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Editorial

Are we appropriately preparing physicians to care for patients throughout their life journeys?

A personal perspective reflected through the lens of the Institute of Medicine

Philip A. Pizzo, MD

Introduction
Richard L. Byyny, MD
Executive Director, Alpha Omega Alpha

ΩA’s motto is “Be worthy to serve the suffering.” When suffering is primarily caused by a disease, using specific and effective treatment may relieve most of the suffering. But, as we all know, many times there isn’t an effective, certain, or rapid intervention. This may be most important at the end of life. For dying patients, the care for the patient and the relief of suffering is paramount.

Dr. Phillip Pizzo, Dean Emeritus at the Stanford School of Medicine, was the co-chair of the Institute of Medicine report Dying in America: Improving Quality and Honoring Individual Preferences Near the End of Life. After I read the report and followed some of the news coverage, I thought about how ΩA and our members could participate in this important discussion on a subject that requires broad and engaged participation and leadership from physicians individually and our profession as a whole.

One of ΩA’s important missions is communicating with members and disseminating information so that more of us in medicine learn about important issues. The recommendations in this report are vital to the profession in finding the best approaches in this difficult aspect of patient care and community service. I asked Dr. Pizzo to write this issue’s editorial. In his words, “We all will die. As professionals we must be committed to doing all we can to improve quality and honor individual preferences for each other, our loved ones, and the patients we serve when the near the end of life.”

Contact Dr. Byyny at r.byyny@alphaomegaalpha.org.

Dr. Pizzo (ΩA, University of Rochester, 1970) is the David and Susan Heckerman Professor and Professor of Microbiology and Immunology, former Dean of Stanford University School of Medicine, and the Founding Director of the Stanford Distinguished Careers Institute. He is the co-chair of the Institute of Medicine Committee on Approaching Death: Addressing Key End of Life Issues, which recently issued its report, Dying in America: Improving Quality and Honoring Individual Preferences Near the End of Life.

It is understandable that most of us do not spend great amounts of time dwelling on our own death, even though we know it is inevitable. Because the experience of death is so personal, when we do think about it, those reflections are shaped by both discrete and aggregate experiences—the loss of a parent, spouse, sibling, friend, and, in the case of physicians, the death of patients and the impact of their loss on their families and loved ones. Regardless of our medical knowledge and expertise, the feelings and thoughts about our own eventual death are also influenced by the biological, psychological, societal, and spiritual forces common to all of us. These views evolve during our life journeys and can vary by the communities we inhabit, the nature of our medical practices, whether we are healthy or have developed an illness that might be serious or life threatening. My views on dying will resonate to some but appear dissonant to others. Even though my thoughts about life and death are not meant to be judgmental, by expressing them, they will be judged. I weighed this carefully when I was asked by the Institute of Medicine to co-chair...
a committee on “approaching death.” I was mindful that my personal and subjective perspective would be refracted against a diverse group of individuals, each of whom would be viewing death through their own personal and professional lenses. But it would take all of us to develop an evidence-based consensus assessment about dying in America. I will share the intersections of how my professional journey has impacted my views about death and how those views have been impacted by my work with the Institute of Medicine.

Developing a personal perspective on life and death

While my undergraduate work in philosophy posed many existential questions about the meaning of life, my introduction to death and dying began as a medical student, albeit in a somewhat orthogonal fashion. I had been inspired to pursue a career in medicine by reading books like *The Microbe Hunters*,¹ and fantasized about becoming a doctor who would discover new ways of treating or preventing serious disease. As I began medical school, my goal was focused very much on conquering disease—not yielding to death. Ironically, my very first patient encounter as a first-year medical student was facilitated by my assigned advisor, who was a pediatric hematologist-oncologist, and who brought me to the bedside of a young child with acute leukemia. At that time most children with leukemia died, and I recall wondering how anyone could pursue a career path where the prospect for death was so prominent. It was pretty clear to me that I could never do that.

In parallel I benefited from a medical school curriculum that at the time was unique. Not only was the University of Rochester pioneering the biopsychosocial model of medical education, it also was championing ways of teaching students how to listen to how patients and families communicated their health problems, using their own words to describe the impact of the illness on them, their family, and community. It was a highly humanistic style of teaching and learning and helped to make students comfortable with complexity, including engaging in difficult conversations. We were guided to learn more about what our patients were seeking as they formulated their personal stories, hopes, fears, and views. These skills have proved invaluable to my entire professional life and career—both inside and outside of medicine.

Despite the initial reaction to my first patient encounter, I wound up gravitating to a career in pediatrics and ultimately one that combined pediatric oncology with infectious disease. My work in pediatric oncology coincided with a time of tremendous progress in treating childhood cancer—which remains one of the great success stories of the twentieth century in clinical and translational research. While my orientation was always about trying to improve outcomes, many children still died. It was imperative to learn how to deal with death and dying in children and the impact of their loss on families. Because these experiences developed long before hospice and palliative care became part of our lexicon and care system, it was imperative for physicians caring for children who might die to become knowledgeable about how to discuss death with parents, children, and adolescents, and how to modify or alter the communications depending on the psychosocial factors impacting the child and family. Having sat by the bedside of many children who ultimately died, I learned the limitations of what could be done to control pain and enhance comfort and, to be blunt, was horrified by the poor quality of the death of a number of my patients. At the same time, it was clear that listening to my patients, and developing deep and caring relationships with their parents and families, was important and essential. These experiences forged interdisciplinary collaborations with fellow physicians as well as with nurses, social workers, teachers, clergy, and others. We learned from each other and helped each other to care for children through the lives of our patients and at the time of their death. Because much of this work was conducted in the Clinical Center of the National Institutes of Health, we had the time to care for our patients and were not affected by the perverse incentives that have guided fee-for-service medicine. These experiences affirmed that caring for dying children was as important as focusing on their medical treatment, and that providing multidisciplinary, team-based care was beneficial and allowed us to understand and honor the choices of our patients and families. Some children (and their parents) wanted to know about death, whereas others only wanted to focus on treatment. Some would never give up the next treatment possibility, whereas others recognized when it was time to stop. These decisions were made respectfully and after lengthy and informed conversations.

For a while I assumed that this is the way all patients experienced decisions about life and death—whether the child had cancer, AIDS, or other serious disorders, and regardless of their social or economic strata. It seemed clear that when physicians were honest, engaged, willing to discuss the limitations and boundaries of treatment, and able to make the time to do so, that life and death with dignity was achievable. For a while I even assumed that this was the norm in American medicine.

Witnessing the approach to life and death through the lens of a leader in academic medicine

My perspective on how doctors and institutions approach end-of-life care changed significantly when I left the NIH and assumed two institutional leadership roles, one on the East Coast and another on the West Coast. While I never doubted that health care providers and medical institutions care deeply for the patients they serve, I was surprised to see how little attention was given to preparing young physicians about end-of-life care. There was no real curriculum, few role models, and the focus of these medical institutions was almost always about doing more—additional treatments, including stays in the ICU—even for patients whose prospect for recovery was limited at best. Because many physicians, whether they are working in tertiary centers or in primary care offices, are
increasingly harried and tasked to see more patients in shorter periods of time, the opportunity to take the time and listen to patient’s hopes and expectations are all too frequently blunted. It is simply not possible to shoehorn a serious discussion about the prospect of death into fifteen-minute visits. Coupled with this is the reality that fee-for-service medicine, which still very much characterizes American medicine today, incents doing more procedures as something more highly compensated than spending quality time with patients. Medicare, for example, supports hospice care, but only for patients who have less than six months to live and if they forego concurrent medical treatments. This forces a Faustian bargain that leads doctors and patients to underutilize hospice services. In fact the average length of a hospice stay is less than eight days, and this is often preceded by unnecessary and even unwanted stays in the ICU.

Politics have also impacted our approach to end-of-life discussions since the uproar over the egregious allegation that the Affordable Care Act (ACA) would result in “death panels.” This resulted in the administration pulling out of the law the provision that would have paid for advance directive planning conversations between patients and doctors at the time of Medicare enrollment. The highly siloed organization of American medicine and the multiple handoffs that occur among the many specialists caring for patients with advanced serious illnesses also makes it difficult for patients to know whom to call when they have a medical emergency or problem. As a consequence, many patients, and especially those on Medicare, wind up using 911 calls and being taken to emergency rooms, where medical interventions often take precedence over patient’s prior wishes and even advance directives. All of these events reduce the quality of the dying process for patients. Furthermore, they both directly and indirectly result in overutilization of medical services, almost at the exclusion of social services, thus contributing to the rising cost for care in the United States.

From the vantage of an institutional leader, my colleagues and I sought ways to more appropriately address medical utilization, especially for patients with advanced serious illness, but it was also clear that our health care system is poorly designed to provide care for patients with advanced serious illness, including those nearing the end of life.

Viewing the end of life through the lens of the Institute of Medicine

At the end of 2012, the Institute of Medicine assembled a twenty-one-member panel to produce a comprehensive report on the current state of health care for persons of all ages with a serious illness or medical condition who are likely approaching death and who require coordinated care, appropriate personal communication (or communication with parents or guardians for children), and individual and family support. The committee will assess the delivery of health care, social, and other supports to both the person approaching death and the family; person-family-provider communication of values, preferences, and beliefs; advance care planning; health care costs, financing, and reimbursement; and education of health professionals, patients, families, employers, and the public at large. I co-chaired this committee with David M. Walker, the former U.S. Comptroller General. We had very different life journeys and perspectives, but we benefited from the knowledge and insights of committee members with exceptional expertise in aging, adult and pediatric medicine, nursing, palliative and hospice care, mental health, social work, spirituality, finance, health disparities, ethics, health systems research, communications, and more. Our work included extensive literature reviews, six meetings (including three public meetings), site visits, commissioned papers, and a review of on-line testimony. We approached our work with the recognition that our nation is at the cusp of the most significant demographic shift in its history, with a growing and ever more diverse population of elderly Americans, who will represent twenty percent of the U.S. population by 2030.

Our report entitled Dying in America: Improving Quality and Honoring Individual Preferences Near the End of Life focused on five interrelated recommendations. Remarkably, these recommendations were closely aligned to the personal and professional assessment of death and dying that I described above. But when viewed through the lens of the IOM, these recommendations reflect the need for a major transformation in how the United States approaches the care of individuals with advanced serious illness, including those nearing the end of life. The recommendations focus on how to improve care, including how it is delivered and compensated; how communications between clinicians and patients take place with quality and excellence; the need to educate and train clinicians on how to engage patients about advance directives and end-of-life care; and the importance of addressing the policy and payment system issues that impede the delivery of high-quality care that honors individual preferences. In addition, the recommendations emphasize the importance of engaging the nation in a broad and deep public education and discourse about dying in America—one that is evidence based and that dispels the misinformation when “death panels” became the operative, albeit politically driven, phrase defining the ACA.

Our committee focused on the provision of quality care throughout life and at the end of death. Recognizing how fragmented clinical care currently is, we recommended a model of comprehensive care that is seamless, of high quality, integrated, family-centered, and patient-oriented that is available around the clock. This is particularly important to help patients to avoid 911 and emergency room care when they can’t access a medical provider—since that often results in overutilization.
of care. Importantly, high-quality care needs to consider the evolving physical, emotional, social, and spiritual needs of the patient. Moreover, this care needs to be provided by professionals with appropriate expertise and training. To avoid the handoffs that so frequently occur in our current specialist-driven provider care system, our committee underscored the importance of developing and implementing coordinated, efficient, and interoperable information transfer across all providers and settings, and to do so in a manner that is consistent with the values, goals, and preferences of individuals. To assure that these important changes in delivery of care are accomplished, the committee recommended:

Government health insurers and care delivery programs, as well as private health insurers, should cover the provision of comprehensive care for individuals with advanced serious illness who are nearing the end of life.3p4

The committee went even further in its recommendations regarding comprehensive care by stating that all people with advanced serious illness should have access to palliative care, or when appropriate, to hospice care. This should include care provided by an interdisciplinary team of skilled and trained palliative care providers, either on-site or by virtual consultation. At the same time, we underscored the importance of individual choice and noted that patients should also have the right to decline medical and social services if that is their preference.

A critically important component of quality care is that patients and clinicians engage in health care decisions not only when they are facing a serious illness or the prospect of death, but also that these conversations happen at key milestones throughout their lives. These discussions should be high quality, evolve and change over time, and be communicated to all providers of the health care team. To help assure that these conversations take place, we recommended that professional societies and other organizations that establish high quality standards should develop standards for advance care planning that are measurable, actionable, and evidence based. Further, payers and health care organizations should adopt these standards and integrate them into assessments, care plans, and reporting of health care quality. Importantly, payers should tie these standards to reimbursements—and thus overcome the negative decision that was made when CMS withdrew payment of advance care planning discussions for Medicare patients.

Having meaningful conversations with patients or engaging in the competent care of individuals with advanced serious illness or nearing the end of life requires significant changes in the education of clinicians. To that regard the IOM recommends:

Educational institutions, credentialing bodies, accrediting boards, state regulatory agencies, and health care delivery organizations should establish the appropriate training, certification, and/or licensure requirements to strengthen the palliative care knowledge and skills of all clinicians who care for individuals with advanced serious illness who are nearing the end of life.3p4

More specifically, it is important for all clinicians (including physicians, nurses, social workers, psychologists, clergy) who care for people with advanced serious illness to be competent in at least basic skills of palliative care—notably their communication skills (e.g., ability to engage in “difficult conversations”), as well as symptom management (e.g., pain, nutrition, etc.). Accomplishing this requires medical schools, teaching hospitals, and CME programs to include palliative care training directly in the curriculum at the various stages of the learning trajectory. It is simply not enough to focus on disease treatment. Attention must also be directed to caring for patients for whom supportive care management should be coupled with disease treatment—and particularly for end-of-life care. While good intentions by medical educators are important, having this education and training truly established will necessitate changes in requirements for accreditation, certification, medical staff privileges, and licensure. In addition, we need to train and educate more palliative care specialists from all medical disciplines. With reductions in funding for Graduate Medical Education through Medicare likely in the future, health care delivery systems, academic medical centers, and teaching hospitals should commit institutional resources to increase the number of training positions.4 Such investments are appropriate to improve patient care, help with the education of non-palliative care clinicians, and potentially decrease unnecessary utilization of medical services. These will stabilize or potentially reduce health care expenditures—especially for the growing population of aging Americans with advanced serious illness and nearing the end of life.

Even if we commit to improving care delivery models and clinicians’ skills, we still face a number of policies and health system impediments that negatively impact end-of-life care and that also must be addressed. With that in mind, the IOM recommends:

Federal, state, and private insurance and health care delivery programs should integrate the financing of medical and social services to support the provision of quality care consistent with the values, goals, and informed preferences of people with advanced serious illness nearing the end of life. To the extent that additional legislation is necessary to implement this recommendation, the administration should seek and Congress should enact such legislation. In addition, the federal government should require public reporting on quality measures, outcomes, and costs regarding care near the
end of life (e.g., in the last year of life) for programs it funds or administers (e.g., Medicare, Medicaid, the Department of Veterans Affairs). The federal government should encourage all other payment and health care systems to do the same.\textsuperscript{394}

While the committee recognizes that some of these changes will take time, it is imperative that they occur. The current fragmentation of the system and frequent handoffs from one physician to another make it difficult for most people to navigate the health care system. They also foster a setting in which emergency services and advanced medical care are used in place of the more appropriate combination of both medical and social services needed to assist patients with advanced illness. The ACA has called for the increased use of electronic medical records as one way to better integrate and coordinate care across different settings and geographies. Assuring that patients’ advance directives are documented in the EMR and that the systems are interoperable is an important way for documenting patient preferences and making them accessible to all providers. These preferences can be enhanced by the increased use of Physician Orders for Life-Sustaining Treatment, which is applied in some states currently but should become a national program in the near future.

