping over the pages of the printed copies which I had sent them. Others looked at the blank pages of their iPads and notebooks, as if they didn’t know what to do. I loaded my presentation and started my talk.

I showed them a post traumatic chest CT to which half the room yelled out the diagnosis in unison, “Right lung laceration!” I then asked, “Why do you think the laceration looks bigger than the diameter of the bullet, and why is there injury to more distant parts of the lungs as well?”

Complete silence ensued. I asked, “Think for a minute,

why do you think there is so much injury?”

I could here the crickets chirping, then one of them asked me, “Do we have to know that for the board exam?”

I took a deep breath and proceeded with my explanation. I showed them a video of a bullet going through ballistic gel in slow motion so that they could see the expansive and compressive forces that the bullet exerts on the soft tissues. They were astonished by this explanation. Hands went up quickly and questions of “how” and “why” poured down like torrential rainfall. The question of what is on the board exam was forgotten, and for the remainder of the class the most used word by the students was “why.”

Their questions changed from, “How does pneumonia look on a chest X-ray?,” to “Why does pneumonia look the way it does, and can other things look the same way?” That, in turn, lead to the discussion of X-ray physics, the basics that helped them think and eventually answer questions by themselves. They gained the knowledge necessary to understand how pneumonia, hemorrhage, and edema could all look the same on a chest X-ray. They were actively thinking, not just listening to me blabber out facts that can be quickly forgotten.

A similar thing happened in another class I teach regarding acute abdominal pathology. I asked the students, “What creates an air fluid level?”

“Bowel obstruction,” they said unanimously. “No,” I said.

There was silence throughout the room. Most were looking at me as if I was crazy. One student raised his hand and said, “But professor, the book said that an air fluid level means that there is bowel obstruction.”

“True,” I said, “but there are many other variables that have to come into play in order to diagnose bowel obstruction.”

I again asked them, “What creates an air fluid level,” no answer. Finally, I told them, “An air fluid level is created by gravity, it means that gravity is present.”

I took a bottle of water and showed them an air fluid level. I then showed them an X-ray of a supine patient and asked them if the patient had bowel obstruction. They quickly answered “no” because there were no fluid levels. I then showed them the same X-ray of the patient, however now with the patient standing. About 10 air fluid levels popped up in the new film. I then asked them, “Why do you think we see the levels in the X-ray with the patient standing and not with the patient lying down.”

The answer came quickly and was again followed by myriad questions of how X-rays are taken, and how the patient’s position can affect what we think we see, and don’t see in the film. They were actively thinking and analyzing. They understood what air fluid levels are, how they are

created, and why the patient's position when taking the film is so important. They understood, they did not just memorize the fact that air fluid levels could be seen with bowel obstruction.

I remember another time when I asked them a question I had seen in one of the board reviews. A question, which only tests one's capacity to memorize "How many Gauss are equal to one Tesla?" The class quickly answered, so I then asked them, "Who were Tesla and Gauss?" Again, there was silence. Then one of them said, "Some scientist guys."

It is amazing how they can easily memorize a worthless conversion which can be easily looked up, but they have no idea who Nikola Tesla or Johann Carl Friedrich Gauss were, nor do they have an interest in looking them up. Same thing happened when I asked them about Hounsfield units and Godfrey Hounsfield.

A new lesson plan

We are in dire need of changing the way we teach, engage, and test the knowledge of our students. We need to actively urge our students to think and analyze. Moreover, we have to carefully choose those essential facts that do require memorization, while leaving out those that can be easily found.

This is not a simple process. Engaging students to think is time consuming, as is preparing a class that promotes student participation and reasoning. It is easier to fill up a PowerPoint slide with facts and ask the students to memorize them than to prepare an animation or diagram and explain the processes involved. However, it is worth the time and effort.

So, what can we do as teachers to help our students think?

First, remove the fear of the boards exams. The boards will always be there, and you have to study for them. However, it's how you study for them, and how you teach the material, that makes a difference.

PowerPoint/Keynote/Google slides are not novel writing applications. Do not fill up your slides with endless information using 10 point text size, and 23 bullets on a single slide. No one will read them and you will lose the class in an instant. These programs are meant to be tools to teach a class and to guide the discussion. Use diagrams and animations that aid in the explanation of concepts.

Assign book chapters or reading materials before class, but be sure to assign something that is doable. Don't expect your students to read *Weber's Thoracic Imaging* in a single course. Divide material into readable segments. This means personally sitting down and reading the books that are assigned to the students. Reading prior to class

encourages discussion, which is the most important aspect of teaching.

Encourage discussion, do not simply hand the students the material or answers to questions. Do not make a monologue of a class. Let the students participate and think. Prepare a discussion-based class. Bring real life experiments for student participation. Make audiovisual aids beyond what is presented in the PowerPoint slides. These simple strategies help engage the students and promote discussion.

Always remember Einstein's quote, "If you can't explain it simply, you do not understand it well enough." Simple explanations go a long way and help the student understand the material much better than with a long and tedious explanation. Use experiments with everyday objects, analogies, videos, and even the students themselves, in order to explain some of the more complicated topics.

Dedicate time to prepare for the class. A class presentation is not prepared in one day. It may take weeks or months to adequately prepare a class, something that many institutions do not understand. Being a teacher takes time, much of which isn't recognized or paid for in medicine.

Take a look at the students' board question banks. Since they have to pass the boards, integrate the material on those question banks into the class. Adding board material to the class is of integral importance and helps the students.

Strive to promote and engage students to ask "why?"

Understanding, reasoning, and thinking are all integral to the development of a physician. Facts will always be there, but the capacity to reason, to think, and to analyze defines us as a species. It is what permits us to question the facts, and to decide whether they are true, or not. Let's not be consumed by our fast paced life or by standardized exams. Let's take the time to continue to teach our students this all important skill, and encourage them to ask "why?" Remember, "Give a man a fish and he will eat for a day, teach a man how to fish and he will eat for a lifetime."

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*In Reflection:
A shared experience of cancer
and womanhood*