Finally, the IOM committee recognized the need to change the national discourse and dialogue on life and end of life. It is all too easy for fear to dominate and even sabotage thought-ful discussion, as occurred when “death panels” and related political hyperbole were used to characterize aspects of health care reform. While we all know we will die one day, it is also true that many are fearful of the prospect of death and, in particular, that their individual preferences will not be honored. Accordingly,

Civic leaders, public health and other governmental agen-
cies, community-based organizations, faith-based organiza-
tions, consumer groups, health care delivery organizations, payers, employers, and professional societies should engage their constituents and provide fact-based information about care of people with advanced serious illness to encourage advance care planning and informed choice based on the needs and values of individuals.\textsuperscript{385}

This is a responsibility we all should embrace—in our communications with individuals, colleagues, professional societies, and communities. As professionals we have the ability to help dispel misinformation and promote a dialogue that puts patients and families first—throughout their lives and at the end of their lives.

An unexpected but appreciative convergence of views

During my personal and professional life, I have learned much about life and death. There is no doubt this knowledge has shaped the care I have provided to my patients, what I have taught to my students and trainees, how I have interacted with professional colleagues, and how I have engaged with leaders to make our medical systems more responsive to the needs of individuals facing the end of life. What I didn’t anticipate is how these views were mirrored, enriched, and enhanced by the wisdom that came from the twenty other members of the IOM committee that produced the report Dying in America. Looking at life and death issues through their individual and collective lens affirmed some of my views and changed others. It was an informative albeit challenging process. Reaching consensus when there were so many differ-
ent viewpoints, agendas, and self-interests was remarkable in its own right—but was most important because patients and families were placed in the center of all our deliberations. The skills I learned at the beginning my medical career—listening to patients and learning how the human condition is impacted by biopsychosocial interactions—has helped me appreciate the complexity of the forces that shape each of our reactions to end of life. The work of our IOM committee gave evidence to different experiences but one commonality. We all will die. As professionals we must be committed to doing all we can to improve quality and honor individual preferences for each other, our loved ones, and the patients we serve when they near the end of life.

References


Dr. Pizzo’s address is:
265 Campus Drive G1078
Stanford, California 94305
E-mail: ppizzo@stanford.edu
Are we the tools of our tools?

K. Patrick Ober, MD, FACP, and William B. Applegate, MD, MACP

Dr. Ober (ΔΩA, Wake Forest University, 1995) is professor of Internal Medicine, the former Associate Dean for Education, and is the ΔΩA councilor at Wake Forest University School of Medicine. Dr. Applegate (ΔΩA, University of Louisville, 1971) is professor of Internal Medicine and former Dean of Wake Forest University School of Medicine, and chair emeritus of the American College of Physicians Board of Regents.

But lo! Men have become the tools of their tools.¹

—Henry David Thoreau

Electronic Health Records (EHRs) hold promise for transforming the health care system in remarkable ways by creating new efficiencies as well as possible cost reduction and quality enhancements. Unfortunately, innovations such as EHR that have the potential for ushering in great change have also historically had unintended consequences, and—as we have seen with new drugs and new devices—the most important unforeseen problems frequently come to light during "post-marketing surveillance." Once they are used widely, the benefits of new medications and devices rarely live up to their original hype, while newly encountered risks and side effects often exceed expectations. This seems to be the state of EHR today. When a novel drug or a new device or a paradigm-shifting process shows unanticipated negative effects in the early stages of widespread adoption, careful study of the scope, severity, and implications of the undesirable actions is required. We confirm that the harmful effects of EHR use on patient care and medical education have been significant and are ongoing, but we also propose that future harm can be reduced if we change the way we use the system, and soon.

When our academic medical center adopted a newer, more complex EHR system in the fall of 2012, we encountered many of the same problems reported by other health care institutions. Outcries arose almost immediately. Patients, staff, and physicians were frustrated by the inefficiencies and delays in a system that had not been fine-tuned to deal with the normal flow of patient care. Essential tasks such as ordering tests,
The problem

Then, during an e-mail discussion of problems related to the EHR, one of our residents succinctly explained the real problem to us:4

It had less to do with the machines than the rest of us were assuming, he ventured.

It had everything to do with people.

The core problem with our electronic medical record system, he told us, was not electronic. It was organic.

What had always been considered to be the most immutable aspect of medicine was under assault. The patient was no longer the most important thing in the examining room. The machine, rather than the patient, had become the center of the doctor’s focus. “I can remember my first encounter with one of my clinic patients using Epic,” our house officer observed. “It was possibly one of the lowest times of my residency. Armed with this Rolls Royce of EHRs, I felt miles away from my patient.”

The frustration extended beyond what the technology brought to the examining room; the resident’s exasperation came from what had been taken away from his role as physician. The doctor-patient interaction was being warped and distorted; the underlying basis of patient-centered health care had been sacrificed on the altar of computer-centered health care. In his e-mail, our resident summarized the origin of his annoyance: “Still can’t seem to get past the urge to just toss the computer aside and actually talk to people when I see them.”

Our resident, in his wisdom, pointed out that our disquietude with the EHR was not simply a product of imperfect software or an error-laden code that was hurriedly being patched. The distress was seated much deeper. It was visceral. It arose from the medical profession witnessing an undermining of what has always been the soul of medicine, the doctor-patient relationship.

In the meantime, the programmers continued hard at work creating more templates and encouraging more “smart phrases,” as though the ability to type a single word that would balloon up into a full boilerplate paragraph on the computer screen would be the solution, if only enough of them could be created. Instead, the shortcuts were the problem. “The more bells and whistles these things have,” our resident pointed out, “the harder it seems to be to actually find the patient amongst the sea of ‘phrases’ or ‘presentations’ in the medical record.”

What did he say?

“Find the patient.”

Of course!

Isn’t that the very core, the real essence, of what a doctor does? We have taught the process to our first-year students for as long as any of us can remember. Listen to the patient’s story, ask some questions, and listen some more. Find the patient, find the problem, find out how the problem affects the patient, seek the cause, talk about options, and help the patient find the best answer. But it always starts with

retrieving test results, and writing prescriptions required more time than previously and sometimes were impossible to complete. Clinic efficiency slowed dramatically, and significant glitches in the billing process led to a drastic fall in collections.5

At first, physician complaints were aimed at the technical, mechanical, and logistical challenges of navigating through a clinic visit and completing all of the required documentation, while maintaining a high quality of patient care. The new system did not make patient care easier; instead it added extra time requirements on physicians while subtracting from the time available for patients. This appears to be a common experience of doctors who use EHRs. A study of emergency room doctors in a community hospital in Pennsylvania revealed that putting information into the computer consumed more of their time than any other activity. Using a “click” of the computer mouse as the standard of measure, a doctor needed to make six clicks of the mouse to order an aspirin tablet, eight clicks to get a chest x-ray, fifteen clicks to provide a patient with one prescription, and forty clicks to document the examination of a hand and wrist injury. Over forty percent of a typical emergency room shift was devoted to entering data into the computer; a ten-hour shift might require almost 4,000 clicks of the computer mouse.6

Even so, initially, an open-minded attitude prevailed among physicians and staff at our center. Perhaps it was just a matter of learning a new system? It was a newer technology, and maybe we just needed more practice and experience. Everyone had heard of the potential for better health care, greater efficiency, lower costs, and fewer errors. Like it or not, all realized, the era of the EHR was here to stay, and so the wise physician committed himself to mastering it. As technical problems came up the programmers worked hard to patch them.

But the practice and experience and fixes didn’t seem to change anything. Disquietude grew.

Over time, the optimism for a technical resolution of the system’s defects was gradually replaced by a growing and pervasive feeling that the root of the distress went beyond mechanical processes. Something was profoundly wrong, and it became increasingly apparent that the shortcomings of the system were deeper than technical flaws that could be remedied by technical attention. Whatever it was, the cause of dismay seemed to be something essential and elemental.
finding the story within the patient (and then finding the patient within the story). Drs. Rita Charon and Danielle Ofir and a multitude of other physician-writers have taught us that we will never find the patient until we find the story. But it is the story itself, the necessary starting place, that has been eliminated from today’s EHR with its prefabricated homogeneous scripts and standardized templates.

This dissonance between physician-think and programmer-think is exaggerated on the computer screen. The subtle places in the history where the patient is most likely to be found by the physician are unknown to the non-physician programmer, and so are devalued in the EHR. For instance, descriptors of types of pain, in their standardization, are reduced to click boxes in the EHR, as though there is nothing further unique or noteworthy to be noted about the pain of the patient in the room. Each of the clicks contributes to the formula for “meaningful use,” and with enough clicks comes the cynical generation of higher levels of billing, all at the price of bypassing a true understanding of the patient.

Our thoughtful young colleague quickly recognized the tragedy. “With family history and social history just another box in the meaningful use checklist,” wrote our resident, “it seems like we’ve found a way to ‘protocolize’ even the art of getting to know our patients.”

EHR and residency education

As we considered our resident’s comments, we began to ponder the impact of the EHR on the education of our young physicians. In our national and local discussions on the role of the EHR, have we overlooked its impact on the future generation of physicians now in training? Has the EHR created incongruity between what we teach our students from the first year of medical school on, and how medicine is now being practiced in our clinics and on our wards? If so, what should change: the values we have traditionally championed to our students and residents, if those values have now become incompatible with their future as users of the EHR? Or something else?

In his e-mail, our resident cited the spectrum of damages inflicted by the new EHR: “Education; rapport; compassion; bedside clinical reasoning; the physical exam; all seem to take a back seat in the current system.”

All of these are essential to the development of a physician. The patient record has traditionally played an irreplaceable role in assessing and developing clinical reasoning skills. Each patient is unique, and the medical record has allowed us as teachers to see how our young colleagues incorporate that uniqueness into the care of the patient. Historically, reading the written note of a resident (or any physician) has been a rich source of information showing what she knows and understands about her patient, her differential diagnosis skills, and her ability to consolidate information and to demonstrate clinical reasoning. Dr. Deborah Nelson at the University of Tennessee-Memphis explains the educational scope of the clinical note. “Writing notes is a means of documenting history-taking and exam skills and the thought process that culminates in an assessment, differential diagnosis, and a plan of evaluation and treatment,” she states.

“Writing the daily progress note is an important training tool by which residents experience and internalize the cognitive processes that constitute medical reasoning and analysis, and it is a means for a learner to demonstrate the development of these skills.”

The note is crucial to documenting the context and implications of each visit and of each episode of care.

And that is where the EHR has become a problem. Dr. Robert Wachter, chair of the American Board of Internal Medicine and professor of Medicine and chief of the Division of Hospital Medicine at the University of California, San Francisco, describes the challenges he now encounters in the EHR era as he supervises residents on an inpatient clinical service: “One really doesn’t ‘write a note’ anymore; rather one charts on each of the patient’s problems, one by one.” This creates a string of verbiage that “outwardly appears to be the patient’s progress note.” But, Wachter observes, “It’s not really a note, it’s a series of problems (each accompanied by a brief assessment and plan) held together with electronic Steri-Strips.”

With the carry-forward option of the EHR that duplicates a prior note, it is not easy to see any semblance of a reasoning process after the original note was crafted, and the copy-and-paste process even makes it hard to identify the original author of a note, or the date of origin. The same note can appear day after day with minimal alteration beyond the addition of a new set of laboratory results, even when the patient’s status changes dramatically.

The result of this word-shifting from day to day is predictable. The note becomes a snowball rolling down a snowy incline, becoming more massive by the day. The patient is lost in voluminous data with amazingly little evidence of any effort to synthesize or prioritize it. The noise-to-signal ratio is immense. The implications are frightening. “When I was on clinical service in July and read the notes written by our interns and residents,” Wachter reports, “I often had no idea whether the patient was getting better or worse, whether our plan was or was not working, whether we need to rethink our whole approach or stay the course.”

Our experience has been the same. It is almost hopeless to try to follow the progress of a patient’s care through
EHR-templated notes, and it is virtually impossible to analyze any given resident or student’s reasoning process. The strings of inpatient or outpatient notes rarely contain any perspective on the patient’s overall health status and implications for future care. Verbal team communication on rounds can fill in many of the gaps, but it is the written record that trumps everything else, and the written record as delivered by current EHR is a dismal failure. EHRs are tools that may be able to count the number of times an event takes place, but not whether the event even needed to take place, and assessment of the quality of underlying reasoning around the plan for complex care is all but impossible.

In addition, the EHR appears to be reshaping behaviors in undesirable ways. As we observe the activities of our trainees throughout the day, they often appear to have been converted into “electronic processors” whose focus is on completing the mechanics required of each encounter, and maximizing their efficiency by minimizing the time spent with the patient. Our residents often resemble air traffic controllers, focusing more on the logistics of arrivals and departures than on understanding the patient’s journey. As physicians trained in an earlier era, we considered the time spent in documentation as secondary to the actual patient encounter. Now the completion of the note is the primary goal.

Our observations are not unique to our medical center. A time motion study of internal medicine house officers in Baltimore in January 2012 revealed that interns spent twelve percent of their time in direct patient care and forty percent of their time in front of computers. On average, medical interns interacted with each patient for 7.7 minutes.9

Can a doctor-patient relationship be developed in less than eight minutes of daily interaction?

We wonder and worry about the message we are sending to our residents and to our students—and ultimately to ourselves—about the focal point of patient care. Both of us have observed that our younger physicians seem increasingly drawn to the computer at the expense of the patient interaction, consistent with the observations from Baltimore. On rounds, we find our house staff fixing on the computer as they order more diagnostic tests or radiographs to diagnose congestive heart failure or stroke—instead of simply examining the patient. Are our younger and more technologically oriented colleagues aware of both the benefits and the costs of new technology? Are we aware?

And the disruptive influence of the EHR is not just a problem that happens in residency training, or a dilemma unique to internal medicine, or a frustration limited to practice in academic medical centers. A recent survey showed that emergency room physicians in a community hospital spend forty-three percent of their time doing computer data entry (not counting the twelve percent they spend reviewing records and test results, the traditional role of a medical record), far overshadowing the twenty-eight percent of their time devoted to direct patient contact.2

The core of the problem

The inherent design of the EHR is the real culprit. Information technology designers are apparently under the impression that patient care and computer programming utilize identical reasoning processes, and that, once identified, each patient with dementia or diabetes is the same as all the others. In the point-and-click world of EHR orientation sessions, the trainers of physicians actively discourage the actual writing of words and sentences to describe nuances and report individual variations. The EHR is designed to be a tool for creating sameness out of individuality. Each alteration to make the EHR more useful for the billing office diminishes its value to the medical profession that depends upon it for patient care. Attentiveness to the nuances of communication is an essential attribute of a skilled physician; in its quest for medical standardization, the EHR discourages nuances and promotes functional medical illiteracy.

Dr. James Cimino explained these concerns in an article in JAMA in 2013. The routine use of check boxes and various shortcuts encourages the “rapid inclusion of standard phrases and even boilerplate paragraphs;” he writes, but these methods come with the liabilities of diminishing any likelihood “for capturing the complex concepts related to patient conditions and decision making.” The injudicious insertion of previously recorded data into the new note not only adds to the substantial problem of “note bloat,” but it contributes immensely to “inclusion of irrelevant or even erroneous information.”10

Dr. Faith Fitzgerald wrote a cautionary paper in the Annals of Internal Medicine of 1999, prescient in its insight.9 She reported the story of a student standing at the bedside of a patient who possessed two intact legs as he presented his patient’s history of bilateral below-the-knee amputations. An incredulous Dr. Fitzgerald asked the student how he had come to such a conclusion in the presence of two obvious legs. He reported, “It said so in the chart.” A chart review confirmed that “BKA times two” had indeed been reported on three prior admissions and copied by the student. Due to a transcriptionist’s error, a history of two episodes of diabetic ketoacidosis (“DKA times two”) became bilateral amputations, and the error “became enshrined chart lore,” even in the presence of overwhelming information to the contrary. “Technology is wonderful and seductive, but when seen as more real than the person to whom it is applied, it may also suppress curiosity,” Fitzgerald noted. “For whatever reason—economics, efficiency, increased demands on physicians for documentation, technology, or the separation of education from patient care—curiosity in physicians is at risk.” This was in 1999, in the era...
The Pharos

nection has always been a central tenet of the patient-doctor relationship, what patients want from their physicians. This human connection goes beyond benefit to the doctor. “It also happens to be the doctor and preparing us to give again.” It has a higher function, too, reinforcing our sense of ourselves as healers, thereby restoring the “drive for efficiency” that keeps us from connecting with our patients.

Focus on the patient: Does it matter?

Our resident noted the loss of connection with his patient as he was obliged, first and foremost, to attend to the needs of the “visit navigator” on the computer screen; the needs of his patient were secondary.

In 2012 Dr. Elizabeth Toll explained in JAMA the importance of undivided physician attentiveness to the patient as an essential doctoring skill. “When a physician focuses on a patient with complete attention, this simple act of caring creates a connection between two human beings,” she explained. “Almost immediately, the patient begins to [feel well cared for], and this becomes a first step toward helping that person feel better.” The benefit is bilateral, as the connection between people is “one of the great satisfactions of our profession.”

This connectivity has a critical place in this age of physician burnout and early retirement. It is a deterrent to cynicism and anger, she notes. “It makes us feel needed, and generous, and reinforces our sense of ourselves as healers, thereby restoring us and preparing us to give again.” It has a higher function, too, that goes beyond benefit to the doctor. “It also happens to be what patients want from their physicians. This human connection has always been a central tenet of the patient-doctor relationship and that mysterious process called healing.”

That all sounds right and feels right, but is it so? Dr. Arnold Relman was as qualified as anyone to provide us with the answer. Dr. Relman, who served as editor-in-chief of the New England Journal of Medicine for many years, was a physician with six decades of experience and an insightful observer of health care delivery. He confirmed the observations made by others on the impact of the EHR on patient care when he required treatment for a severe injury. His time as a patient included both ICU hospitalization and rehabilitative care, and he saw what the rest of us are seeing: “Doctors now spend more time with their computers than at the bedside.” The extensive focus on the computer appeared to be a factor in the puzzling behavior of his doctors at the rehabilitation hospital, as “neither physician seemed to be actually in charge of my care, or spent much time at my bedside beyond what was required for a cursory physical exam.” It was not as though they were lazy, but they clearly had shifted their focus of attention, Dr. Relman observed. They spent little time with him, but “they did, however, leave lengthy notes in the computerized record.” On further investigation, though, he found little useful information in the notes, which mostly seemed to be “full of repetitious boilerplate language and lab data.” As he reviewed the progress notes that ostensibly described his own medical status, Dr. Relman found they had one overwhelming shortcoming: he could read the notes, but he could not find any accurate representation of his medical condition, much less any part of himself as a person, within the words. Anything that might have been of any importance was missing, and—most tragically to a distinguished physician, communicator, and teacher—he found his medical record to be “lacking in coherent descriptions of my medical progress, or my complaints and state of mind.”

And then we remember our resident’s lament: “The more bells and whistles these things have, the harder it seems to be to actually find the patient.”

The medical profession is at a critical crossroad. We suspect that Dr. Relman and our resident would agree with Dr. Elizabeth Toll’s warning for all of us: “Physicians and patients must speak loudly and clearly, with a unified voice, to address the dehumanizing trends in our profession and insist that the move toward technological reform not leave us with a nation devoid of physician healers.”

Principles and solutions

EHR is here to stay. It will continue to be modified by business offices and programmers. Efficiencies may result from their efforts, but their tinkering will not make the EHR a better tool for patient-centered care. Only physicians are able to do that. It is essential that we do so.

We have a limited window of time to get it right, if we hope to preserve the traditional values of medicine.

We suggest the following as principles:

- The encounter time with the patient, in the hospital or examining room, belongs to the patient, not to the business office.
- During the face-to-face interaction, the patient deserves the undivided attention of the physician.
- Every patient has a story; it is incumbent upon us to listen to the story, try to understand the story, and use the medical record as the repository of that story, as we strive for patient-centered health care.

Our recommendations and predictions are the following:
• Documentation (beyond personal note-taking) of the history and exam should be restricted to a post-encounter activity (outside the clinic or hospital room), to be performed after the patient interaction has been completed. This was how medicine was practiced in the days when notes were either handwritten or dictated, when the note was written for documentation (not in anticipation) of the clinical interaction, and the medical record was in the domain of the physician and not the billing office. The EHR should not change that, but it has. A primary care doctor now focuses his gaze on the computer screen 30.7 percent of the time and on the patient 46.5 percent of the time.14 We have been heartened to see colleagues, including physicians-in-training, revert to older methods of listening to patients, interacting with patients, jotting notes on paper, re-focusing on the patient’s story, and enjoying being doctors again as they collect the data they need, organize it and prioritize it, share their thinking process, and strive to record and communicate it as clearly as they can.

• There is a role for dictation. The dictation of a patient note demands that the doctor think about the content of the next sentence and the next paragraph and the conclusion, how the information fits together and how it should be woven in, and what doesn’t fit, yet. Clicking boxes circumvents all of that.

• Copy-forward and cut-and-paste functions should be eliminated. Yesterday’s information is not today’s information, despite the impression one gets from reading many EHR entries. For the history and physical, templated paragraphs should be eliminated. Humans are unique; no two stories are the same. Transcribing the patient’s story and exam can be a time for reflection, thinking, and gaining insights. It is a gift we give to the patient, and more: it is a duty of the physician. Cut-and-paste is coming under increasing scrutiny as a possible mechanism for fraud, up-coding, and overbilling; its days may be numbered.

• Some activities such as prescription writing, test ordering, requesting consults, printing of educational materials, or determining the interval to the next appointment are part of the physician’s role, and obvious computer-driven efficiencies and accuracies may require that they be done electronically at the end of the encounter. There is a role for the computer in some components of medical care.

• The current EHR makes it impossible, on many occasions, to determine what is going on with the patient, and what the physician is thinking (or even if the physician is thinking). To provide perspective and insight, a synopsis at the end of each “clicked” note should be required, called “Summary and Implications.” This would greatly improve the signal-to-noise ratio in our current EHR notes. It would be useful for education. It would communicate and model clinical thinking for all of us. This usually takes care of itself when the patient note is dictated, and it will come about spontaneously with a reformation of the EHR for use in health care.

The time is here to reclaim our profession and preserve its integrity by refocusing on our patients.

The computer must become our servant, not our master.

References

Address correspondence to:
K. Patrick Ober, MD
Department of Internal Medicine
Wake Forest School of Medicine
Medical Center Boulevard
Winston-Salem, North Carolina 27157
E-mail: kpober@wakehealth.edu
Enough of mother’s milk!
The capitalist conveyor is ready
To deliver a lifetime of
*Enfamil* from plastic nipples
Gerber goo from mashing machines
Happy meal big mac whoppers
Freight cars of fries
Tankers of Coke
Until you are ready for
*Jenny Craig Curves* packets
Gastric banding
Roux-en-y bypass
Before your big screen broad band
*Fios* funeral.

Richard F. Gillum, MD
Poisons and medicines are oftentimes the same substances given with different intents.
—Peter Mere Latham, MD (1789–1875)¹

We have come a long way from Armour thyroid, an extract produced from desiccated porcine thyroid glands used to treat hypothyroidism and myxedema in the early to mid 1900s. The literature is rich with examples of medications derived from plants and herbs, yet few articles have reviewed the list of pharmaceuticals developed from animal sources. The number is ever-growing, with discoveries ranging from Gila monster saliva and snake venom to goat milk. In addition to compounds used to replace lost or depressed functions, such as insulin and thyroid hormones, poisons produced by animals for competitive advantage can be repurposed for medical use, as Dr. Latham observed more than a century ago.

Heparin, insulin, and pituitary hormones were some of the earliest animal-derived therapies. By today’s standards, the methods by which these drugs were discovered and purified may seem rudimentary, yet these drugs have saved countless lives and are still widely used today. Furthermore, the extraction and manufacturing processes developed with these medications have been applied to the isolation of many other subsequent drugs.

For over seventy years after insulin’s discovery in 1921, diabetic patients were treated with insulin preparations from porcine or bovine pancreatic extracts.² Direct evidence for the function of pancreatic islet cells first came in 1889 through experiments with pancreatectomized dogs, which exhibited a syndrome similar to human diabetes mellitus.² Between 1903 and 1909, the physiologist Nicolas Paulesco found that injections of pancreatic extracts reduced urinary sugar and ketones in diabetic dogs.²

In 1921, Frederick Banting in the University of Toronto laboratory of professor of Physiology J. J. R. Macleod isolated the antidiabetic compound insulin from the pancreas.² Working with fourth-year medical student Charles Best, and chemist
J. B. Collip, they obtained a pancreatic extract that decreased the concentration of blood glucose in diabetic dogs. For this work, Banting and Macleod received the Nobel Prize in Medicine in 1923.\textsuperscript{2} Insulin has saved the lives of millions of patients with uncontrolled diabetes and ketoacidosis.

Heparin, one of the oldest and most widely used drugs today, was discovered in 1916 by Jay McLean, then a second-year medical student at Johns Hopkins University. McLean originally isolated heparin from canine liver cells, hence its name (\textit{hepar} is Greek for “liver”). It wasn’t until the 1930s that an effective, safe, and economical version was synthesized using porcine intestines and bovine lung.

Now in the tenth decade since its discovery, heparin is still widely used for treatment of acute coronary syndromes, deep venous thrombosis, pulmonary embolus, cardiopulmonary bypass surgery, atrial fibrillation, extracorporeal membrane oxygenation circuits, and surgical procedures requiring anticoagulation.\textsuperscript{2} And what would be the state of hemodialysis and the countless lives saved by it without heparin?

Further, protamine sulfate, the medication used to reverse heparin, was derived from salmon sperm.\textsuperscript{2} Today, it is synthesized by recombinant DNA technology.

Sex steroids, pituitary hormones, and chorionic gonadotropin have been studied for decades, with a myriad of applications developed. Premarin, a combination of conjugated estrogens derived from pregnant mare’s urine (\textit{pregnant mares’ urine}), has been marketed since the 1940s.\textsuperscript{3} Popular for treating postmenopausal sequelae such as hot flashes, dyspareunia, mood disorders, and osteoporosis, it was used by millions of women until the results of the Women’s Health Initiative study urged restraint for the use of hormone replacement therapy (HRT).\textsuperscript{3}

Apart from HRT, the medicinal applications of estrogens are ever-growing. Uses today include contraception, treatment of menorrhagia, polycystic ovary syndrome, endometriosis, induction of sexual differentiation, assisted reproduction technology, and treatment of androgen-dependent conditions such as acne and hirsutism.

**Puffer fish, snakes, leeches, and Gila monsters**

In the last few decades, pharmaceutical development from animal products has significantly diversified. The study of venoms, toxins, and secretions from animals has been productive in medication discovery and scientific research. The utility of these purified agents is partly due to the specificity for their targets, including channels and enzymes. One of the earliest investigated toxins in this category was tetrodotoxin, a potent neurotoxin produced by symbiotic bacteria in puffer fish and other aquatic animals. It was a keystone in the study of voltage-gated sodium channels in the 1960s, and more recently, in the study of pain pathways and anesthetics.\textsuperscript{4}

Specific medications commonly used today that are derived from animal venoms, toxins, or secretions include captopril, eptifibatide (Integrilin), lepirudin, and exenatide (Byetta).

In the 1970s, captopril, a potent angiotensin converting enzyme (ACE) inhibitor, was derived from a peptide in the venom of the Brazilian pit viper (\textit{Bothrops jararaca}).\textsuperscript{5} Approved by the FDA in 1981, it was the first ACE inhibitor and catalyzed the development of numerous other agents in this class. Captopril and its cousins are widely used today as first-line anti-hypertensive drugs and for their protective properties in congestive heart failure, post-myocardial infarction, and prevention of diabetic nephropathy.
Eptifibatide (Integrilin), a cyclic peptide derived from the venom of the southeastern pygmy rattlesnake (*Sistrurus miliarius barbouri*), is an inhibitor of the platelet glycoprotein IIb/IIIa receptor, the binding site for fibrinogen, von Willebrand factor, and other ligands. Inhibition of binding at this final common receptor reversibly blocks platelet aggregation and prevents thrombosis. Eptifibatide is used in acute coronary syndromes, usually at the time of percutaneous coronary intervention in combination with aspirin and heparin.

Since the time of Hippocrates, bloodletting has been a popular remedy, and leeches (*Hirudo medicinalis*) played a key role. They became especially popular in the 1800s, when France and many other countries imported millions of leeches each year for medical purposes. A patient could have up to forty leeches applied at a given time.

Although the practice of bloodletting has been largely abandoned by Western medicine, leeches have nonetheless continued to be useful. A recombinant hirudin, a compound originally isolated from leech saliva that leeches use to prevent coagulation during the harvesting of blood from their hosts, lepirudin is an anticoagulant and direct thrombin inhibitor. Lepirudin is used in situations in which heparins (including low-molecular weight heparins) are contraindicated because of the risk of heparin-induced thrombocytopenia. Leeches are also being used directly to preserve the viability of tissue grafts in the presence of significant vascular congestion.

Gila monsters (*Heloderma suspectum ssp.*) now play a role in treating one of the most common diseases in the United States: diabetes mellitus. Derived from the saliva of this large venomous lizard, exenatide (Byetta) belongs to a relatively new class of antidiabetic drugs termed glucagon-like peptide-1 (GLP-1) receptor agonists. Approved by the FDA in 2005, exenatide is indicated as an adjunct to patients who fail traditional therapy. In addition, by slowing gastric emptying, exenatide may promote satiety and weight loss.

Cytarabine (the name is derived from the compound name cytosine arabinoside) is a pyrimidine analog that functions as an antimetabolite chemotherapy agent. Originally discovered in the Caribbean sponge (*Cryptotheca crypta*) in 1960, it was approved by the Food and Drug Administration in 1969. It is administered as an intravenous infusion and is used for treatment of numerous leukemias (AML, acute promyelocytic...
leukemia, ALL, CML, and CLL), as well as primary CNS lymphoma, and Hodgkin and non-Hodgkin lymphomas.

Development of pancreatic enzyme replacements from bovine and porcine pancreases, such as pancreatin (lipase, protease, amylase) has allowed treatment of exocrine deficiency and steatorrhea in thousands of patients with cystic fibrosis, surgical pancreatectomy, and chronic pancreatitis.\(^2\) The utility of these enzymes came to fruition through studies in the 1980s.\(^2\) Interestingly, in the late 1980s, pancreatin was also used for the development of enzymatic contact-lens cleaning solutions containing pancreatic extracts, and was found to be better than prior cleaning solutions.\(^9\)

Ursodeoxycholic acid occurs in high concentrations in the bile of many mammals, including bears (\textit{Ursus sp.}, hence the name), and is thought to protect hibernating bears from developing gallstones.\(^10\) Ursodiol, a purified version manufactured for medical use, has been marketed since the 1980s for treatment of cholelithiasis, as well as conditions causing cholestasis, including primary biliary cirrhosis.\(^2\)

Even roosters have been a subject for drug discovery. Rooster combs were used for the purification of hyaluronic acid and development of drugs such as Synvisc and Hylan-G.\(^{11}\) Intra-articular injection of hyaluronic acid is used in treating osteoarthritic knee pain in patients who have failed non-pharmacologic treatment and simple analgesics. Intradermal injection is used for correction of moderate-to-severe facial wrinkles or folds. Hyaluronic acid is also used in ophthalmology as a surgical aid in cataract extraction, intraocular implantation, corneal transplant, glaucoma filtration, and retinal attachment surgery.