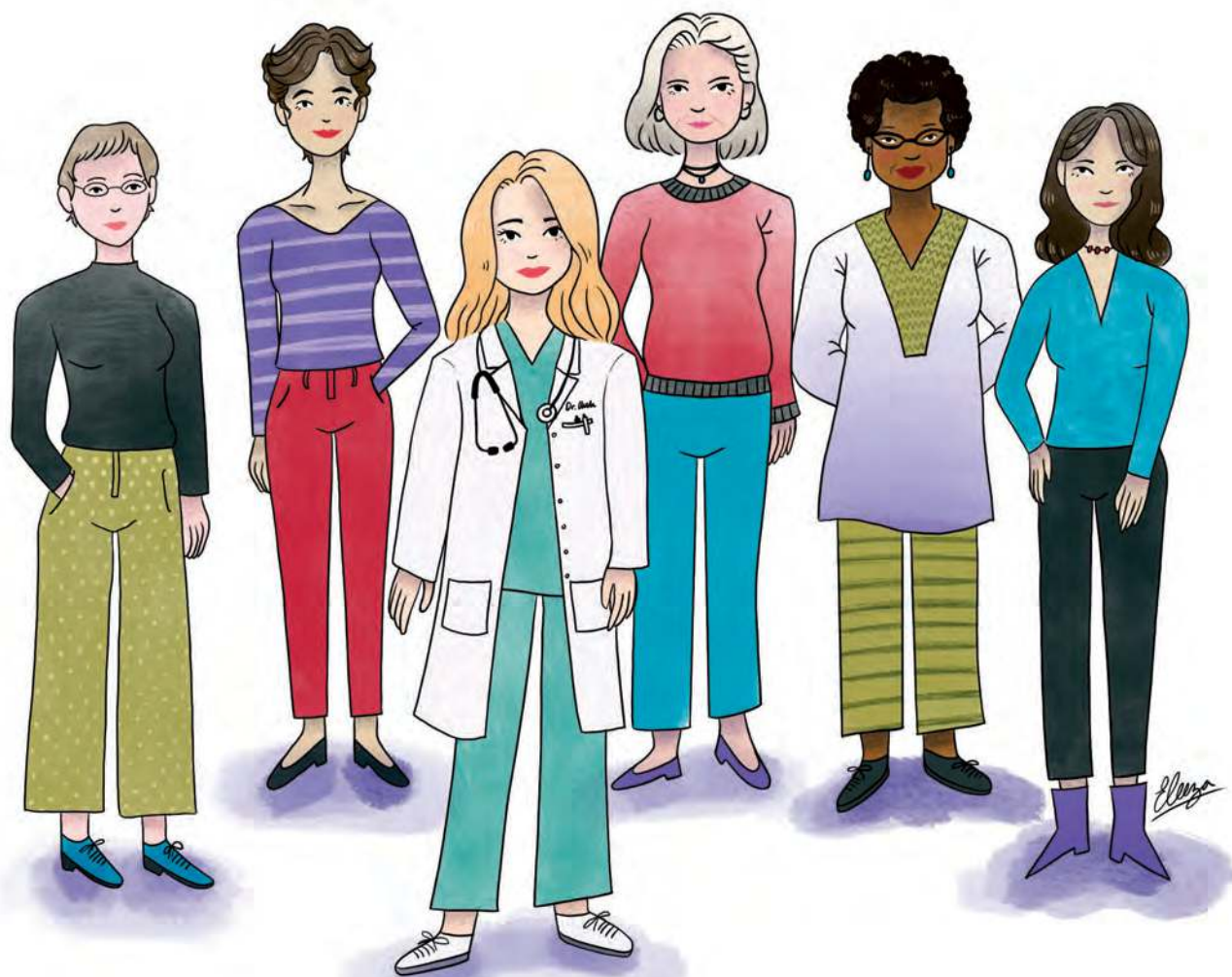
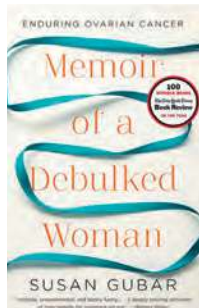


Illustration by Eleeza Palmer

Anne Knisely, MD

Dr. Knisely (AQA, University of Virginia School of Medicine, 2017) is a resident physician, Department of Obstetrics and Gynecology, Columbia University Medical Center/ New York Presbyterian Hospital, New York City.

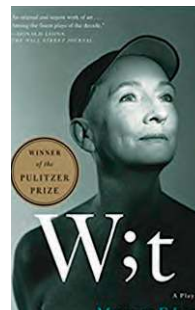
As I prepare to embark on a journey into obstetrics and gynecology residency, I begin to reflect and realize that being a great doctor is not just about knowing facts and scoring well on tests; it is about empathy, humanity, and navigating patient narratives. This realization, coupled with my interest in ultimately pursuing a career in gynecologic oncology, is what drove me to engage with various literary works in medical humanities. Before diving into how this experience has informed my vision for my career as a physician, I would like to briefly review the works I have studied during this time.



Memoir of a Debulked Woman

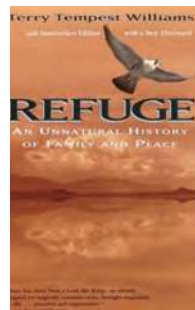
Memoir of a Debulked Woman by Susan Gubar, a feminist literary scholar, and former professor of English and women's studies at Indiana University, is a text in which Gubar reflects on her experience with ovarian cancer, from initial diagnosis to life after intensive therapies.¹ She depicts the physical and emotional pain of a

radical surgical operation (debulking), its consequences, the toxic effects of chemotherapy, how all of these events have impacted her personal and family life, and how others' testimonies about living with cancer "nurtured" her. She devotes significant time discussing how ovarian cancer is a silent killer and questioning whether such harsh treatments are worth the side effects, as she laments, "but a longer life under some circumstances may not be better than a shorter life."¹ Ultimately, she reflects on coping with the reality of impending death and questions whether, as a patient, she "receive[d] the sort of care that takes into consideration the whole person."¹



Wit

Wit is a play written by teacher Margaret Edson in which she exposes the internal life and witty mind of her character Dr. Vivian Bearing, an English literature professor, who, in the face of a diagnosis of stage IV ovarian cancer, publicly examines her life and how it informs her impending death.² In the play, Bearing uses language and her career as an English professor to cope with her prognosis, and tries to understand the deeper meaning of life. There is also significant commentary on how she is treated by the medical staff, specifically the doctors, as she finds herself feeling more like an object for research than a human being.



Refuge

Refuge: An Unnatural History of Family and Place is a memoir written by Terry Tempest Williams, a Mormon conservationist who worked as a curator of education and a "naturalist-in-residence" at the Utah Museum of Natural History.³ In this memoir, she reflects on the ways in which she and her family cope with her mother's diagnosis and subsequent life with ovarian cancer through prayer, community, and nature.

The cornerstone of the memoir is the rise of the Great Salt Lake to record heights, and its effect on human life and wildlife. The Utah landscape becomes Williams' refuge, as she reflects, "When I see ring-billed gulls picking on the flesh of decaying carp, I am less afraid of death,"³ and "I pray to the birds because they remind me of what I love rather than what I fear. And at the end of my prayers, they teach me how to listen."³

Williams ultimately has to make sense of how to exist in a world without her mother.



The Cancer Journals

The Cancer Journals is a memoir by Audre Lorde, a self-proclaimed “Black lesbian feminist mother love poet,” in which she recounts her struggle with breast cancer through personal journal entries, with poetry and commentary.⁴ She walks through the complicated decision of having a mastectomy from her

multiple identities.

As a feminist, she questions the use of breast prostheses in the context of what is valued in a woman in society.

As a lesbian, she notes that there are very few public models for her in this situation.

As a poet/artist, she emphasizes the importance of sharing one’s experience for others to draw strength from, as she says her “work is to inhabit the silences with which [she has] lived and fill them with [herself] until they have the sounds of the brightest day and the loudest thunder.”⁴

As a Black woman, she speaks about how “Black women have on one hand always been highly visible, and so, on the other hand, have been rendered invisible through the depersonalization of racism.”⁴

As a mother, lover, and friend, she embraces the “promise of shared strength,” and shares how support from loved ones helped her in all stages of her disease, giving her confidence to unapologetically share her story.⁴



In the Family

In the Family is a documentary featuring, and directed by, Joanna Rudnick, a young woman who discovers that she carries a familial breast cancer (BRCA) mutation that greatly increases her risk of developing both breast and ovarian cancers.⁵ It explores Rudnick’s journey as she struggles with

how to handle this knowledge, specifically with regard to prophylactic surgery (mastectomy and/or oophorectomies), romantic relationships, and childbearing.

The documentary also follows the lives of other cancer survivors and breast cancer BRCA mutation carriers to further examine the intricacies and implications of decisions such as surgery and genetic testing. Rudnick also questions the morality of the high costs of these genetic tests.

Common themes

These five resources share a number of common themes, including drawing strength from others’ testimonies in the

face of crisis, both from the perspective of the patient (*Memoir of a Debulked Woman*, *Wit*, *The Cancer Journals*) and from that of family members (*In the Family*, *Refuge*); the importance of quality of life in illness; and how (and whether) doctors truly carry out the bioethical principle of non-maleficence.

Patients commonly feel as if no one around them truly understands what they are going through. In all of these literary works, and most notably in *Memoir of a Debulked Woman*, *The Cancer Journals*, and *In the Family*, this concern is repeatedly voiced. Frequently, reading memoirs of other patients who have gone through similar things provides a comfort that loved ones may not be able to provide.