For over sixty years, the common chicken egg has served its role in the pharmaceutical industry.\(^{12}\) Each year, hundreds of millions of influenza vaccines are produced by inoculation of the virus into fertilized chicken eggs. After incubation for two to three days, the virus multiplies in the egg white, producing millions of vaccine viruses. The egg white is harvested and the virus is purified, followed by treatment with chemicals to inactivate it. Subsequently, the outer viral proteins are extracted. Up to fifteen percent of the world's egg supply is used for vaccine manufacture, but as the demand for vaccine production increases, research is being done on other production methods, including cell culture.\(^{12}\)

Bovine and porcine surfactants (Beractant, Calfactant, and Poractant alpha) are used for treatment of premature infant lungs. They work by preventing alveolar collapse during expiration and are used to replace deficient or ineffective endogenous lung surfactant in neonates at risk of developing respiratory distress syndrome.\(^{13}\)

Lastly, calcitonin hormones (Calcimar and Miacalcin) were derived from thyroid-like glands in fish, particularly Coho salmon. They are used to treat postmenopausal osteoporosis, hypercalcemia, and Paget's disease.\(^{14}\) Calcitonin is also being studied for its potential importance in analgesic pathways and migraines. In fact, "in addition to inhibiting bone resorption, it is a powerful analgesic agent with a potency in certain circumstances which is 30-50 times that of morphine."\(^{14}\)

A look into the future: Alligators, frogs and scorpions

The animal-derived medications discussed thus far are impressive achievements. Even more exciting, however, are the many new potential therapies on the horizon.

Antibiotics

Open wounds in reptiles and amphibians rarely become infected, so investigators wanted to know why. Researchers have shown that alligator blood contains peptides that can destroy multiple types of bacteria, including MRSA, as well as HIV and amoebae.\(^{15,16}\) Antimicrobial peptides have also been found in the skin of frogs and toads, as well as in Komodo dragons. Many of these peptides, such as magainin, are being studied for their ability to permeabilize cell membranes, induce pore
The diverse and promising world of animal-derived medications

formation, and potentially augment beta-lactam antibiotics. The hope is that these compounds can be purified as systemic and topical antibiotics, including creams for diabetic foot ulcers, with activity to combat MRSA infection and/or colonization.

Cancers

TM-601, a chlorotoxin derived from the venom of the deathstalker scorpion (Leiurus quinquestriatus), is currently in Phase II studies for treating high-grade gliomas. Exerting its effects through chloride channels, it appears that the drug has high selectivity for the cancerous cells and does not adversely affect normal neurons or glial cells.

Trabectedin (Yondelis), derived from the sea squirt Ecteinascidia turbinata, is being studied for the treatment of many different malignancies, including soft-tissue tumors such as liposarcomas. Designated an orphan drug in the United States, it has been approved for use in ovarian and pancreatic cancers, and sarcomas. Interestingly, the anti-tumor properties were discovered in the 1960s, but it wasn’t until the 1980s that the structure of trabectedin was elucidated through advances in molecular biology. Aplidine, another drug derived from the sea squirts (Aplidium albicans), is also being studied for treatment of multiple types of solid cancers, particularly medullary thyroid carcinoma.

Crotamine is another promising agent, derived from the venom of the South American rattlesnake Crotalus durissus terrificus. A low molecular weight peptide with cell penetrating and antimicrobial properties, it has selective action toward some cell types at a given phase of the cell cycle. Importantly, because it can rapidly translocate into actively proliferating cells, crotamine is being investigated for detecting malignant cells with high turnover and for use as a chemotherapeutic adjuvant or drug carrier.

Neuropathic pain

Tebanicline (ABT-594), derived from the skin of a South American poison dart frog (Epipedobates tricolor), is being studied for its analgesic properties. It is a less toxic derivative of epibatidine, which is 200 times stronger than morphine, and exerts a novel mechanism of action: partial agonism of neural nicotinic acetylcholine receptors. In initial studies, the drug showed promising analgesic activity, including for neuropathic pain, without the potential addictive properties of narcotics. Unfortunately, Phase II clinical trials demonstrated unacceptable GI side effects, but further research is ongoing to find better derivatives.

Anticoagulation

Using a new avenue for medication manufacture, ATryn is an anticoagulant produced from the milk of goats that have been genetically engineered to produce human antithrombin. It is the first medication produced from genetically engineered animals. In 2009, the FDA approved the medication for treatment of patients with hereditary anti-thrombin deficiency who are undergoing surgical or childbirth procedures. Studies are being conducted to find more applications, including in patients without antithrombin deficiency.

Conclusions

Animal-derived medications have been used to treat patients since the early 1900s, starting with insulin and heparin. In the early decades, these medications (such as Armour thyroid) were primarily derived from tissue extracts. As purification methods advanced, multiple different animal sources have been explored, ranging from puffer fish in the 1960s to, most recently, genetically engineered animals. An increasing number of the agents isolated are highly specific for their targets (such as voltage-gated ion channels and enzymes). The examples above, although not an exhaustive list, demonstrate the myriad of available animal sources, and underscore the possibility for future discoveries. The discovery of new therapeutics derived from animals will undoubtedly bring more advances to medicine. The diversity of the promising world of future medications should intrigue the clinicians in all of us.
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Address correspondence to:
Matthew Butteri, MD
UC Irvine School of Medicine
101 City Drive South, Building 26, Room 1007
Orange, CA 92868
E-mail: mbutteri@uci.edu
# The diverse and promising world of animal-derived medications

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<th>Typical Uses</th>
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<td>Trabectedin (ET-743)</td>
<td>Sea squirt (<em>Ecteinascidia turbinata</em>)</td>
<td>Treatment of soft-tissue sarcomas, particularly liposarcomas and leiomyosarcomas</td>
</tr>
<tr>
<td></td>
<td>Aplidine</td>
<td>Sea squirt (<em>Aplidium albicans</em>)</td>
<td>Treatment of multiple types of solid cancers as well as ALL</td>
</tr>
<tr>
<td></td>
<td>Crotamine</td>
<td>Venom of South American rattlesnake (<em>Crotalus durissus terrificus</em>)</td>
<td>Labeling highly replicating (tumor) cells, and use as a chemotherapeutic adjuvant</td>
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Training surgery residents to write for publication

Robert H. Glew, PhD

For several decades I have conducted a manuscript-writing workshop at the University of New Mexico Hospital to train graduate students, undergraduate medical students, and junior faculty (including both PhDs and physicians) to write scientific papers in the biomedical sciences. The workshop has served hundreds of scientists at health sciences centers in the United States and teaching hospitals and universities in Africa, Asia, the Middle East, and the Pacific Rim.

Soon after I retired and took up a quarter-time emeritus professor position in the Department of Surgery, the head of the department and the director of the residency program asked me to conduct a writing workshop to encourage a greater number of surgery residents and newly hired tenure-track faculty to engage in research and publish their findings. Several consecutive site visits by external assessors evaluating the residency program for the purpose of accreditation had downgraded the program because of the relatively low participation of surgery residents in research, as well as the faculty’s low output of scholarly reports in peer-reviewed journals. The residents had been asking the reasonable question, “Is it really fair to expect us to do research and publish our work if few of the faculty are engaged in research and most of them do not publish regularly?”

Interviews I conducted with resident doctors and clinical faculty yielded some useful insights. I soon discovered that it wasn’t a lack of interest in research or writing that kept residents from publishing. The majority of residents either had cared for patients whose case reports they wanted to write up, or had actually collected data on a research topic and begun analyzing it. But that was the point at which, without exception, the task of actually writing the manuscript stopped their progress. Although many residents had participated in research projects as premedical students or in medical school, and about one-third of them were listed as co-authors on a published research report, they all believed they did not have well-developed writing skills, and all regarded writing a scientific paper as a difficult and painful task.

They knew that books existed that taught how to write a scientific paper, but they were of one mind in preferring live instruction. Every one of them rated knowing how to write a scientific manuscript as no less important than executing a research project. Well over half of them complained that their research mentors failed to set aside adequate time to show them how to develop their findings and observations into a manuscript suitable for publication in a peer-reviewed journal. Several residents expressed deep frustration because their faculty collaborators were too busy, unwilling, or incapable of guiding them through the manuscript-writing process. I discovered that often the “mentoring” in manuscript preparation consisted of the mentor suggesting that the resident consult the literature, select a recent publication related to her project, deconstruct it, and use it as a template for her own manuscript. That method of teaching seemed a lot like asking a second-year surgery resident to do her first appendectomy after reading the relevant chapter in a surgery textbook instead of taking her into the operating theatre and explaining and demonstrating how it’s done.

When I spoke to the faculty of the Department of Surgery about these results, all of them said they would strongly encourage the residents they
were mentoring to attend a formal writing workshop if one were available and if it would not take too much time away from their clinical training. They all recognized the need to spend more time with the residents on all phases of their research and projects. At the same time, it was apparent to me that the residents I had interviewed would be very interested in engaging in clinical research and writing case reports or data-driven, full-length manuscripts, but only if formal training in manuscript writing was provided and they could count on their mentors to assist them in a serious way with all phases of their projects, from preparing the application for approval of the study by the Human Research Review and Ethics Committee through the final stages of manuscript preparation.

While assuring the surgery residents that writing a scientific paper is a learned skill, I cautioned them that just like mastering a musical instrument or oil painting, good writing is difficult for most people, and asked, “Why should it
be any different for you?"

So for the last three years I have been working with residents in surgery and other clinical specialties, either one-on-one or in a formal writing workshop, to teach them about the components, structure, and organization of a manuscript, be it a case report or a full-length manuscript describing the results of some hypothesis-driven investigation.

Experience has taught me that a formal writing workshop is the most effective and efficient method of teaching residents (and any other group, for that matter) manuscript writing. The writing workshop I teach is an eight-session twenty-five-hour program that convenes once a week in the afternoon for three hours. The workshop is limited to twelve people. The only prerequisite for admission into the workshop is a minimum of three pieces of informative data (e.g., three tables or a table and two figures). The workshop is not a review course in English grammar, nor is it intended to improve one's literary style. It teaches the elements of the scientific manuscript and shows the workshop participants how to prepare for and approach the task of writing a research paper. The content and organization of the various sub-sections of the manuscript are reviewed, including: title page, abstract, introduction, materials and methods, results, discussion, and references. Also addressed during workshop sessions are closely related issues such as: criteria for authorship; ethical obligations and responsibilities of the senior author and corresponding author; how to avoid or escape writer's block; how to present to best advantage data in tabular and graphical form; and standards for reporting significant figures and statistical information. The workshop also trains participants to exchange criticism (either verbally or in writing) constructively, professionally, and without using hurtful language. About two-thirds of each session is devoted to reading and critiquing work written by the participants between sessions. By the end of the workshop each participant is expected to have completed a draft of a manuscript. Rarely does a participant who has sat for all eight workshop sessions fail to meet this expectation.

Some of those who would like to participate have schedules that preclude them from attending the writing workshop. I meet with each of these individuals for a one- to two-hour session weekly or bi-weekly. Just as in the writing workshop, these participants likewise write from their own data.

The workshop has already begun to bear fruit. Since it was established in the Department of Surgery, there has been a seven-fold increase in the number of residents and medical school faculty who attended the workshop and who are pursuing scholarly work, writing papers, and submitting them for publication to peer-reviewed journals. These articles are divided about two-thirds between full-length investigations and one-third case reports. A total of sixteen faculty and residents sat for the first two workshops. About half were members of the Department of Surgery; the other participants were from the School of Nursing, Emergency Medicine, or the Neurosciences Graduate Program. In the year before attending the workshop, four papers were published by these sixteen individuals; one year after the program they had published thirty-one papers in peer-reviewed journals.

Every surgery resident is expected to publish at least one paper during the five-year training period. It is noteworthy that all those who have completed the manuscript-writing workshop with a draft manuscript in hand have already embarked on at least one new writing project. Several residents have said that having a senior faculty member on site to advise them about their writing and edit their work critically and promptly has emboldened them to involve themselves in additional research projects. Some have even gone so far as to acknowledge (in private, of course) that research and writing are enjoyable pastimes.

The attending surgeons likewise seem quite happy to have an in-house faculty member readily available and enthusiastic about teaching residents to write case reports and research articles well and expeditiously. I advise residents who take part in the workshop that every time one of them hands her newly written manuscript or revision to her mentor for constructive criticism or editing, she needs to state that she would like to get the corrected, annotated draft back in one week and no longer than two weeks. It's a reasonable expectation and a matter of professionalism on the part of the faculty member.

When it comes to producing a final version of the manuscript, by far the most nettlesome aspect of the faculty-resident collaboration is mentor procrastination. In fact, the two most important questions a resident should investigate before entering into research collaboration with a particular faculty member are: 1) Does he or she publish on a regular basis? and 2) Can he or she be counted on to work closely, thoughtfully, and expeditiously on any manuscript that might arise from the project? Time and time again my experiences teaching manuscript writing to young scholars in North America and elsewhere in the world have convinced me that, independent of cultural or ethnic idiosyncrasies, when participants collaborate in writing manuscripts during an intensive workshop they quickly overcome their fear of writing, their anxieties about the editorial review process, and their worries about the fate of their papers. They also learn to regard the comments of a journal's reviewers as constructive criticism and an opportunity to improve their manuscripts. Finally, they come to understand how a manuscript acceptance clears the mind for the next manuscript.

The author's address is:
MSC10-5610
1 University of New Mexico
Albuquerque, New Mexico 87131-0001
E-mail: rglew@salud.unm.edu
Two courageous women physicians, one an American missionary, the other a daughter of Korean peasants, devoted their lives to the desperately poor people of Korea in the late 1890s and early 1900s.

Rosetta Sherwood Hall (1865–1951), a physician and Methodist Episcopalian from upstate New York, was among the first medical missionaries in Korea.

Nine-year-old Kim Jeom-dong (1876–1910) was brought to the mission infirmary after being found near Seoul's city gate caring for her sick mother. There she gained a Western education and converted to Christianity. In 1894, at age eighteen, she traveled to the United States with Dr. Hall, where she attended medical school and became the first Korean woman physician.
The missionary and the peasant

The remarkable story of Rosetta Hall and Esther Pak comes from the memoirs of Dr. Rosetta Hall and her son Dr. Sherwood Hall (1893–1991), also a missionary physician, who established Korea's first tuberculosis sanatorium.1–3 Dr. Pak's only words on record are summaries of her work to the Women's Foreign Missionary Society (WFMS) of the Methodist Episcopal Church.4–5 Reports by missionaries of the era provide firsthand accounts of health practices in the country at that time and the link between medical service and evangelism.6–8

Korea

Korea in the late nineteenth century had a strict caste system based on a fundamentalist interpretation of Confucian social concepts. Interaction across social strata was barely tolerated; intermarriage was unthinkable. Women were especially constrained. Their sole duties were to provide for men and rear children. Most of their lives were in the interior rooms of their homes. Contact with outsiders was taboo. When they ventured outside they wore hoods and gowns that covered their heads and bodies completely, a netted opening for their eyes and nose. Medical care for women was especially affected. A man could not touch an unrelated woman; male physicians could therefore not perform physical examinations on female patients.6–9

Korea at the time was untouched by Western medicine and the basic concepts of hygiene and public health. In villages, sewage and
human waste collected in a ditch in the street and drained into areas that tainted water supplies. No one washed hands or bathed. Vegetables, fertilized by human excrement—"night soil"—were eaten unwashed. Animals roamed the streets and slept in homes. Healings were attempted using nostrums, prayer, and offerings made by family elders, traditional healers, and shamans such as a mundang ("sorceress"), who would beat drums, sing songs, play cymbals, and dance to cure the sick.

A form of acupuncture performed with filthy needles introduced deep joint infections. One belief was that because cholera was considered the "rat disease," hanging a picture of a cat on a patient's front door would help bring recovery. Bread would be stuffed in ears to correct deafness. Mission physicians in later years battled rumors that children treated at the dispensary were killed so that their blood and eyes could be used to concoct medications.

A Chinese client state for centuries, by the nineteenth century Korea sought to protect itself by shunning contact with all other countries, earning it the moniker, "the hermit kingdom." The country's policy of isolation became tragically ineffective in the latter half of the century when Korea, like China and Japan, became a helpless prize of gunboat diplomacy by Western powers. The archers, swordsmen, and boatmen in junks of the Chinese and Japanese forces were no match for the Western Great Powers with their industrialized militaries. China never recovered its stature and influence after its devastating defeats in the Opium Wars of 1832–1842 and 1856–1860, and the years of famine and rebellion resulting from the Great Taiping Rebellion of 1854–1864, which left tens of millions dead. Japan also suffered rebellion after Commodore Perry steamed into Edo Harbor in 1853, with samurai insurgents toppling the Tokugawa regime in 1868. Forewarned by China's disintegration, the new Meiji government vigorously asserted authority over Japan's ports and commerce, and set about to recreate itself as a modern industrial power, including a Western-style military.