In *Memoir of a Debulked Woman*, Susan Gubar admits, “Never have memoirs and novels meant more to me than during these difficult times,” as they help her understand her own experience and remind her that she is never alone.¹ She shares that “Andrea King Collier’s mother woke up to a colostomy...without her permission,”¹ which parallels her own surgical experience, and notes that “one husband of a woman who died of ovarian cancer felt that her death certificate ‘would have been more accurate’ if it had stated ‘death due to chemical poisoning.’”¹ These are a few of many examples of ways in which Gubar feels empowered by others’ memoirs and testimonials.

In *The Cancer Journals*, Lorde seeks poetry and testimonials from other cancer survivors. She also exemplifies this theme by emphasizing the lack of examples for her to draw from given her identity as a Black lesbian feminist.

In the documentary *In the Family*, Rudnick takes it a step further by going out and meeting survivors and fellow BRCA mutation carriers. During her sessions with these families and individuals, she seeks wisdom from those who are, or have been, where she is. Rudnick is swayed toward the option of surgery. She needs this external commentary to validate her decision and frame her thinking about the prophylactic surgeries. This desire for external validation and search for solidarity is not dissimilar to what many of the cancer patients and families feel they need.

Another important theme is the importance of quality of life in illness, terminal or otherwise. This is particularly evident in *Memoir of a Debulked Woman* and *Refuge*. During her postoperative recovery, regarding her colostomy, Gubar laments, “No longer intact, I cannot contain or control myself...according to researchers in artificial intelligence, one major marker of what constitutes life is autonomy.”¹ This is not an uncommon occurrence for patients who have a radical “debulking” surgery for ovarian cancer, as the bowel can sometimes have cancer, necessitating its removal.

What does it mean to have a good quality of life? The answer is different for everyone. For Gubar, it is having autonomy, something she feels she has lost, as she no longer has control over her bowels. Removing the diseased bowel likely gave Gubar more days to live and be with her loved ones, but at what cost? Was it worth it? Gubar doesn't even know the answer to that, as she questions what the value is of more time.

Quality of life is also a recurring theme in *Refuge*. Williams' mother, sick with ovarian cancer, does not initially want chemotherapy. Ultimately, given her intense fear of dying and losing time with her family she decides to proceed with chemotherapy. However, as her disease progresses, she decides to forego further treatment in favor of resting in the comfort of her home with her family. Williams reflects, "But you can't live by your prognosis."³ I think she means that it is important for patients to put attention and time toward things they loved to do before they were sick. Quality is measured differently for everyone, but engagement in activities that consistently bring joy is universally important.

Skepticism about the bioethical principle of non-maleficence is another theme. "First, do no harm," is what we are taught on day one of medical school. But the ways in which this bears out in practice are far more complicated. *Memoir of a Debulked Woman*, *Wit*, and *Refuge* each touch on this theme. In *Refuge*, Williams attests, "Dying doesn't cause suffering. Resistance to dying does,"³ after watching her mother go through many difficult and damaging treatments that left her far weaker than the cancer itself. Williams' mother commented, "I feel abused,"³ after undergoing radiation therapy. Isn't it ironic that, in 2018, the only way we know how to treat malignancies is with malignancy?

Throughout the play *Wit*, Bearing questions her physicians' commitment to non-maleficence, as she feels objectified by her doctors, which is evidenced by her comment, "The young doctor...prefers research to humanity."² At the end of the play, when Bearing is dying, a code team rushes into her hospital room. She had previously discussed with her nurse, the only person on her medical team whom she trusts, that she wants her code status to be DNR (Do Not Resuscitate). When the code team rushes in and starts trying to resuscitate her, the nurse exclaims, "She's DNR!"² The young oncologist replies, "She's research!"²

Is a publication in a renowned medical journal worth a life? Is it worth betraying a patient's wishes? The answers to these questions are not always as obvious as one may hope.

Gubar is also skeptical of her doctors' intentions as she reflects, "the most benevolent of doctors [are] each highly

motivated to do his or her best but each diminishing me bit by bit,"¹ and "the hardly noticeable symptoms of cancer pale in comparison to those produced by the surgeons determined to excise it."¹

On a more positive note, there are some instances in which Gubar acknowledges physicians who do follow the ethical principle. She comments, "I admired the evident integrity of a surgeon advising me against surgery that could be dangerous."¹

Through my engagement with these stories of female cancer patients and their families, I have learned a great deal about myself and about the power of narrative medicine. The memoirs and reflections of these inspiring women have helped to shape my vision and orient my priorities for my career as an obstetrician/gynecologist (and ultimately a gynecologic oncologist). I have always been a perfectionist, and I have at times been obsessed with academic achievements and prestige. With this knowledge of my personal tendencies, coupled with the insights I have gained from these memoirs, I vow to myself that I will never measure my success in how many papers I publish or how low my surgical complication rate is; I will measure it in laughs, smiles, tears, and hugs. I will not just hear my patients' concerns, but I will listen to them. I will make sure I know what my patients' goals are, and what is most important to them. I will accept that these may change and it is important to re-ask during each clinic visit.

I will continually check my own intentions by asking myself questions such as, "Am I pushing chemo because it makes me feel better for my patients to live longer?" Or "Am I acting according to my patients' true wishes?"

I will seek to involve the family members of my patients, remembering that it is not one individual who gets cancer, but a whole family. And always, always, I will pay attention.

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Reflections

Medical school revisited: 60 years later

Reinhardt Henry Bodenbender, MD, BS, FAAP; Captain, Medical Corps, United States Navy (Ret.) (AQA, University of Illinois, 1955)

I am a retired physician who has experienced the many changes that have occurred in medical care, both in the private sector and at the federal level. During my 12 years of family medical practice, and a 20 year career as a medical officer in the United States Navy, I have participated in the slow evolution from private medical care to health care.

The education and training of medical students has also responded and adjusted accordingly. Therefore, medical school reunions may provide some personal insight into a number of these innovations.

As background to my recent reunion experience, let me review some of these remarkable alterations in the medical care delivery system since my graduation. Private practice today is far from private. Local, state, and federal regulations create an atmosphere that has become similar to a corporate enterprise. Fifty years ago, our local county health department initiated surprise inspections of private physicians' offices. As a result, I experienced such a visit to check on my office cleanliness and refrigerator temperatures. I sensed that this was just the beginning.

Local hospital administrators, many non-physicians with business training, began management and control of medical staff membership, duties, responsibilities, and privileges. Slowly, almost imperceptibly, the private became public without direct involvement of the physician or patient.

The focus began to shift over the years from the patient to a process or system of care. The result is providing more medical care in the form of technical procedures, and less personal interaction with the patient. Insurance guidelines and the pressure to include more patients per hour have decreased the actual time a physician spends with patients.

Physicians have become technicians rather than providers of medical care on a personal level. Much of medical practice today is called no touch medicine; personnel other than physicians (PAs or NPs) touch and examine the patient and inform the doctor who is now a reviewer and coordinator of care.

I attended my medical school reunions with the full knowledge and experience of these trends in current clinical practice. At our 50th reunion, changes were just beginning and so subtle they appeared to be generational adjustments for younger students in a changing world. Ten

years later, at the 60th reunion, there were major and remarkable alterations in educational goals and methods observed in the medical school classrooms. During this three day reunion, we met with medical students from each class and toured medical school classrooms and laboratories. There were also demonstrations of classroom interactions between instructors and students illustrating current teaching methods being implemented in the curriculum.

The dress code was the first noticeable change—casual, with white jacket, scrubs, and Nikes. The wearing of "whites" in our days was a privilege, granted only to students who survived the first two years of med school. I can still remember our professors saying: "If you want to be a doctor, dress like one." At that time, the wearing of a coat and tie was expected of professionals.

Current students told us there was less rote memorization from text books or lecture notes—iPhones and computers are necessities. There is more emphasis on understanding, functionality, reasoning, and conceptualization. Alumni at the reunion participated with six to eight students sitting around tables with computer screens involved in problem-solving exercises. There was sharing of information with friends and classmates; study habits were not solo endeavors but now involve group-think and consensus. Professors said they spend less time in the lecture halls and more time monitoring students in these group teaching sessions.