It was Korea's misfortune that Japan's ambition to take its place among the Great Powers included the acquisition of colonies. In an action worthy of Commodore Perry, Japan in 1875 sent six warships and 800 men to Korea's west coast to provoke an incident. The Korean King Kojong (1852–1919, r. 1863–1907) had two years earlier assumed rule from his xenophobic and pro-Chinese uncle, who as regent had battled and lost to the Americans in isolated episodes in 1866 and 1871 (the latter lasting only fifteen minutes and ending in total defeat). Kojong, less bellicose than his uncle, signed a treaty in 1876 giving the Japanese unequal trade advantages and a presence on the peninsula.

Kojong hoped to maintain his sovereignty by playing each power vying for his country—China, Japan, the United States, and later, Russia—against the others. The Qing dynasty still held its traditional but much diminished role of protector. The king viewed the United States as a power with no territorial interests in Korea (despite the two earlier skirmishes years before),
but one that could neutralize the Japanese. He gave the United States the same trade rights as Japan in the 1882 Shufeldt Treaty. The king named Americans to important advisory posts in his government and handed them valuable franchises to develop mining, rail, and telegraph services. Aware of his country's woeful state of hygiene and medicine, he welcomed American and Canadian missionaries who would provide modern medical services,16–17 a radically unprecedented act for a country whose xenophobia in 1866 had led to the murder of nine French Catholic missionaries and thousands of their Korean converts.18

Once established in Korea, Japan began to exert its control with increasing force. In 1885 it secretly supported a group of young Korean officers, all graduates of Japanese military schools, in an unsuccessful four-day coup d'etat. Chinese forces restored order, freeing the king, who had been taken hostage, and crushing the small band of cadets. Disarray, famine, and poverty led to a populist rebellion that gave Japan an excuse to send troops onto the Korean peninsula in 1894. The Chinese opposed the Japanese incursion and began the Sino-Japanese War (1894–1895), which ended months later in a complete rout of the Chinese. The Japanese control of the peninsula became complete with its victory over Russia in the 1905 Russo-Japanese War, the first modern victory of a Far Eastern country over a Western power. After orchestrating the king's abdication in 1910, the Japanese then controlled the country until the end of World War II.13

The missionary

Rosetta Sherwood was born on her parents' farm near the town of Liberty in upstate New York in 1865. She received her license to teach elementary school from the State Normal School in Oswego, then returned to her elementary school near her parents and taught for a year. She entered the Women's Medical College of Pennsylvania in 1886, where she became inspired to enter missionary work.3

After graduating, she joined the Methodist Deaconess Home. Her first assignment was at a dispensary in the New York City slums, where she met William James Hall, a young Canadian physician who shared her religious zeal. They became engaged shortly after they received their assignments to Korea. They arrived separately; she in 1890, he one year later. There they were married in 1891 in ceremonies at the offices of both the British and American legations.3

The peasant

Americans William B. Scranton, a physician, and the Reverend Henry G. Appenzeller began their mission in early 1885 in a country with unrelenting poverty and filth, under a government in political disarray on the brink of rebellion. In September 1885 Scranton opened a dispensary in a converted house adjacent to the U.S. legation in Seoul. One year later he expanded the facility into a hospital of five wards, the king showing royal favor by giving it a formal name, Si Pyung Won, the "universal relief hospital."17p36–7

Native Koreans were reluctant to accept treatment.17 Dr. Scranton, searching the city streets to find patients, found nine-year-old Kim Jeom-dong near the city wall caring for her mother who was incapacitated by typhus. He brought them to his clinic where the mother recovered. Eventually the entire family settled in the dispensary, the father working for Appenzeller and the mother for Dr. Scranton's widowed mother Mary F. Scranton, also there as a missionary sponsored by the WFMS.9,17

The tiny infirmary became a success. In its first year it treated more than 2,000 patients, many of whom traveled miles by foot to be seen there. Treating women, however, was a problem for Dr. Scranton because they refused to be seen by a male doctor. Mrs. Scranton, writing in the WFMS journal, Heathen Woman's Friend, sent an urgent request for a female physician: "The doctor continues to have calls for medicine for women whom he has not seen and whom he cannot see; and he desires to place all such cases in the hands of someone who can come in contact with the patient."16p377 WFMS assigned Dr. Meta Howard to the task. In 1887 she opened Bogu Yeogwan, an infirmary for women staffed by women physicians.16

American and Canadian women missionaries with organizations like WFMS were prominent in early Korean interactions with the West. Hyaevel Choi describes their undertaking as "a moral and spiritual obligation that would elevate the subhuman condition of heathen women":9p23 subjugated by centuries of Confucian strictures. Mrs. Scranton was convinced that advancement of the country depended on the education of girls and young women. In 1886 she opened a school for girls in Seoul, Ewha Haktang (literally, "Pear Blossom Academy"). The king bestowed the name as a sign of his favor, on the condition that the school exclude girls from the upper classes in adherence to the tradition of seclusion.9 The school today is Ewha Womans University, one of the leading private women's schools in Asia.

Mrs. Scranton had a difficult time finding students. Her first student, a concubine of a local official, quit within three months. She had to convince the mother of her second student that her daughter would not be kidnapped and taken to America or that her blood or eyes would not be taken for medicinal use. The next candidate was Kim Jeom-dong. Her father gladly gave her up to the school, relieving himself of the burden of feeding her.1,9

At Ewha the girl had formal classes in reading, arithmetic, English, Chinese, and, of course, Bible study. She converted to Christianity in 1891 at age fourteen, and took the biblical name Esther. Mrs. Scranton, familiar with her studiousness and facility with English, recommended her as translator to Rosetta Hall, who had just arrived to relieve Dr. Howard at the Bogu Yeogwan women's infirmary.1

Young Esther spent hours translating for the new doctor.
When she showed an aptitude for medicine, Dr. Hall tutored her and two or three other girls in physiology and materia medica. The girls began to serve as infirmary assistants, taking care of patients and putting up drugs in the dispensary. Her husband’s travel to Pyongyang, 120 miles away, left Dr. Hall and Esther alone together for weeks. The girl was of inestimable help. She compounded prescriptions and learned to administer ether. On occasion she held the ether cone with one hand and sponged the field clear with the other. At Dr. Hall’s side treating more than 6,000 cases a year, Esther became familiar with the names, appearances, and treatments of most of the diseases that they encountered. After she assisted in an operation for cleft lip, the girl resolved to be able to perform such an operation herself. Barely a teenager, a peasant orphan abandoned by her family, she resolved to become a physician.1

Pyongyang

In 1893 the king gave Dr. William Hall permission to build a permanent hospital and dispensary in Pyongyang with funds already raised by the mission. Dr. Rosetta Hall planned to join her husband in Pyongyang with their newborn son, Sherwood. She asked Esther “if she would be willing to go to Pyong Yang to work for Jesus.”3p112

“I will go wherever Lord open the door for me,” the girl answered. “If He open door in Pyong Yang I will go.”1p205

But there was one problem: travel in the interior and acceptance by Koreans in Pyongyang required that Esther be married. At sixteen she had diminishing prospects for a husband in a society in which most girls were married by age fourteen—the only unmarried women in Korean society being those deformed, blind, deaf, diseased, or “dancing girls.”1p202 Esther had resisted suggestions that she consider matrimony, having spent all her time in the women’s infirmary where she had little contact with single men. But her father was now dead, and her mother held the traditional view that her daughter needed a husband to provide for her. Dr. Hall was afraid that Esther’s mother would engage a “go-between” marriage broker, forcing her into marriage with “a heathen.”1p202 Eventually, her resistance worn away, Esther made a single requirement: her husband must be a Christian. She reluctantly agreed to an arranged marriage to Pak Yu-San, an assistant to Dr. William Hall in his missionary work. Esther took his family name Pak.1

The young Hall family and the Pak newlyweds boarded a steamer bound for Pyongyang in May 1894. A typhoon caught their boat and made the trip miserable. The adults were hopelessly seasick and baby Sherwood was cared for by one the ship’s crew.1 Known as “the Sodom of Korea,”1p207 Pyongyang presented a series of dispiriting challenges. The two families spent their first night in an inn with prostitutes and thugs. In their first residence, two rooms were set aside as makeshift treatment rooms. A crowd of 1,500 assembled immediately, and the house and its courtyard became packed with patients, including many women and children.3 A soldier promised by the magistrate to help maintain order never showed up. The city had no wells, and the water carriers refused to supply the infirmary with potable water. Korean Christians who had come to help establish the
mission were singled out, beaten and stoned, jailed and their feet pinned in stocks. They barely escaped with their lives.¹

In late May 1894, with the modest mission in Pyongyang only a few weeks old, the Halls were recalled. Unrest in Seoul threatened the ability of the British legation to protect them. The decades-long Tonghak peasant nativist uprising reached its zenith and threatened to overrun the country. Rebels overcame royal forces southwest of Seoul. The panicked king asked the Chinese to intervene in June, but the Japanese took advantage of the unstable situation and entered the country in force.¹³

In June the Halls and Paks caught a steamer back to Seoul. They entered an Inchon harbor filled with Japanese troop transports. The Japanese entered the city, occupied the royal Palace, and took the king hostage. By July, the Sino-Japanese War (1894–1895) was in full swing. Fighting took place only blocks away from the Si Pyung Won infirmary, where families, co-workers, and neighbors took refuge from the battle and stray bullets. Dr. William Hall and Dr. Scranton alternated shifts for days attending to casualties.¹

Dr. William Hall resumed his circuit to Pyongyang in October. He knew that the fighting shifted northward, with the decisive Battle of Pyongyang fought just a few weeks before on September 15. The Chinese, routed in Seoul, had retreated to Pyongyang, where they rebuilt fortifications and walls surrounding the city. While Chinese soldiers had some modern rifles and artillery, many carried only swords and bamboo pikes¹ and were no match for the fully industrialized, mechanized Japanese army. The Japanese drove them from Korea.

Rotting corpses of men, horses, and cattle remained on the battlefield after the rout. The injured starved in abandoned buildings. Overworked and exhausted attending to the throngs of the injured and sick, Dr. William Hall and his colleagues fell victim to malaria and dysentery. A local official arranged for their return to Seoul on a Japanese troop transport, along with 600 Japanese infirm being sent to the rear. Upon his arrival in Seoul after a journey during which his river transport nearly capsized, he was near death from typhus. After only three years in Korea he died on November 24, 1894, under the care of his wife, who was seven months pregnant with their second child.¹

Medical school

Dr. Rosetta Hall planned to return to America after her bereavement. Esther Pak begged to go with her. The two women had often considered having Esther travel to the United States to train in medicine. This was her opportunity. Dr. Hall raised contributions to supplement the Paks’ meager savings to fund their trip.¹ In December 1894 Dr. Rosetta Hall, her one-year-old son, his nursemaid, and the Pak couple made their way by ship and rail to the young widow’s hometown in upstate New York in time for the birth of baby Edith Margaret. Rough seas during the crossing from Korea to Japan caused all the adults to become seasick once again, with baby Sherwood this time cared for by the ship captain’s wife.³

When they arrived in Dr. Hall’s hometown, Esther entered a public school to learn English; her husband found farm work outside of town. In the fall, they moved to New York City where she worked at the Nursery and Child’s Hospital by day and studied Latin, physics, and mathematics by night. In spite of the financial hardship and still-formidable language and cultural barriers, she persevered, supported by her faith and her husband’s encouragement. She entered the Women’s Medical College of Baltimore in October 1896, the first Korean woman to matriculate in a U.S. medical school.¹³

Esther’s unswerving faith and dedication impressed her peers and the faculty. But tragedy struck in her final year in school—her husband became severely ill with tuberculosis.² She cared for him at home but he died just three weeks before her mandatory graduation examinations. She took the exams in spite of her grief and passed with high marks. Now Dr. Esther Pak, she became Korea’s first native Western-trained woman physician.³
Return to Korea

Dr. Rosetta Hall had returned to Korea two years previously. Friends and supporters in her hometown and Dr. William Hall’s native Ontario raised funds to build a hospital in Pyongyang in his name; she had written a biography of him the proceeds of which also went to construction. In January 1897 the Hall Memorial Hospital opened on high ground near the center of the city. It included a waiting room, clinic, dispensary, and a physician’s office, a commodious forty by sixteen feet, much different than the makeshift rooms they had used when they first arrived in the city years before. Anxious to work there, she won a WFMS assignment to Korea in November 1897. In May 1898 she and her children returned to Pyongyang to begin work. But within a month tragedy revisited the Hall family; Edith Margaret, the youngest, died of dysentery.

Despite receiving offers to practice in the United States, Dr. Pak returned to Korea in November 1900 to be reunited with her mentor in Pyongyang. Within her first six months in Pyongyang, Dr. Pak saw 1,360 patients. She was then recalled to Seoul to replace a physician who had taken a year’s sabbatical. As the sole physician at the Bogu Yeogwan infirmary she saw more than 3,300 patients during the year. She returned to Pyongyang in 1903 during a cholera epidemic, traveling the countryside treating dozens of the sick and dying. Guerrillas resisting the increasing Japanese presence were a further hazard because of their death threats against Christians. The doctors continued their work through yet another war, the Russo-Japanese War (1904–1905), which gave Japan control over the peninsula.

The devotion and skill of Dr. Hall and Dr. Pak became legendary. Many patients regarded Dr. Pak’s surgical skill as the work of magic. The two women developed treatments for conditions specific to women, including a surgical device that addressed anovaginal fistulas. Grateful women with the condition, until then previously completely ignored, felt they came under the skill of “God’s hands.” The doctors also provided care to the blind and deaf, two groups long neglected and shunned by Korean society. Dr. Hall opened the first school for the blind in the country using funds donated through the WFMS. In 1909 a special banquet of nearly 8,000 guests honored Dr. Pak and two other women who had studied abroad.

Dr. Pak developed tuberculosis later that year. Unable to practice she continued her social and mission work. Her condition soon worsened, however, and in 1910 she died at age thirty-four.

Dr. Hall continued her work after the Japanese annexation of the country in 1910. She and two others in 1928 founded a medical school for women, the Woman’s Medical Training Institute, which evolved into today’s Korea University College of Medicine. That year she laid the cornerstone for Korea’s first tuberculosis sanatorium, founded by her son Dr. Sherwood Hall. In 1933 a chapel named in her honor was built on the sanatorium grounds. On the occasion of its dedication
the former editor of the Seoul Press wrote, “However beautiful that chapel may be, it does not . . . symbolize one-hundredth part of the great merit of her service.”

She retired as a missionary and returned to the United States in 1933. During and after World War II, conditions in Korea became intolerable to the foreigners still living there, leading to an exodus of missionaries from the country, including her son, who bewailed her. She died in 1951, living to see the start of the Korean War, the fourth involving the country during her lifetime.2

The lives of Dr. Rosetta Hall and Dr. Esther Pak spanned Korea’s tumultuous transformation from “the hermit kingdom” to an international tinderbox. Two women motivated and inspired by Christianity and a truly extraordinary set of happenstances helped to bring about unfathomable change in Korea. Today the stories of Rosetta Hall and Esther Pak and the institutions with which they were associated are part of the legacy that continues to educate, train, and inspire generations of Koreans.

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Address correspondence to:
Don K. Nakayama, MD, MBA
Department of Surgery
West Virginia University School of Medicine
1 Medical Center Drive
PO Box 9238
Morgantown, West Virginia 26506-9238
E-mail: dknakayama@hsc.wvu.edu
Christmas with Stashu

Lauren Ciszak, MD

The author is a first-year resident in Family Medicine at Steward Carney Hospital in Dorchester, Massachusetts.

I have already heard the story. He had a massive stroke. Uncle Pete found Grandpa in the morning, face down on the floor by his bed. That’s all we know. He’s intubated in the ICU. He’s responding coherently. He’s not responding to anything. He’s heavily sedated; he’s not sedated at all. He gave Aunt Jo a thumbs up. He blinked at Kevin. He moves his legs. He only moves one leg. No one has seen him move. There’s hope. There’s no hope. I got the call on a Wednesday, and Friday I was sitting in the Tom’s River Community Medical Center in New Jersey. Thank God this was winter break.

The stroke was enormous. No one comes back from this. Immediately, my dad chimes in: “My daughter is a medical student at UCSF. She understands what is going on.” I slump as far down in my chair as possible. I was not ready for that. But, I think, I know the right thing to do. I have had classes on this. Medical costs, hopeless cases, prolonging pain and suffering. No one wants that. His doctors all agree. He’s ninety-three. He was having difficulty at home. He was lonely. He will never walk or talk again. This is Stanley Ciszak. He swam two miles in the ocean every day until he was eighty-seven. We can’t keep him like this.
I have to kill my grandfather.

In the meantime, Aunt Jo comes in. She is crying. She is screaming, actually. “Remember when he got hit by the car? They said he would never come back.”

When he was eighty-seven, he was in a coma for thirty-eight days after being hit by a van in a parking lot. Apparently (I was not there at the time) he awoke from that episode, looked at my Dad, and promptly said, “What the hell are you doing here?” It is legendary. Everyone in the hospital remembers.

The neurologist walks me to the computer. He shows me the CT scan. There it is. Massive bilateral cortical infarctions. Two-thirds of my grandfather’s brain is bright white. Speech, language, executive function, most of his motor cortex: all gone. But — brainstem intact. Okay, I think, I get it. He may still be able to breathe. But he would never be anywhere close to the person he was, and from the looks of it, he may never move, talk or eat again.

Before we transfer him to hospice, I ask if I can play him the song I learned on the banjo. He may die quickly, the hospice nurse says. It just so happens that I was planning to be with him on Christmas anyway, which is now in exactly one week. Back in October, the day after I had bought my tickets to visit him in New Jersey, I had (I have to admit, it was an impulse buy) purchased a banjo with the sole intention of playing “Jingle Bells” with my grandfather on Christmas.

I step into his ICU room and play it for him. The sounds of periodic monitor alarms and ventilator cycles mingle with my amateur rendition of “Jingle Bells” to create a clatter that I couldn't even imagine observing from the outside. My dad wanted to listen as well. I am not a musician. I got stage fright. I was crying. It was terrible. When I was done, a final alarm went off. My dad joked to his own father that my performance wasn’t all that bad.

We pull out the breathing tube. They let me stay in the room to hold my grandfather’s hand while they did it. We hook up a morphine drip. We wheel him over to hospice. Three minutes later, my grandfather’s eye opens slightly as he coughs. My dad turns to me. “Lauren, what should we do?” He looks mortified.

I am no believer in unnecessarily prolonging a person’s pain and suffering. Especially when the person is ninety-three years old. But I will say own. His arms and legs jerk and twitch once in a while. When he coughs, sometimes his eyes open. Sometimes one gets stuck open a bit. He does not look sick and he does not look dead. All his other organs are completely functional. When my aunt looks at me and says that she knows she saw him give her a thumbs up, I reassure her that this is just a muscle twitch, that it is a coincidence, that his eyes opened because he coughed, nothing more, and that, no, he couldn’t hear us. And

that in this situation (trained and conditioned though I was) one’s brain and one’s gut are in distinct opposition. My grandpa still looks like my grandpa. And on top of that, because his stroke was not in the part of his brain that controls his most vital bodily functions like breathing and heart rate, he breathes on his own. He coughs on his to my Dad: “Dad, we don’t do anything. His eyes opened, I know, but it’s just from the coughing. It’s not happening as a response to anything. We don’t do anything.” We wait.

But then, I have to step outside and reassure myself. And in fact, I realize that if I am totally honest I have no idea if his eyes are opening for a
reason. Maybe he can hear us. We are playing his favorite Polish Christmas music. If he can't hear, then why? The only thought that comforts me is a profound certitude that my grandfather would never in his life have wanted to be kept alive in this state, whether he could hear us or not.

The whole time we lived at the hospital, I repeated that thought over and over in my head. It was my mantra to counteract the constant intrusion of other, more horrible thoughts that slithered past my logical side and whispered to me that my grandfather had gone over four days without water while I sat there and watched.

Our first nurse, Christine, reminds us that this may be quick. She seems nice, but she had clearly never met my grandfather. She's tall and blonde with a spiked haircut. She's all business. My father and I look at each other, skeptical but hoping for a quick and peaceful end. After fifteen minutes, though, my grandfather's blood pressure is stable, he's breathing on his own and his heart rate is seventy-eight and regular.

My grandfather was the 1943 middleweight boxing champion of the U.S. Navy. If that's not impressive enough, he returned to the United States after the war and made it to the New York State Golden Gloves Championship, a sort of high-profile amateur boxing tournament still held today. He actually fought in Madison Square Garden. He was, however, knocked out in that fight, and decided professional boxing was not for him.

Early on that day, my dad and I decide to stay the night. There's no way we are leaving Stashu (that's his Polish name) alone. He was never alone until his last few years. And then, he hated it.

Stanley Ciszak was a people person, his life spent hosting dinners, sharing music, drinking cognac, and smoking cigars with the vibrant Polish-Italian family he had created with my Sicilian grandmother. He took time from his job as a plumber to help found the first community college in New Jersey. He worked tirelessly as an aide to the Mayor of Perth Amboy. He bought my grandmother a house on the Jersey shore, and secretly spent a year fixing it up before presenting it to her for Valentine's Day. He loved his family, adored his wife, and relished his work.

He grew up in Brooklyn. He wasn't too much of a book person and his family needed money, so at fourteen he entered a trade school in Coney Island, where he learned plumbing, electrical, and other construction work. But he fell in love with plumbing. As he got older, one of his favorite stories to tell me was how he was apprenticed to a New York City plumber at the age of sixteen. The youngest among his peers, he quickly became the best and most skilled plumber on the team. After the war, he moved his work to New Jersey and quickly became the most sought-after plumber in the state. Part of this was due to his skill and impeccable work, but another part was due to his trademark. He was the only plumber, who, after finishing his installation, would actually shellac the copper pipes to prevent them from oxidizing over time. “They looked so beautiful!” he would exclaim. And he was the only one around who did it.

My grandmother died when I was twelve. She was a diabetic who ended up with terrible heart disease. She died one night from her third heart attack, just months after my grandparents’ fiftieth wedding anniversary. My dad, who at the time was living in Kentucky, did not make it to the hospital in time to say goodbye to his mom, and he intended to be there this time, to sort of make it right. So we hunkered down for the night.
The first night is terrible. Every sound wakes me up. I keep thinking we missed it. Three times I have to get up to make sure my grandfather is still breathing. When no one is watching I check his pulse, just to make sure. The next morning my uncle arrives, and my dad and I make a quick trip back to the house for the essentials. What we return with includes: my grandfather’s banjo, a small fake Christmas tree, twenty family photos from atop the piano, the certificate from his boxing championship, a porcelain figurine of a boxer dog (appropriately his favorite kind, he had three over the course of his life), and his two-by-three foot wedding photograph. Oh, and three CDs of Polish polka music, two of Christmas carols, and one of John Phillip Souza for old times’ sake.

My grandfather was a Navy man and he ran a pretty tight ship. So when his two sons were teenagers, and, on the weekends, decided to sleep in past 8:30 in the morning, it was customary in his house to put a John Phillips Souza march (the peppier the better) on the record player at top volume and whip the young men into shape, or at least to startle them out of slumber.

We return to the hospice and set up the room. We take down the generic supposedly soothing paintings of pastel-leaved poplars blowing in the wind and replace them with pictures of my grandmother in her favorite yellow dress, of my dad with his long hippie hair that my grandfather hated. We hang his Navy cap over his morphine drip and string his banjo up on the windowsill.

That banjo, by the way, survived D-day. It traveled with my grandfather from the United States to Iceland, Iceland to Plymouth, England, and from Plymouth straight into the third day of the invasion of Normandy. You should have heard how his fellow Seabees talked about it. Their battalion was sent to Iceland to build a secret air force base for the invasion. On the way, there were German U-boats everywhere. Only half the ships on that original fleet made it to Iceland to begin with. When they got there, they were working in the daytime, but after sundown they were not allowed to have any lights, not even fires. So my grandfather, banjo always in hand, played for the guys. One of them says it may have saved his life, and at least it kept him sane. Oh yeah, and they had a pet raccoon named Frank but that's a story for another time.

As visitors roll in, the stories roll in with them. The hospice becomes a nice place to be. During that first day, it is easy to forget what is happening. It almost seems like my grandfather is going to recover; in a few days we'll all be home having Christmas pierogies and kielbasa. But there inevitably comes the time when each visitor looks down at my grandfather, who once in a while moves his right leg in a sort of jerking, frog-like motion, or at times his eyelid opens just a sliver, so it seems as if he is about to wake up and ask for his pipe. And then, attention turns to me. “What was that? We didn't know he could move?” My aunt still swears to me he’s squeezing her hand when she asks him to.

“It’s just a reflex,” I say. But to be honest, I have no idea what it is. As a third-year medical student, the real-world hospital is new to me. I don’t yet have confidence in my own clinical abilities, and I shouldn’t. But nurse Christine says it’s a reflex, so as the medical authority in the room I toe the party line. Maybe it is. I remember
One says, “Well, we can give him Tylenol to bring down his fever but if I were dying I wouldn’t want someone sticking a finger up my bottom. I would rather just use ice packs.”

“Do you want us to increase his morphine?” they ask my dad, who inevitably turns to me. How would he know if he wants to increase the morphine drip?

“We can suction him,” they say, “but if I were dying I wouldn’t want a suction device down my throat.”

But the next nurse says, “Well, if I were dying I wouldn’t want to have to be breathing so hard, of course we can suction him.”

The result of this constant back-and-forth is that depending on the shift, we either feel cruel for using suction, or cruel for not. And either way, once the thought of either option being cruel is placed in our minds, decision-making becomes agonizing. There is never a choice that feels right.

“And by the way, why don’t we give him some Tylenol, these ice packs seem uncomfortable, don’t you think?” asks the next nurse.

“Yes,” I say, “let’s increase the morphine drip.”

Enter: Nurse Moonbeam.

She says we have to go home. She says we have to take a break. She says that my grandfather does not want to die with our energy in the room. She says he is waiting until we are gone to die. We say, “We understand you are coming from a good place, madam, but Stanley Ciszak is a people person. He wouldn’t want to be alone.” She, in turn, understands how we might think that, but knows she is right and knows that he can feel our energy there. After this, Dad dubs her Moonbeam. And then he breaks down.

Day 4: Things begin to deteriorate. Tensions start to run high. We haven’t really slept in four days. We haven’t left the hospital. We’re getting close to Christmas. I am not sure how much more Polka music any human being can really tolerate. My grandfather’s breathing becomes more labored. His temperature rises. Pressure ulcers are beginning to appear on his flank, but when we turn him over his breathing becomes so labored we can’t even stand to be in the room. The nursing shifts change every eight hours. Christine has been there for the first shift every day so far. Like I said, she takes charge.

But then there are other nurses. One says, “Well, we can give him the Pharos/Winter 2015

that sometimes with severe brain damage, infantile reflexes can return, one of which is the grasp reflex (this is the reason a baby will automatically grip a finger placed in its hand). So, maybe he grasps a little.

But, they ask, What if he’s there, trying to signal to us? What if he wakes up like last time?

I try to answer respectfully by saying that we are pretty sure he can’t understand anything and that his quality of life would be horrible if we kept him alive. (What if he hears me saying this? I ask if we can step out of the room.)

So, he’s getting no food and no water, they ask?

No.

So you’re starving him?

My dad looks at me. I say nothing. What can I say? I stare back. I don’t yet know that it is considerably more comfortable for a dying person to be without fluids other than what he wants to take in on his own. The mantra is not helping right now.

That’s the worst part, when people come in the room, so hopeful and sure that he’s going to wake up. It’s like someone shoving an ice pick repeatedly into my gut. Joe Cutrone leans down and says to him, Stash, we know you’re in there, just squeeze my hand and let us know. We know you hear us, Stash. And then he breaks down.

During the Oplatki, a designated someone would slip out, rush upstairs and Cutrones, for an extravaganza of epic proportions. Eighty people would arrive around 4:00 PM, descending onto the house in Cartaret. It was all about the food. Well, the food and the music. My grandmother and grandfather, respectively. The first course would consist of the pre-midnight meatless feast. Linguine and clam sauce, baked ziti, mushroom soup, and pierogies stuffed with potato and cheese were the culinary stars of Act 1.

While everyone was seated, my Grandfather unveiled the Oplatki, a Polish cracker that resembles a larger, squarer communion wafer. As we ate, my grandfather would make the rounds and talk about each and every one of his guests, and all the good things that he or she had done in the past year. He would give us his blessing for good health and happiness in the year to come. With each person, he would give them a piece of the Oplatki and he would take another piece.

Given the size of the crowd, this process could last more than two hours, until long after our soup was consumed, children were either asleep or running laps around the tables, and the rest of us were engaged in a stand-off with the one remaining half-pierogie beckoning to us from our plates. No matter how new and unfamiliar the guest, my grandfather had a kind word and encouraging thing to say, and he welcomed anyone to the table with grace and warmth.

During the Oplatki, a designated someone would slip out, rush upstairs and don our most precious family heirloom: a full-bodied Santa suit complete with wig, beard, hat, and bell. When the Oplatki was finished, the music would start. My grandfather would break out his banjo, or his accordion for that matter. Sometimes he would choose his mandolin first or take a stab at the piano and just add on the harmonica for fun. Either way, “Jingle
Bells” would begin the merriment. “Silent Night,” “Frosty the Snowman,” and “White Christmas” would be interspersed with Polish carols we all knew but could never sing. Later on, my father would accompany on the piano and my uncle on the accordion.

Suddenly, the doorbell would ring and in Santa would walk. Full-bellied with a garbage sack full of presents pilfered from beneath the tree he would explode through the door, bell ringing, and Ho-Ho-Ho-ing. MEEERRYYYY CHRISTMAS!!! he yelled. Soon, he would be handing out gifts by the hundreds and the music would recommence as each person was called up one-by-one to, sometimes less than willingly, sit on Santa’s lap. At about 11:30 we would all pack into cars to head for midnight Mass.

One year when my father was in college, his turn came to play Santa. At that time, some of the obligation involved being driven around from one family to the next, making an appearance at all the houses before Mass. Well, it was also customary for each house to offer Santa a nice glass of brandy or cognac to keep him warm on his travels all the way back to the North Pole. But the brandy proved too much for St. Nick, and he lost track of time. Rather than risk his mother’s wrath, my dad opted to trade proper dress for punctuality and staggered, on time, into Mass. My grandmother, a pious Catholic, was mortified; but my grandfather couldn’t help cracking up as his youngest son, Santa, stepped up to take communion. My father was saved (in more ways than one) and it was such a sight that the whole thing made the local paper the next day!

We return from Mass to meet our gastronomic Act 2: an early-morning now carnivorous spread complete with ham, kielbasa, spaghetti and meatballs, and braciole. Not to mention all the Italian cookies and panettone we could eat. This load of calories would inevitably send us all off into a protein-induced slumber that would end the festivities.

After six days at the hospital, the deterioration continues, but ever so slowly. Now it’s Christmas Eve. Visitors have largely stopped coming, which is something of a relief. Never in a million years did we expect to still be here after this long. More and more sores are appearing all over my grandfather. Each breath sounds like someone trying to sip the last bit of a milkshake through a straw. It is sickening. We stop the polka music. Santa and Mrs. Claus wander the hospital with a miniature golden retriever, distributing candy canes and slobbery kisses. Some nuns come into the hospital giving out knitted shawls with inlaid prayers. The place is starting to feel like home. I don’t even bother to put shoes on to walk the halls any more.