There are now less gross anatomy studies with cadaver dissection. Anatomy classes do not even begin until late in the freshman year. The program director told me that some medical schools have curtailed and even eliminated cadaver laboratories, explaining, "They cost too much to fund and maintain." We heard about classes utilizing mannequins, anatomical models, and simulated clinical problems as computer exercises.

There appears to be less fear of failure among the students. During our orientation week, we were warned that one-third of our class would not survive the first two years. One fear was the surprise pop quiz. These exercises were essential parts of the medical educational programs in the 1950s and 1960s, preparing students to confront the unexpected. Unscheduled quizzes were almost a weekly occurrence.

There is now apparently no sense of sudden jeopardy by failing to identify a cadaver part or to name the organ tissue on a pathology slide.

We lived in fear that we would not be prepared, ultimately failing medical school and disappointing our

parents, friends, and ourselves. After all these years, I still have occasional nightmares of these tests and their possible catastrophic consequences.

Currently, some exams are take home or even done at one's leisure over a weekend. Even the dreaded biochemistry lab is not part of the freshman year. Another fear eliminated.

One student said that he was relieved that some of his grades were just pass/fail. I personally still believe that exact standards of performance evaluations are more appropriate for the study of the medical sciences.

At the reunion dinner, I shared my thoughts of medical practice past and present. Medical education and training programs also have changed dramatically, becoming more responsive to expanding needs and demands for medical care. The acceptance and understanding of these changes has been a slow and difficult process; especially for an older generation of family physicians who, like myself, made house calls, and live today with fond memories of their student days of study.

I spoke directly to my younger colleagues:

My wish to you, as future physicians in this changing world of medicine, is that you stay focused on the real purpose of medical training. We were told that our goal was service to others, and that our only business should be the care of the patient. This is as true today as it was more than 60 years ago.

Celebrating three generations in practice

Miriam A. Smith, MD, MBA (AQA, Albert Einstein College of Medicine/Montefiore Medical Center, 2001)

Who could have predicted after more than 36 years of marriage into a warm, inviting family I would be in a position to celebrate a practice which actively and enthusiastically engages three generations of ophthalmologists from one family in one office? Having searched the literature and the Internet, there were no other reports of three generation concurrent practices. My father-in-law, Lionel (Lee) Sorenson, along with his two sons, Robert (Bob) and Andrew (Andy) Sorenson, and granddaughter, Rebecca Sorenson Janik, exemplify physicians who are individually accomplished and able to work together in a thriving practice environment. This is especially remarkable, given the recent attention to physician burnout.^{1,2}

I asked them why they chose to go into medicine, why private practice, and whether they feel confident in having achieved a work-life balance. I asked Lee what has kept him working so many years so that I might understand which factors contribute to longevity as a practitioner.

Lee, Bob, and Andy trained at a time with no restrictions

on work hours and patient loads. However, Rebecca's training was heavily regulated by ACGME rules.³ All retain a very strong commitment to providing first-rate patient care while promoting personal and professional well-being.

Lee

Lee received his medical degree from UC San Francisco (UCSF)/Berkeley School of Medicine in 1952. He completed an internship at San Francisco General Hospital in 1953, ophthalmology residency at the University of California, San Francisco in 1956, and started soon after in practice in Berkeley, CA. His presence every other night in the hospital defined what it meant to be housestaff. At 91 years-old, he is likely the oldest practicing ophthalmologist in the United States.

"My father was a small town doctor. His office was in our home, and our living room was the waiting room. When I was around seven- or eight-years old, during the depression, sometimes I would hide behind the sofa and listen to the conversations. They were always very complimentary to my Dad. His patients would often pay him with vegetables or chickens. I think that is when I decided to be a doctor instead of a fireman."

Lee went into private practice to have more control over his time and liked the close relationships with patients. When starting in practice, he always "tried to keep a balance between ophthalmology, family, sports, music, and teaching residents at UCSF.

"Today, I am in our office about three and-a-half days a week. Since two of our sons and a granddaughter are in the office, I have no desire to retire. I still have plenty of time to play the guitar with my wife at the piano."

Bob

Bob graduated from the University of California, San Diego (UCSD) School of Medicine in 1980. He was an intern at Mercy Hospital, San Diego in 1981, an ophthalmology resident at California Pacific Medical Center (CPMC) from 1981-1984, and completed a fellowship in medical retina at CPMC in 1985 before joining his father in the Berkeley practice.

Bob says he is fortunate to have family members (both grandfathers, father, and older brother) in the medical profession who served as role models. When Lee's original partner reduced his patient volume, Bob saw a great opportunity to join the practice. He admits to living with a high level of stress but has learned to balance work demands with his personal life. Taking time off each week allows him to pursue interests outside medicine. He enjoys being in practice with family members whom he trusts and who are willing to make compromises to "make it work."

Andy

Andy graduated from UCSD School of Medicine in 1993, did an internship at the Latter Day Saints Hospital in Salt Lake City, UT, and completed his ophthalmology residency at CPMC in 1998. He went on to the Duke University Eye Center for a one-year fellowship in cornea and refractive surgery before joining the family practice.

He says his decision to enter medical school was “more about the desire to do something helpful, productive, and positive for others,” and was influenced more directly by his two grandfathers, not his father.

After 20 years, Andy feels no burnout. He is “invigorated by the depth of commitment of my father...and by the new energy brought in by my niece.” He, too, takes time off each week to stay refreshed and active outside of medicine, and echoes Bob’s sentiment about trust and compromise engendered by the family’s practice environment.

Rebecca

Rebecca, Bob’s daughter, graduated from the University of Illinois College of Medicine in Rockford, IL, in 2012. She spent her internship year at Penn State Milton S. Hershey Medical Center in Hershey, PA, and completed an ophthalmology residency at the same institution in 2016. Beginning in the fall of 2016, she joined the practice.

Rebecca holds a unique perspective by seeing patients who “seem to appreciate the multi-generational practice,” and frequently recount “stories about having surgery by my grandfather decades before, or receiving a difficult diagnosis from my uncle or father.”

She values the benefits of family mentorship and support as a new practitioner. She did not want to go into medicine to blindly follow in the “family footsteps” but was struck by how happy and fulfilled her grandfather, dad, and uncle were as medical practitioners. They serve as her role models.

More than half of U.S. physicians report significant symptoms of burnout, described as emotional exhaustion, depersonalization, a feeling of reduced personal accomplishment, loss of work fulfillment, and reduced effectiveness.^{1,2} Attempts to address the causes and consequences have brought together a wide range of local and national organizations to provide interventions that focus on clinician well-being that may have durable effects.^{1,2}

Extracting from the above vignettes, role modeling, trust, support, compromise, and the ability to achieve work-life balance certainly contribute to individual physician well-being, a successful family practice, and avoidance of burnout.

It is a privilege to be part of this family.

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A nursing story

Martin R. Liebowitz, MD, MACP (AQA, New York University, 1955)

It was the summer of 1956. I had just begun my medical internship at the Peter Bent Brigham (now Brigham and Women’s) Hospital in Boston. We admitted a 35-year-old woman with uncontrolled grand mal seizures to the medical floor. There were no intensive care units at that time; patients with serious illness were moved closer to the nursing station. The neurologists struggled to control her seizures with the limited list of anti-seizure medications available but the seizures continued.

There was concern for her safety, so I ordered one-on-one nursing attendance at the bedside. We worried that if the neurologists were not successful she would be transferred to a state hospital lessening the chance that she would be reunited with her children. Time was running out.

In that tense atmosphere, Miss Russo, the Assistant Director of Nursing, appeared on the floor and asked for me. She politely informed me that one-on-one nursing was too expensive for the hospital to sustain. The nurses would be discontinued the following day. Rudely and quite foolishly, I blurted out, “Florence Nightingale would never have said that.” Miss Russo was clearly taken aback, and without a word she turned and left the floor.

I was immediately filled with regret and apprehension. Here I was in a new city with my wife and son; surely I would be fired. Anxiously, I continued with the afternoon’s admissions.

Two hours later, a messenger appeared on the floor with an envelope for me. I thought, “This is it.” Without hope, I removed the folded single sheet. On it were the words, “We will continue the nurses.” Several days later, the seizures came under control, and the patient was ready for discharge.

I am not certain what all the lessons of that day were, but the impact was profound. I have never forgotten Miss Russo.

Letters to the Editor

Re: *The Serpent of Moses*

I read Drs. Lesley A. Wolff and Morton M. Mower's interesting essay *The Serpent of Moses: Rembrandt's iconography of the healing arts* (Winter, 2019, pp. 24–28) and would like to offer additional comments.

There were compelling reasons for depicting the death of the Virgin Mary, a tradition that goes back to Giotto and is ubiquitous on Gothic tympani throughout France, manuscript illuminations, and paintings. It was a difficult theological issue confronting both Catholics and Protestants for centuries.

Recall that all mortals, according to Christian theology after the fall of innocence of Adam and Eve, were stained with original sin, which is the reason why Christ sacrificed himself in order to save all mortals from banishment of eternal paradise. Thomas Aquinas and Duns Scotus argued in the late 13th century about the theological and the illogical dilemma of Mary, who as a mortal and hence born with original sin, held Christ in her womb. They wondered how could she as a mortal tarnished with original sin carry a god figure to birth?

Theologians were loath to pronounce her dead and instead proclaimed that she laid on her bier as if in dormition. But the issue of her death or dormition remained a theological dilemma for the church. Two church dogmas were issued to address the problem. To solve the issue of her birth, Catholic theologians proclaimed that Mary was foreordained to be free of original sin by her miraculous birth to Joachim and Anna, a geriatric couple in their 80s. This was promulgated in 1708, with the subsequent Feast of the Immaculate Conception celebrated annually on December 8. Immaculate, meaning spotless, holds that she was born without original sin and could then without conflict hold Christ prior to birth.

Many images show Christ appearing at her dormition in order to bring her soul to heaven. Does Rembrandt make Christ the physician? This imagery separating body from the soul—Platonic in its origins—may have been confusing in the 17th century, leading the church to proclaim that the Virgin rose to Heaven with both body and soul, a belief proclaimed dogma on November 1, 1950.

Rembrandt, a keen reader of the scriptures, most likely knew of these vexing theological discussions regarding Mary's role in Christian theology throughout Europe during the 17th century. It would not have been unusual for Rembrandt to conjoin the debate with

additional issues raised by the nascent physical sciences as well as by the ecumenical interests by his Jewish, Catholic, and Protestant patrons as Wolff and Mower suggest.

Dr. Timothy J. Standing
Gates Family Foundation Curator
Denver Art Museum

Community of Practice

The “Community of Practice” which you describe in the Winter 2019 issue of *The Pharos (Addressing burnout and resilience in our profession*, pp. 2–10) is in fact what is often referred to as “The Golden Age of Medicine.” Which is what it really was!

I am so happy that I was able to be a part of it. There are still some who persevere in trying to practice that type of medicine.

The major corrosive factors against the type of medical practice you (and I) advocate are the “bureaucratic and market forces” as well as often needlessly burdensome regulations.

These are probably the major causes for the unfortunately high incidence of “burnout” among doctors. This was not a problem in my generation, when we concentrated more on diagnosis, treating, and teaching than “business.”

Howard Moses, MD, MS, FAAN, FANA (ΑΩΑ, University of Illinois, 1953), Associate Professor of Neurology, Johns Hopkins Medical Institutions; Adjunct Associate Professor of Neurology, University of Maryland Medical School

First beads of daylight

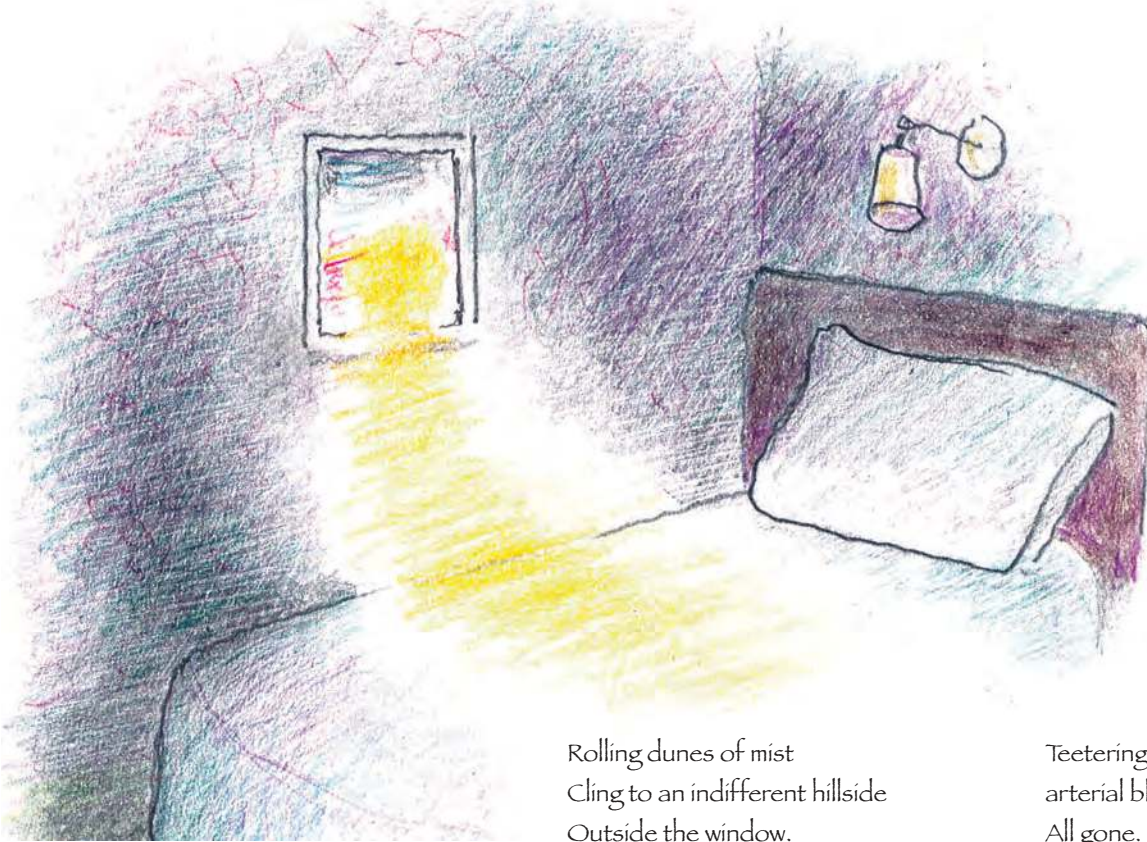


Illustration by Jim M'Guinness

Rolling dunes of mist
Cling to an indifferent hillside
Outside the window.

The sky is smooth,
Unwrinkled. An un-slept-on blanket.
It kept no one warm last night.

An even mood covers me.
Highs and lows are gently muted,
Worn down by the night's tumult of
chaos and care,
Filled in like putty scraped over chipped
glass.
Nothing terrible happened.
What's left is somber, averaged.

A jostle of clamorous thoughts:
Falling SATs, taking stairs too fast,

Teetering, hesitation, a spurt of
arterial blood.

All gone. Wiped away. Replaced
With this one moment, looking
Blankly through the pane.

I am here, and nowhere else.
Other realities cease calling,
At least for now.

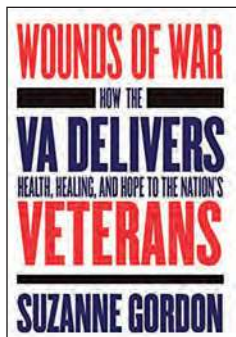
I am, fleetingly,
Content—
Unemotional,
But not unfeeling.
I am present.
Cut and ground,
I'll soon be tossed back in
For another
Night of polishing.