Since we’ve been there, there has been a steady stream of patients who have come and gone. There are only two others here tonight. We decide to do Christmas Eve at the hospice. My uncle arrives and we switch places, my Dad and I go out to prepare for dinner. Driving down a nearby street we happen across a giant red sign reading Polish Deli. We stop in and emerge with kielbasa, pierogies, and prepackaged, dried mushroom soup, instructions for which are written solely in Polish, but we give it a shot anyway. We return home, shower, cook the pierogies and rush back to the hospital. There, my uncle, dad, cousin (only one of my cousins could even bear being there, the other stayed home), and I have a miniature Christmas Eve feast. We put on Christmas carols and drink a little cognac. We hang out in the room with my grandfather. The mushroom soup isn’t bad.

At this point, my dad gets a mischievous look on his face. I cannot possibly fathom what he is thinking. He leans over to me and says, “I think Grandpa deserves one last taste of his favorite cognac.” Hah! Amazing. We close the blinds to the room, and grab the who-knows-how-old bottle of midrange Remy Martin we found in the liquor cabinet. My dad grabs a paper cup from the bathroom and pours a hefty dose of the golden-brown liquid into it. Then, he grabs one of those green, spongy swabs we have been using to keep my grandfather’s lips from cracking and bleeding with the dehydration. He plunges it into the cognac, waits a few seconds until it is all absorbed and then gently places it in my grandfather’s mouth. My grandfather’s face contorts, one half more expressive than the other by far (that’s the stroke), grimacing with the acrid liquor in a way that is impossible to describe. The reaction is surprising to us all. We laugh, partly out of discomfort, partly because the face really was funny, and partly out of a feeling of triumph at having succeeded in getting this one last earthly pleasure for Stash past the ever-so-watchful eyes of the hospice authorities. We reopen the blinds, smirking.

Moonbeam is on. She is now convinced that my grandfather, who loved this day so much, just wants one last Christmas. Of course, this implies some amount of lucidity, and is an unsettling thought to everyone. But she means well. Plus, she still wants us to leave. She is insisting that maybe he does not want to die in front of his grandchild and son. He might need peace and quiet and space to die in. My dad is insisting that he would not want to die alone. Is what she says even possible? And if so, how on earth would it be possible for us to leave after we have insisted on staying here 24/7 for the past week? It would be giving up. Admitting defeat. Abandoning my grandfather at a time when, as far as we could understand, he needs us most. I start to get angry. Nurse Moonbeam is beginning to feel like the proselytizers that show up on your doorstep insisting you need to be saved from a fate you do not even believe exists. Well-meaning, perhaps, but inconsiderate and quite possibly wrong.

Christmas Day is a quiet one, with
no real change in anything. Grey, cold, and dreary, it begins to feel like my father and I have been transported into some more twisted, morose version of Waiting for Godot. Every day: vitals check, morphine increase, ice packs, position change, sponge bath, Tylenol, suction, ice pack, wound check. If Godot doesn’t show up today, then definitely, definitely tomorrow.

Over the last few years, after my grandmother died, my grandfather was lonely. The car accident really took a toll on him. He could no longer drive. His hands could not move fast enough anymore to play his music. He had to quit playing in his beloved string bands. He couldn’t really dance anymore. He didn’t tell anyone, but he secretly sold his banjo. Most of the day, my grandfather sat in his chair. The last time I visited he constantly confused me with my mother. He was taking Tylenol that had expired in 1983. His pants were often soiled. The oven was coated in melted Frito Lay packaging and blackened Ruffles. It took a whole afternoon to clean out, and the oven rack itself was not salvageable.

The day after Christmas. Still no change. I absolutely have to get to a post office. I am taking my little brother on a trip to Panama in February and if I don’t get my passport out for renewal I will not be able to go. My dad and I decide to head out for a minute, and my uncle is on the way anyway. Plus, Moonbeam is on again, so it pays to get out of there. On the way back from the post office, my Dad suggests we stop at a nearby diner. Other than the incredible plate of arroz con pollo that my aunt brought a few days earlier, we have been subsisting on free cereal, turkey sandwiches, and pudding stocked daily in the hospice minifrige.

But just as we are paying our check, we get a phone call. From the look on my dad’s face, I know exactly what it is. My uncle says we’d better come quick. We are literally three minutes from the hospital, if that. We are running. We leave the car in front of the hospital in the roundabout. We sprint up the stairs, my Dad’s two bad knees and all. But by the look on all the nurses’ faces, we are too late. We had been gone for less than forty-five minutes. And my grandfather died.

I have never hated anyone so much in my life as I hated Nurse Moonbeam at that very moment. And my father, well, he had missed it again. We stood outside the hospital room door. How was this possible?

Looking back, I regret nothing. I would do it all again in a heartbeat. As the experience settles into my psyche and my heart, my grandfather’s story is ever-present as I work with patients. It taught me how trying the hospital can be, how overwhelming it is to be asked to make medical decisions. It reminds me that lying in each hospital bed and sitting on every exam table is a Stanley Ciszak, a person to be given the utmost respect. Because this guy, who for seven days was lying comatose in his bed, twitching and struggling but without the presence and charm that made him Stash, was magnanimous. My grandfather would have made a seat for you at his table in a moment’s notice. He would have welcomed you and your entire family into his life with a glass of cognac, a piece of Oplatki and a full string band. And you would have been better for it. So for me this story is a pledge. To, in the spirit of my grandfather, give every person’s story the deference it deserves. Whatever it may be: a banjo gone to D-day, a Valentine’s Day house, an Icelandic pet raccoon, a perfectly shellacked set of copper pipes. I will remember to look and listen for the story. It will make me a better doctor, and a better human. And, Grandpa, I hope you would be proud.

The author’s e-mail address is: lmciszak@gmail.com.
Each year since 1988, Alpha Omega Alpha, in cooperation with the Association of American Medical Colleges, presents four AΩA Distinguished Teacher Awards to faculty members in American medical schools. Two awards are for accomplishments in teaching the basic sciences and two are for inspired teaching in the clinical sciences. In 1997, AΩA named the award to honor its retiring executive secretary Robert J. Glaser, MD. Nominations for the award are submitted to the AAMC each spring by the deans of medical schools.

Nominations were reviewed by a committee chosen by AΩA and the AAMC. This year’s committee members were prior award recipients J. John Cohen, MD, PhD; Ruth-Marie Fincher, MD; Cynthia Lance-Jones, PhD; Richard B. Gunderman, MD, PhD; Kelley Skeff, MD, PhD; Stuart Slavin, MD, MEd; Mikel Snow, PhD; Gabriel T. Virella, MD, PhD; LuAnn Wilkerson, EdD; Roy Ziegelstein, MD.

Winners of the award receive $10,000, their schools receive $2,500, and active AΩA chapters at those schools receive $1,000. Schools nominating candidates for the award receive a plaque with the name of the nominee.

Brief summaries of the accomplishments in medical education of the 2014 award recipients follow.

Richard L. Byyny, MD
Executive Director

From top: AΩA Executive Director Richard L. Byyny, Charles L. Bardes, MD, and A. Lorris Betz, MD, Immediate Past Chair of the AAMC.

Richard Byyny, Bernard Karnath, MD, and Darrell Kirch, MD, President and CEO of the AAMC.

Richard L. Byyny, Randall King, MD, PhD, and A. Lorris Betz, MD.

Richard Byyny, Emma A. Meagher, MBCh, BAO, and Darrell Kirch, MD.
Bernard Karnath, MD (Clinical)  
(ADAA, University of Texas Medical Branch, 2007)  
Professor of Medicine, Department of Internal Medicine, The University of Texas Medical Branch at Galveston

Dr. Karnath received his MD at the University of Texas Medical Branch in Galveston in 1994 and completed his residency there in 1997. He joined the faculty at UTMB in 1997 as an Assistant Professor and is now Professor of Medicine.

In 2008, Dr. Karnath was inducted into the UTMB Academy of Oslerian Medicine, the highest honor for teaching faculty at UTMB. He was inducted into the UTMB Academy of Master Teachers in 2009. He received the Herbert S. Waxman Award for Outstanding Medical Student Education by the American College of Physicians in 2013 and was inducted into the University of Texas Kenneth I. Shine Academy of Health Science Education in 2014.

From 2002 through 2009, Dr. Karnath served as the series editor for the Hospital Physician Review of Clinical Signs section, as well as authoring and co-authoring thirty-four review papers for the section. He serves at UTMB as Pre-Clinical Course Co-Director; Internal Medicine Clerkship Co-Director; Course Director for Basic Science and Humanities Selective for Mystery Diagnosis; Course Director for Acting Internship in Internal Medicine senior elective; and Senior Electives Course Director, Department of Internal Medicine Electives.

Dr. Karnath is a volunteer at the UTMB student-run St. Vincent's Clinic, where he has eight times received the Most Dedicated Faculty Award. He also serves as a Student Mentor in the Rene Laennec Society of the Academy of Oslerian Medicine at UTMB.

Randall King, MD, PhD (Basic)  
Harry C. McKenzie Professor,  
Department of Cell Biology, Harvard Medical School

Dr. King received his PhD in Biochemistry at the University of California, San Francisco, in 1995, and his MD at Harvard Medical School in 1997. He joined Harvard Medical School in 1997 as an Instructor in Cell Biology and is now the Harry C. McKenzie Professor in the Department of Cell Biology.

In 2005 Dr. King was awarded the Harvard Medical School Faculty Prize for Excellence in Teaching; he has been nominated six times. Student comments about Dr. King include:

“Dr. King is undoubtedly the best professor I have ever had. His organization, lecture style, creation of learning objectives, plethora of review sessions and/or office hours made a difficult course with a lot of material seem much easier and able to handle.”

“He is the gold standard against which we compare all other course directors.”

“I entered medical school with a background in the humanities. That my understanding and intuitive grasp of biochemistry was able to advance to the point it is now is a testament to Dr. King’s excellence as a teacher. His extraordinary cross-cultural competence also helped ensure that everyone felt comfortable and accommodated in the course.”

Dean Jeffrey S. Flier writes, “Dr. King melds basic discovery with clinical relevance in both his research and educational endeavors. He has taught more than 1500 medical students the importance and clinical relevance of understanding basic mechanisms of biomedical discovery. He views teaching ‘as a profound privilege rather than an obligation and looks forward to developing new innovations in both the classroom and the laboratory.’ Dr. King has the unmatched ability to balance his biomedical research career with substantial contributions to HMS’ educational mission.”

Emma A. Meagher, MBBCh, BAO (MD) (Basic)  
Associate Professor, Department of Medicine, Perelman School of Medicine at the University of Pennsylvania

Dr. Meagher received her MBBCh, BAO (MD) degree at the Royal College of Surgeons in Dublin, Ireland in 1987. She completed her Internal Medicine residency at Beaumont Hospital in Dublin in 1991, Registrar in Gastroenterology at St. Vincent's Hospital in Dublin in 1992, and Senior Registrar/Lecturer in Cardiovascular Medicine and Therapeutics at Mater Hospital/University College in Dublin in 1994.

Dr. Meagher joined the University of Pennsylvania as a Lecturer in Medicine (Experimental Therapeutics) in 1994 and is now Associate Professor of Medicine and Course Director for Pharmacology.

Dr. Meagher has received many awards for teaching at Penn, including the Dean's Award for Basic Science Teaching in 2013; the Robert Dunning Dripps Memorial Award for Excellence in Medical Education in 2010; and the university's highest teaching award, the Lindback Award for Distinguished Teaching in 2005.

Dean J. Larry Jameson writes, "Dr. Meagher is an educator par excellence. She is highly respected by students and faculty alike. She efficiently fuses the essential principles of basic science and their application to clinical medicine through her effective teaching of pharmacology. She works very effectively to ensure the appropriate integrated representation of pharmacology across the four year continuum of medical education.”

In 2008 Dr. Meagher developed the contemporary course Case Studies in Translational Research for MD/PhD students that is focused on personalized therapeutics, diagnostics, and devices. She has lately worked with medical school leadership to create and implement a combined MD/MTR (Masters of Translational Research) degree program.
Alpha Omega Alpha elects honorary members

Individuals who have contributed substantially to medicine and fields related to medicine, but who are not eligible for membership in AΩA as graduates of a medical school with an AΩA chapter or as a faculty member of a medical school maintaining an active AΩA chapter may be nominated for honorary membership by any active member of the society. In 2014 Alpha Omega Alpha’s board of directors extended invitations to the following distinguished persons.

John Iglehart

John Iglehart grew up in Milwaukee, Wisconsin and earned his BS in Journalism from the University of Wisconsin-Milwaukee.

From 1961 through 1968, he worked for the Associated Press as a reporter in Milwaukee, as a state government correspondent in Madison, Wisconsin, and as political reporter in Chicago.

In 1969 Mr. Iglehart was awarded an American Political Science Association fellowship to spend a year working in Congress. He then joined a new publication called the National Journal, holding jobs as reporter, editor and editor-in-chief over a ten-year period.

In a detour in his career path, he directed the Washington office of the Kaiser Permanente Medical Care Program from 1979 to 1981.

In 1981, he founded a health policy journal published by Project HOPE called Health Affairs. He has now been the journal’s editor for twenty-six years and continues to edit and write for Health Affairs. During this time he also served as a national correspondent of the New England Journal of Medicine.

Ignacio Sánchez Díaz, MD

Ignacio Sánchez is Full Professor at the School of Medicine of the Pontificia Universidad Católica de Chile, and serves as President of the University.

He received his MD degree from the Pontificia Universidad Católica de Chile in 1986. In 1989, he specialized in Pediatrics and in 1992 subspecialized in Pediatric Respirology at the University of Manitoba, Winnipeg, Canada. He has worked in the Clinical Hospital of the Universidad Católica as Head of the Pediatric Respiratory Section and Pediatric Services and has served as Head of the Pediatric Department. In 2004, he was elected Director of the School of Medicine of the University and from 2008 to 2010 served as Dean of the Faculty of Medicine.

His academic work has been related to respiratory sounds, cystic fibrosis, and pulmonary function in infants, areas in which he has published several papers in journals such as Pediatric Pulmonology and the Journal of Pediatrics. In 2007, the University published his book, Enfoque Clínico de las Enfermedades Respiratorias del Niño. He participates in the editorial committees of several journals.

In the last years, Dr. Sánchez has written a number of articles on higher education, which have been published in national and international specialized journals. Some of them are Societas (publication of the Academia Chilena de Ciencias Sociales, Políticas y Morales); Seminarium (magazine produced by the Congregation of Catholic Education) and Series de la Agenda (publication produced by the UC Center for Public Policies), among others.

Dr. Sánchez is part of the Council of Rectors of Chilean Universities (CRUCH), is President of G-9, a coalition of traditional non-state Chilean universities, and Head of the Chilean Chapter of Catholic Universities of the International Federation of Catholic Universities (IFCU).

He was elected President of the Pontificia Universidad Católica de Chile in 2010.
He grimaces as if suddenly stabbed, when he recounts how he just somehow knew the car coming up beside him was going to explode. He rammed the gas pedal to the floor and, like a Pamplona bull that’s been goaded to gore, shot into the Salt Lake City traffic.

After that wreck he stayed at home mainly, struggling to be by his wife and child as they unwittingly wrapped wire around his brain, until it was so tight he had to retreat to his silent and dimly lit room.

That’s where he remained for the majority of the next several hundred days, in the company of no one, with quietness burdened by the task of keeping the mortar fire and screams away.

Then today, after she found that he had somehow made his way to the store to see about a gun, his teary-eyed wife coaxed him into their minivan and delivered him here.

He now hangs his head, drained from having his story extracted. His long, dark brown hair gives in to gravity and reaches for the floor.

Hot tears surface and travel downward, like blood from the bullet holes in his daughter’s body, after it dawned on him he was firing on his own little girl and not some fanatic asshole in his dreams last night.

_Bryan Cheyne, MD_
Ida
Starring Agata Kulesza, Agata Trzebulchowska, and Dawid Ogrodnik.