— Nathaniel J. Brown, MD, PhD

Dr. Brown is a staff physician, Department of Anesthesiology,
University of Colorado School of Medicine/Rocky Mountain
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Book Reviews

David A. Bennahum, MD, and Jack Coulehan, MD, Book Review Editors



Wounds of War: How the VA Delivers Health, Healing, and Hope to the Nation's Veterans

Suzanne Gordon
ILR Press, First edition, October 15,
2018; 464 pages

Reviewed by Arnold R. Eiser,
MD, MACP

Suzanne Gordon, a respected health care journalist and author, has written a compelling account of the many strengths of the Veterans Healthcare System in *Wounds of War: How the VA Delivers Health, Healing, and Hope to the Nation's Veterans*.

Gordon is an impassioned defender of the system that has regularly received public criticism from journalists and politicians when things have gone wrong in this vast bureaucratic system, whose patients bear the scars of combat and other injuries to their health during military service and often difficult re-entry into civilian life. Service-related disorders include bodily harm from exposure to Agent Orange in Vietnam with its long list of related diseases including leukemia, lymphoma and amyloidosis. More recently, burn pit exposure in Iraq and Afghanistan have exposed servicemen to many toxic chemicals including dioxin; (a law has subsequently been passed with bipartisan support to research the toxicity of these burn pits). Moreover, the mental consequences of military service includes many instances of post-traumatic stress disorder (PTSD). Because the United States has been engaged in wars for much of its recent history, there is an abundance of traumatized veterans, both in those who saw combat as well as those who did not.

Gordon points out that the VA is exemplary in how it provides mental health care that is culturally competent regarding a veteran's military experience and this unique culture. The VA mental health care, because it is part of an expansive system of benefits, provides wraparound social services including a program to vigorously help homeless veterans obtain permanent shelter. In addition, VA mental health benefits, unlike private mental health insurance, are not limited based on a pre-specified number of treatments. The suicide rates of veterans utilizing VA mental health services decreased by 20 percent, but increased by 40 percent in those veterans who did not utilize available services in the same time period.¹

Other strengths of the VA system include rehabilitation services (developed by the veterans' health system in the wake of the Civil War²), clinical advancements in treating PTSD, and forward thinking, pragmatic hospice and palliative care services.

The VA health system is the largest provider of graduate medical education, training more than 40,000 resident physicians and medical professionals. The VA system is essential in the training of geriatricians, and funding fellowships in this oft-neglected discipline.

Gordon documents these strengths with informative statistics as well as compelling narratives of innovative programs, commendable teamwork and exemplary clinical providers. There is a chapter on Karen L. Parko, MD, the former national director of the VA Epilepsy Centers. When Parko observed patients with psychogenic seizures ricocheting back and forth between neurology and psychiatry without effective intervention, she studied cognitive behavior therapy intensely so she could provide the needed service effectively within the VA Epilepsy Center at San Francisco. When she was the National Director of the Epilepsy Centers, she prioritized such training at all system centers.

David Shulkin, MD (AQA, Drexel University College of Medicine, 1998), former Undersecretary of the VA for Health Affairs under President Obama, and former Secretary of the VA for President Trump, echoed many of the strengths of the VA that Gordon details in the book. Shulkin also describes another strength now developing in the VA—the Whole Health Model of Care under the leadership of Tracy Caudet, MD. This model emphasizes the importance of the veteran-patient finding meaning and purpose in life, having the necessary social supports, skill building in self-care with the help of health coaches, and access to the appropriate clinical care. This model expresses the need for whole person healing, not just treatment of a disease or relief of a symptom. Private health care systems would benefit from learning this model.

Wounds of War should be read by physicians, not only because the Veteran health system is an essential component of the American health care system as well as a vital component of medical education, but also because the book illuminates the strengths of an integrated delivery system that is not motivated by profits and provides cross-functional coordination of medical care and social needs. The book provides a sound understanding of the unique features of veterans' health problems that is not always understood by clinicians.

It should also be read by journalists who are predisposed

to cover the plethora of problems within the VA system, which are unfortunately common in a bureaucratic, politically-controlled system inflicted with many dysfunctional factors. It is only fair to balance the strengths and weaknesses to provide an accurate assessment of the system as a whole.

Consultant groups led by RAND have detailed the serious flaws in the Veterans health system that need to be addressed.³ Outsourcing for some specialized services may be necessary in selected instances, but as the author cautions, the Choice program of offering veterans civilian care has been plagued by cost over-runs, and has endangered funding for existing VA programs such as its Patient Safety Centers of Inquiry.

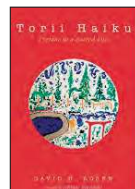
The book should also be read by active duty soldiers so that their only impression of this system does not come from the sensational negative headlines provided by mass media. Gordon has provided a valued view of a system which, even with its flaws, still has remarkable strengths to offer soldiers when their service to our nation is completed.

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2. Roots of VA Healthcare. <https://www.va.gov/health/NewsFeatures/2015/March/Roots-of-VA-Health-Care-Started-150-Years-Ago.asp>.
3. A Detailed Assessment of the Healthcare Delivery Systems and Management Processes the Department of Veterans Affairs. https://www.va.gov/opa/choiceact/documents/assessments/integrated_report.pdf.

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More AΩA member books



Engineering Medicine: Principles and Applications of Engineering in Medicine, by Lawrence S. Chan, MD (AΩA, Northwestern University, 1995, Faculty), and William C. Tang; CRC Press; May 28, 2019; 356 pages.

The New Rules of Pregnancy: What to Eat, Do, Think About, and Let Go Of While Your Body is Making a Baby, by Adrienne L. Simone, MD (AΩA, Rutgers Robert Wood Johnson Medical School, 1993), Jaqueline Worth, MD, and Danielle Claro; Artisan; April 2, 2019; 256 pages.

What the Eyes Don't See: A Story of Crisis, Resistance, and Hope in an American City, by Mona Hanna-Attisha, MD (AΩA, Wayne State University, 2010, Faculty); One World; June 19, 2018; 384 pages.

Torii Haiku: Profane to a Sacred Life, by David H. Rosen, MD (AΩA, University of Missouri-Columbia School of Medicine, 1970); Resource Publications; June 1, 2018; 98 pages.

Corrections

In the Winter 2019 issue, the poem “Salvaged,*” should have listed Bonnie Salomon, MD, as the author.

In the same issue, the article “*The Serpent of Moses: Rembrandt’s iconography of the healing arts,*” had the captions on the two photos “Rembrandt, Death of the Virgin,” etching of 1639, and “Albrecht Dürer (Germany, Nuremberg, 1471-1528), Death of the Virgin, 1510, Woodcut, Sheet,” inadvertently switched.

We apologize for any confusion or inconvenience this may have caused.

Medicine on the big and small screen: Choice cuts

Therese Jones, PhD, and Lester D. Friedman, PhD, Movie Review Editors

Reviewed by Lester D. Friedman, PhD

Lester Friedman is Emeritus Professor in the Media and Society Program at Hobart and William Smith Colleges, Geneva, New York, and a member of *The Pharos* Editorial Board.

Although this column usually contains several film or television productions that illuminate a particular topic, I thought that, for a change of pace, readers might want to consider screening some films that I have taught over the years in my “Medicine and Media” classes. Not all of these movies belong in the pantheon of cinema history, but they do offer pathways to engage colleagues and students in discussions about provocative matters encountered by contemporary health care professionals. Many of these movies fall within conventional genres, but, all provide viewers with something beyond the merely predictable, including a sense of the complex ideological strands within the fabric of contemporary medical culture. As such, they raise potentially controversial issues within a mainstream narrative format that encourages viewers to question some basic moral and humanistic assumptions about the intersections between modern medicine and the society within which it exists.

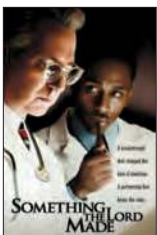
Racial injustice



Miss Evers's Boys

Starring: Alfre Woodard, Laurence Fishburne, and Craig Sheffer.

Directed by Joseph Sargent. Released February 22, 1997; Rated PG; Home Box Office (HBO); 118 minutes.



Something the Lord Made

Starring: Alan Rickman, Yasiin Bey, and Kyra Sedgwick.

Directed by Joseph Sargent. Released May 30, 2004; Rated PG; HBO Video; 110 minutes.

Miss Evers's Boys and *Something the Lord Made*, both based on historical events, turn a spotlight on institutional racism. The former traces the government-funded Tuskegee syphilis project that lasted more than 40 years, and the latter how Vivien Thomas was denied his rightful

place in medical history for decades because of his race. Both films ask viewers to consider the role race plays in the treatment of patients, and within a medical profession that prides itself on objectivity and factual analysis.

The right to die



The Barbarian Invasions

Starring: Rémy Girard, Dorothée Berryman, Stéphane Rousseau, and Louise Portal.

Directed by Denys Arcand. Released November 21, 2003; Rated R; Miramax; 112 minutes.



The Sea Inside

Starring: Javier Bardem, Belén Rueda, Lola Dueñas, Mabel Rivera, and Celso Bugallo.

Directed by Alejandro Amenábar. Released September 3, 2004; Rated PG-13; Fine Line Features; 125 minutes.

The Barbarian Invasions, a French-Canadian movie, and *The Sea Inside*, a Spanish production, both won Oscars for Best Foreign Language Film. Each explores whether or not a person has a right to end his or her own life. *Invasions* proceeds from the point of view of a son whose father has decided to die, and *Sea* (based on the true story of Ramon Sampedro) from that of a quadriplegic who fights for his autonomy.

These films raise significant moral problems by showing multiple aspects of this complicated, and often divisive, ethical dilemma.

Rising above



The Diving Bell and the Butterfly

Starring: Mathieu Amalric, Emmanuelle Seigner, Anne Consigny, and Max von Sydow.

Directed by Julian Schnabel. Released November 30, 2007; Rated PG-13; Miramax Films; 112 minutes.

Medicine on the big and small screen



Rust and Bone

Starring: Marion Cotillard, Matthias Schoenaerts, Armand Verduer, Celine Sallette, and Corinne, Masiero.

Directed by Jacques Audiard. Released November 23, 2012; Rated R; Sony Pictures Classics; 123 minutes.



Edward Scissorhands

Starring: Johnny Depp, Winona Ryder, and Dianne Wiest.

Directed by Tim Burton. Released December 7, 1990; Rated PG-13; 20th Century Fox; 100 minutes.

The Diving Bell and the Butterfly, a British film based on Jean-Dominique Bauby's memoir, won numerous international awards. It offers viewers a stunning first-person point of view of an almost completely paralyzed man who desperately wants to remain alive, a nice comparison/contrast with *The Sea Inside*.

Rust and Bone, a French-Belgian movie, rises above its limitations as a potentially sentimental love story after the main character suffers an accident that results in her legs being amputated.

A surprising choice to explore this topic is *Edward Scissorhands*, a noirish fantasy film that demonstrates a spectrum of responses by "normal" people confronting "the other" in culture.

Medical researchers



Awakenings

Starring: Robert De Niro, Robin Williams, Julie Kavner, Ruther Nelson, John Heard, and Penelope Ann Miller.

Directed by Penny Marshall. Released December 19, 1990; Rated PG-13; Columbia Pictures; 120 minutes.



Extraordinary Measures

Starring: Harrison Ford, Brendan Fraser, Keri Russell, Meredith Droeger, Diego Velázquez, and Sam M. Hall.

Directed by Tom Vaughan. Released January 22, 2010; Rated PG; CBS Films; 106 minutes.



Lorenzo's Oil

Starring: Nick Nolte, Susan Sarandon, Peter Ustinov, Kathleen Wilhoite, Gerry Bamman, and Margo Martindale.

Directed by George Miller. Released December 30, 1992; Rated PG-13; MCA University Home Video; 136 minutes.



Extreme Measures

Starring: Hugh Grant, Gene Hackman, Sara Jessica Parker, David Morse, Bill Nunn, and Debra Monk.

Directed by Michael Apted. Released September 27, 1996; Rated R; Sony Pictures Home Entertainment; 117 minutes.



Godsend

Starring: Greg Kinnear, Rebecca Romijn, Robert De Niro, Cameron Bright, Merwin Mondesir, and Jake Simons.

Directed by Nick Hamm. Released December 1, 2003; Rated PG-13; Lionsgate Films; 102 minutes.



Splice

Starring: Adrien Brody, Sarah Polley, Delphine Chaneac, David Hewlett, Brandon McGibbon, and Simona Maicanescu.

Directed by Vincenzo Natali. Released June 4, 2010. Rated R; Warner Brothers; 100 minutes.

Despite some exceptions such as *Awakenings*, *Extraordinary Measures*, and *Lorenzo's Oil*, most films about medical researchers depict them as obsessive ego maniacs whose experiments endanger our very existence. Among the multitude of these post-Frankenstein movies, both *Extreme Measures*, about the ethics of research, and

Godsend, about the lure of cloning, intermittently shake off the conventions of this genre to probe the benefits and seductions of medical research.

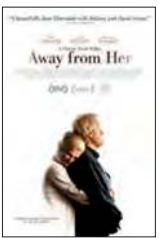
Should you want to traverse into gorier cinematic realms, *Splice* delves into genetic engineering with predictably bloody results.

A melancholy group



Amour

Starring: Jean-Louis Trintignant, Emmanuelle Riva, Isabelle Huppert, Alexandre Tharaud, William Shimell, and Rita Blanco.
Directed by Michael Haneke. Released August 20, 2013. Rated PG-13; Sony Pictures Classics; 127 minutes.



Away from Her

Starring: Julie Christie, Gordon Pinsent, Olympia Dukakis, Michael Murphy, Wendy Crewson, and Kristen Thomson.
Directed by Sarah Polley. Released January 20, 2007. Rated PG-13; Lionsgate; 110 minutes.



Ikiru

Starring: Takashi Shimura, Miki Odagiri, Nobuo Kaneko, Kyoko Seki, Makoto Kobori, and Kamatari Fujiwara.
Directed by Akira Kurosawa. Released March 25, 1956. Rated PG; Cowboy Pictures; 134 minutes.



M*A*S*H

Starring: Donald Sutherland, Elliott Gould, Sally Kellerman, Robert Duvall, Tom Skerritt, and Jo Ann Pflug.
Directed by Robert Altman. Released December 31, 1970. Rated PG; 20th Century Fox; 116 minutes.



The Hospital

Starring: George C. Scott, Diana Rigg, Barnard Hughes, Richard Dysart, Andrew Duncan, and Nancy Marchand.
Directed by Arthur Hiller. Released December 17, 1971. Rated PG-13; United Artists; 103 minutes.



Article 99

Starring: Ray Liotta, Kiefer Sutherland, Forest Whitaker, Lea Thompson, John Mahoney, and Keith David.
Directed by Howard Deutch. Released March 13, 1992. Rated R; Orion Home Video; 100 minutes.

Amour, a French film that won both the Palme d'Or at the Cannes Film Festival and the Oscar for Best Foreign Language Film, achingly depicts the final several months in the lives of a long-married couple after the wife suffers a debilitating stroke. The Canadian film *Away from Her* follows the emotionally torturous path a husband must tread after his wife develops Alzheimer's and must be moved into a nursing home. Each is filled with the pain of losing a long-time companion and how the survivor copes with life without the person he loves most in the world.

One final suggestion for discerning movie lovers not put off by subtitles is Japanese filmmaker Akira Kurosawa's incredibly powerful *Ikiru*. This compassionate, beautifully shot movie is one of the best films Kurosawa ever made, and truly deserves an honored place in cinema history.

This list is an incredibly melancholy group of movies. Students in my "Medicine and Media" course often remark that they like the class but find it depressing because of the subject matter explored week-after-week in the films. Over the years, I have tried to leaven the selections with movies that have more comic elements, but have found few that work, other than those with a decidedly cynical edge to them, such as *M*A*S*H*, *The Hospital*, or *Article 99*. Despite their serious nature, I hope you will check out some of these movies, and for those of you teaching medical professionals, find a place to introduce your students to them.

The author's E-mail address is friedman@hws.edu.



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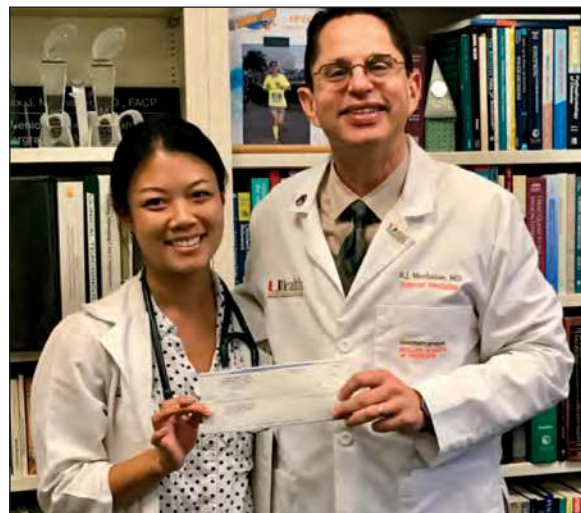
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East Tennessee State University Quillen College of Medicine presents Dr. Kathryn Leigh Idol Xixis the 2019 AQA Volunteer Clinical Faculty Award. Pictured are, from left: Imani Chatman, AQA Member, and President of Quillen Class of 2019; Dr. Xixis; and Maureen Shelton, AQA Member and Quillen Class of 2019.

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National and Chapter news

AΩA announces 2019 recipients of *The Pharos* Poetry Award, Helen H. Glaser Student Essay Award and AΩA Fellows in Leadership

The Pharos Poetry Awards

AΩA recently announced the winners of its annual Pharos Poetry Awards. The 2019 winners are:

First place (tie) – “Names,” by **Kellie Mitchell**, University of Alabama School of Medicine, and “Hereafter,” by **Alex Sievert**, Oregon Health & Science University;

Third place – “Healers,” by **Grace Ferri**, Boston University School of Medicine.

The winners were selected from a pool of 138 submissions. Their poems will be published in the Summer issue of *The Pharos*.

The Pharos Poetry Award is designed to encourage medical students to write meaningful poetry that is related to health or medicine. Authors must be enrolled in medical schools with an active AΩA Chapter or Association. A committee of the Editorial Board of *The Pharos* reviews the poems and selects the winners.

Helen H. Glaser Student Essay Awards

AΩA recently announced the winners of its annual Helen H. Glaser Student Essay Awards. The 2019 winners are:

First place – “The Price of Pills: A Brief History of the Kefauver-Harris Amendment,” by **Reid Wilkening**, University of Illinois at Chicago College of Medicine;

Second place – “The Louse Manifesto,” by **Prisca Alilio**, University of South Florida Morsani College of Medicine;

Third place – “Don Ze Pill,” by **Rebecca Grossman-Kahn**, University of Michigan Medical School.

The winners were selected from a pool of 51 submissions. Their essays will be published in the Autumn issue of *The Pharos*.

The Helen H. Glaser Student Essay Awards, named after Dr. Helen Glaser who served for 30 years as the assistant editor and then as managing editor of *The Pharos*, are designed to encourage medical students to write scholarly essays or creative narratives that are related and relevant to medicine. Authors must be enrolled in medical schools with an active AΩA Chapter or Association.

2019 AΩA Fellows in Leadership

AΩA recently announced its sixth cohort of AΩA Fellows in Leadership. The 2019 Fellows are:

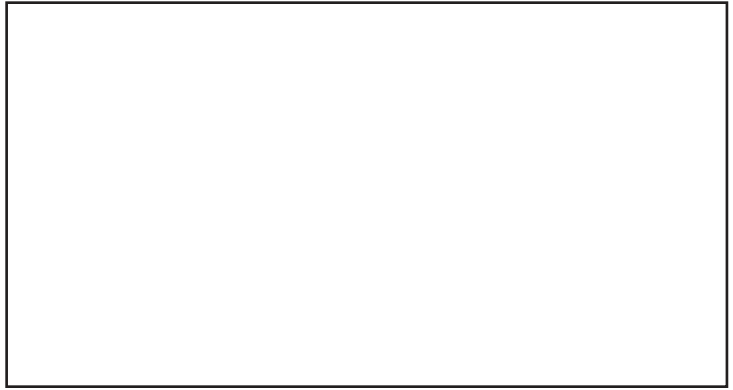
Deborah DeWaay, MD (AΩA, Medical University of South Carolina, 2011, Faculty), Associate Dean of Undergraduate Medical Education and Associate Professor of Internal Medicine, University of South Florida;

Jeffrey McClean, MD (AΩA, Uniformed Services University, 2009, Resident), Program Director Neurology Residency; Medical Director, Neurodiagnostic Technician Program; Site Director, Defense and Veterans Brain Injury Center; Traumatic Brain Injury Consultant to the United States Air Force Surgeon General; Neurology Consultant to the U.S. Air Force Surgeon General; and Chief of the Medical Staff, Wilford Hall Medical Center and San Antonio Military Medical Center; and

Roy Strowd, MD (AΩA, Wake Forest School of Medicine, 2008), Assistant Professor of Internal Medicine, Section on Hematology and Oncology, and Assistant Professor, Department of Neurology, Wake Forest School of Medicine; Adjunct Assistant Professor, Department of Neurology, Johns Hopkins School of Medicine; Assistant Professor, Translational Sciences Institute, Wake Forest School of Medicine; and Adjunct Faculty Advisor, Johns Hopkins School of Education, Master of Education in Health Professions Program.

The AΩA Fellow in Leadership is designed to support the development of outstanding mid-career physician leaders. Leadership in medicine, medical education, and health care is more complex in the 21st century than ever before. The medical profession and the country are in need of leadership that is inspiring, insightful, engaging, and humble; leadership that both understands and represents the needs of patients, physicians, medical educators, and trainees. Because of their unique knowledge of the practice of medicine and understanding of medicine’s core professional values, physicians are ideally suited to serve as leaders in this period of change.

The 2019 Fellows will spend one year honing their leadership skills and expanding their knowledge base in the areas of leading from within and servant leadership.

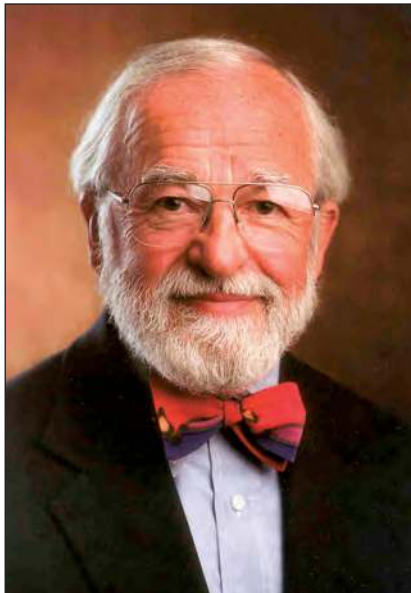


2019 Submission Deadlines

October 1 AΩA Professionalism Award

October 15 Robert H. Moser Essay Award

Visit <http://alphaomegaalpha.org/programs.html> for applications and more details.



2018 Robert H. Moser Essay Award Winner

Leon Speroff, MD, Professor Emeritus of Obstetrics and Gynecology at Oregon Health & Science University was the recipient of the 2018 Robert H. Moser Essay Award. See inside page nine for his winning article, "Carlos Montezuma, MD: A Yavapai American hero."