This beautifully crafted film is set in Poland in 1962. It opens in a Franciscan convent where Anna (Agata Trzebulchowska) and her fellow novitiates are sculpting a statue of Christ to be erected on the road to the convent. They pray in Latin and then go to the refectory and eat in silence. Anna is on the verge of taking her final vows, but the mother superior tells her that before she does she should visit her only known living relative, Aunt Wanda (Agata Kulesza), who had repeatedly refused to take charge of her when she was in the orphanage or to even visit her. Anna reluctantly agrees. This reminded me of Viridiana, Luis Buñuel’s very anti-Catholic film, in which a novice is persuaded to visit her relative, a rōué, before taking her vows—the two films diverge widely after this common beginning. Anna leaves the convent on a snowy winter day, rides a train and a bus, all foreign to her, and absorbs everything around her. A newcomer to acting and film, Trzebulchowska was spotted in a café by the director. She is reminiscent of Renée Maria Falconetti, who though an accomplished actress had never made a film before the 1928 silent classic Passion of Joan of Arc, and never did again. Both communicate using their luminous faces and eyes, radiating an air of pure innocence.

Anna receives a frosty welcome from her aunt, who is a hard-bitten communist known locally as Red Wanda, an alcoholic chain-smoking judge who has sent many of her fellow Poles to death. Wanda is amazed that the nuns had not told Anna that her birth name was Ida and that the family is Jewish, and says, “You’re a Jewish nun.” The rest of the film is a road trip back in time as they seek the family home and the grave where Ida’s parents and brother were buried. Wanda tells her how sweet and lovely she is and that her dimple when she smiles would drive men wild. “Do you dream of carnal love?” Wanda asks her. When Ida says, “No,” Wanda replies, “How can you know what you’re giving up?” They pick up a hitchhiker, Lis (Dawid Ogrodnik), a member of a rock band who plays the alto sax and is on his way to a gig. Much of the score is jazz by Coltrane, with Mozart’s Jupiter
Symphony and some Bach thrown in.

In the hotel before bedtime, Ida is kneeling at her bedside praying when Wanda, whose life is filled with engaging men in one-night stands, asks Ida to join her. Ida refuses and Wanda tells her, “I won't let you waste your life. You're a saint and I'm a slut. Your Jesus loved people like me, Mary Magdalene.” Unable to sleep, Ida sits on the stairs watching the young man and his band play. The next day, they continue their trip and find the house where her family lived. Apparently, the neighbor took them in and fed them and hid them, but later betrayed them for their property. The neighbor is dying in the hospital and his son tells them to leave his father alone and that he will show them where they were buried if they will go away. When the son digs up the bodies, Ida wonders why she was not killed and buried there. The son says, “You were tiny and they took you to the priest. Your brother was dark and circumcised and so he was killed along with your parents.” The bodies are transferred to a Jewish cemetery. Ida returns to the convent and re-enters her regimented life. Not ready to take her vows of chastity, poverty, and obedience, she goes back to Wanda. I will stop here and let the director take you on the rest of the journey to its poignant conclusion.

The cinematography is exquisite. It is a very interesting film and a highly personal one for the director who also was a co-screenwriter. He had lived in Poland under the Communists and left with his family.
The physician at the movies

The picture opens with a saying from St. Augustine: “One thief was saved, so don’t despair; one thief was damned, so don’t presume.” The camera pans the rugged, harsh Irish landscape of County Sligo and is followed by one of the most powerful film openings in recent memory. Father James (Brendan Gleeson) sits in an old-fashioned confessional box and slides the screen to hear the confession of a man whose voice he thinks he recognizes. The man says, “I tasted semen at a terrifyingly young age.” Momentarily taken aback, the priest shoots back, “Certainly, a startling opening line.” The man relates that he was the victim of sexual abuse by a priest for seven years. When asked if he reported it, he says no, and tells Father James that the priest is dead and that church superiors covered it up. He reveals his intention to take his revenge by killing a priest, but not a bad one but a good one—Father James. He gives the priest a week to straighten out his affairs and tells him to meet him at the beach on Sunday. As he leaves, he chuckles, “Killing a priest on Sunday; that’s a good one.”

The rest of the film is devoted to glimpses of Father James’ parishioners, as we meet the potential assassins one by one in a series of hit-and-run encounters as each day passes. The most human and in-depth scenes are with his daughter Fiona (Kelly Reilly). It turns out that after Father James’ wife died, he became a priest. We first meet the daughter visiting her father while recovering from a suicide attempt, evidenced by her bandaged wrists. Now in her twenties, she tells him that she felt traumatized and depressed by losing not just one parent but two when he entered the seminary. He replies that he has always been there for her as much as he could but that he felt the priesthood was a calling that he had to follow.

What is striking is that almost all of Father James’ parishioners seem to have severe problems. There’s the rich drunk (Dylan Moran), a corrupt financier whose wife has left him. To show that he doesn’t really have much respect for money or possessions, he takes down his favorite picture and urinates on it. He tries to get the priest to accept blood money, saying he will write a check for £5,000. Father James tells him to write £100,000. The weak, jejune curate (David Wilmot) who is with him can hardly contain himself. Father James tells the curate he has no integrity and walks out without the check.

A pretty woman (Orla O’Rourke) married to the butcher (Chris O’Dowd) has several affairs, most recently with an African mechanic (Isaach De Bankole), with whom she enjoys rough sex. The butcher also likes to batter her.

There’s the repressed young man who can’t make it with girls and is addicted to porn.

The local doctor (Aidan Gillen) is an atheist said by the screenwriter to be “like ninety percent of doctors” (where that stat is from I have no idea). He is a rather cynical man who likes to tell the priest sad stories about dying children and puts out his cigarette on a cadaver’s limb during an autopsy. Later at the Saturday night blowout, he snorts cocaine.

Father James visits the police chief at his home thinking that he might tell him his situation. The chief is shooting pool with his crucifix-wearing boyfriend who brags about servicing

References

Calvary
Starring Brendan Gleeson, Kelly Reilly, and M. Emmet Walsh. Directed by John Michael McDonagh. Rated R. Running time 144 minutes.

for England.² It is an excellent taking-off point for discussion of what happened to the Poles and Poland, where Jews and Christians had lived in harmony since the 1300s beginning with the rule of Casimir the Great, before the Nazis and the Communists took over. I highly recommend it.
many in the community. The friend reprises Jimmy Cagney’s greeting to his juvenile delinquents in the movie Angels with Dirty Faces: “Whadda ya hear, Whadda ya say?” When the police chief admiringly says “what a character” the boy is, Father James decides not to confide in him.

There’s the wiseguy altar boy who the priest believes is drinking the unconsecrated communion wine.

Finally in this rogues’ gallery, there is the serial killer whom the priest visits in jail where the man confesses to having cannibalized a victim.

One of the slightly more sympathetic characters is an aged, curmudgeonly writer (M. Emmet Walsh) who feels that he’s dying and wants a gun to shoot himself. The priest does get the gun but does not give it to him and keeps it with the idea that he might need it to protect himself.

There’s an attractive French widow who just lost her family in an accident, one of the few people to whom one can relate.

Two of the best scenes are set in Father James’ rather austere room where he greets his dog Bruno, his main source of companionship, before he tumbles into bed. There he has a very warm telephone conversation with his daughter during which they both forgive each other.

At the Saturday blowout in the pub, Father James, who had been an alcoholic but had been free from alcohol for three years, goes off the rails, gets drunk and shoots up the pub. Who can blame him with that cast of unlovable characters he has to minister to? The owner beats him up. The church burns down. Bruno is killed. All I can say is that it has been a helluva week. It all culminates in a High Noon ending.

The acting is superb, especially on the part of Gleeson, who fills the screen exuding power and solidity. The film is worth seeing for his acting alone but also for some memorable scenes. Even Archbishop Chaput of Philadelphia called it an “unblinking, unforgettable film.”

Reference
The 39 Steps (1935)
Starring Robert Donat and Madeleine Carroll.

The much overused word "classic" is nowhere more appropriate than when applied to Alfred Hitchcock's films. Given his enormous output, it's hard to pick favorites, whether it be the lighter films like North by Northwest, Rear Window, To Catch A Thief, The Man Who Knew Too Much, The Lady Vanishes, or the more eerie ones like Rebecca, Spellbound, Suspicion, Notorious, and Strangers on a Train, or the downright scary ones like Vertigo, Psycho, and The Birds.

Often forgotten when Hitchcock films are discussed are Foreign Correspondent and The 39 Steps. The latter is based on a 1915 John Buchan novel and stars Robert Donat, whose career, which included such memorable films as The Citadel and Goodbye Mr. Chips, for which he won an Oscar, was cut short by asthma. Here he plays Richard Hannay, a Canadian tourist (a South African in the book) who has "made his pile" and is in London looking for excitement. He attends a musical production at the Palladium featuring Mr. Memory when shots are fired and he finds himself holding on to a woman who turns out to be British spy Annabella Smith (Lucie Mannheim). She tells him that two German spies are after her because she knows that they are trying to steal a British top secret. Hannay takes her to his apartment, feeds her, and safely tucks her away only to find in the morning that she has been murdered. He is now caught between carrying out her mission and being pursued by the German spies, as well as by the police when they find the dead woman's body in his apartment. A lot of the tricks that will later appear in other Hitchcock films are melded into this very taut chase story. Hannay is able to get to Scotland aboard the famous train The Flying Scotsman, which has run between London and Edinburgh since 1862.

He escapes detection by passionately kissing a woman named Pamela (a Hitchcock invention, played by Madeleine Carroll) as the police open their compartment door searching for him. She later becomes central to the film. Cornered on the train, he escapes when the train stops on the cantilevered railroad bridge over the Firth of Forth, and is off on a trek across the moors. The exhausting trek rings true because Buchan was a compulsive walker who covered ten to as many as thirty miles a day.1 There are a lot of comic touches as Pamela reenters his life believing that he is a murderer. She and Hannay are captured by the spies and are handcuffed together. How they manage to escape and get back to the Palladium is, as one critic described Buchan's works, enjoyable for being so preposterous.

Reference

Dr. Dans (AΩA, Columbia University College of Physicians and Surgeons, 1960) is a member of The Pharos's editorial board and has been its film critic since 1990. His address is:

11 Hickory Hill Road
Cockeysville, Maryland 21030
E-mail: pdans@verizon.net
Never mind the envelope
  with the clear plastic window
the kind that normally says
  Inside You Will Find a Bill

Don't be scared by the numbers
  preceded by dollar signs
an entire page of numbers
  Some of Them with a Comma

And don't worry that the words
  are those you'd see in a bill
official-sounding words like
  Charges, Co-Pay, Amount Paid

After all it's not a bill
  it says so on the first page
in the upper right corner
  Big Bold Letters in a Box

It's just a courtesy from
  the insurance company
a breakdown of what they've paid
  And of What You May Still Owe

If only that left chest pain
  that seemed like a heart attack
but turned out to be heartburn
  had been so clearly stated

Adam Possner, MD
Bursting With Danger and Music
Jack Coulehan (AΩA, University of Pittsburgh, 1969) 
Plain View Press, Austin, Texas, 2012
Reviewed by Jenna Le, MD

Comprising over one hundred pages, this latest offering by noted medical humanist, physician, and poet Jack Coulehan is thicker than many books of poetry. It contains six hearty sections, presenting a mature and multilayered view of the life of body and mind. Think of it as a window on the writer’s neocortex, the mature six-layered component of the brain that oversees everything from danger assessment to music appreciation.

The first two sections, “Deep Structures” and “All Souls’ Day,” present a series of anecdotes drawn from a working physician’s life, embracing the perspectives of both physician and patient. Although examples of forms such as villanelles, pantoums, and ghazals are included, the dominant mode is a conversational free verse. While most of the poems are narrative-centered, there are at times moments of luminous imagery, as in the poem “Heart Blockages,” which describes diseased coronary arteries as “damaged legs and old spurs/that jostle bareback/on that black bull of a heart,/my heart,/whose flanks on the overhead screen/are heaving and faltering.”

One poem that fuses the narrative and the philosophical modes with success is the wittily, sporadically rhymed “Joys and Delights, Griefs and Despondencies,” which finds humor in the differences between pre-modern and modern conceptions of the mind-brain relationship:

The inner voice that Socrates said was god, but the Athenian state decided was blasphemy, could have been tracked, as it ran across his brain, had he had a scan.

“Tattoos” is a poem that transcends the expected by introducing an unanticipated element of sexual menace into its description of a tattoo-sporting telephone lineman:

. . . Can you imagine the weight of his Garden of Eden, at the moment of transgression, pressing against you? Men like him, rejection or weakness never occurs to them until it happens. . . .

In subsequent sections, Dr. Coulehan boldly strays afield from the clinical setting, broadening the scope of his subject matter with often delightful results. In poems like the richly textured “3. Chekhov in Greek School,” a section of the “Seven Tales,” Dr. Coulehan displays his deep familiarity with—and strong sense of indebtedness to—the writings of Anton Chekhov, the pioneering nineteenth-century physician-writer. In “William Carlos Williams Circumcises Hemingway’s First Son,” Dr. Coulehan invokes yet another pathbreaking physician-writer of the past, using Williams’s shade to lend weight to his ticklish theory that one of the benefits of being a physician-writer is that it enhances one’s masculinity:
The limitations of society's conventional conceptions of masculinity is a theme that resurfaces in "Grease," a Philip-Levine-esque poem about a boy who works in a steel mill:

Eyes cast down, he climbed out of the pit before his stint was up and hunched on a bench for the rest of the shift. Some of the others slapped him on the back and told him stories. One offered a share of his thermos. This was the closest he had ever been to another man.\textsuperscript{p67}

Womanhood is the subject of "A Theory of Labor," a poem that narrates the travails of childbirth from the suave viewpoint of the woman's father:

Your pelvic floor
is faltering, its muscles
ripping….
It's old news our openings
are disproportionate
to needs. . . . \textsuperscript{p83}

The book ends with a series of poems about nature. One of the finest is "Mungo Woman," a tightly knit lyric about a well-preserved corpse from the Pleistocene Epoch that was discovered in an Australian lake. In both its choice of subject matter and its haunting diction, the poem is reminiscent of Seamus Heaney's "bog body" poems:

insects, their calcified pupae
stuck in transit from life
to fluttering death;
oysters, their opalescent shells
long dimmed; skeletons
of fish, whose knuckles of ear bones
listen to forty thousand years
of dry wind.\textsuperscript{p101}

All in all, Bursting With Danger and Music is a substantive collection that amply demonstrates Dr. Coulehan's ability to engage lyrically with life in all its risk-filled and rhythmic complexity, both in the clinical setting and beyond. It is a privilege to be able to look in upon the neocortex of this highly respected, long-practicing physician-poet.

Dr. Le is a member of the editorial board of The Pharos and a previous winner of the Pharos Poetry Competition. She is a resident in Radiology at Montefiore Medical Center. Her e-mail address is: jenna.le@gmail.com

The Ethos of Medicine in Postmodern America: Philosophical, Cultural, and Social Considerations
Arnold R. Eiser
Reviewed by Jack Coulehan, MD (AΩA, University of Pittsburgh, 1969)

I t's no secret that the medical profession is in a bad way. The traditional narratives of medical virtue and dedication to duty haven't disappeared; in fact, we still teach them in medical school. But it's widely recognized that the "hidden curriculum" that students absorb in hospital culture teaches them a different set of values. Self-interest pokes a hole in altruism. Detachment carries the day against compassion. Negativity seems to edge-out enthusiasm for the profession. The new medicine features multiple, often conflicting, narratives. Patients are voracious for more and more health care, but are dissatisfied with physicians. The economy struggles under the weight of seemingly inexhaustible growth in health care costs. Pharmaceutical companies have fine-tuned the art of manipulation. And physicians themselves report increasing levels of dissatisfaction, demoralization, and burnout.

Not a pretty scene. Not a new one, either. The first analysis I remember reading of systemic problems in American health care was Doing Better and Feeling Worse, a collection of essays commissioned by the Rockefeller Foundation and edited by John Knowles.\textsuperscript{1} Since that book appeared in 1977, numerous physicians, ethicists, economists, and sociologists have offered diagnoses and therapies for the health care industry's ever growing dysfunction. However, Arnold Eiser's new book, The Ethos of Medicine in Postmodern America, is easily among the most comprehensive and well-documented of these analyses.

Dr. Eiser, who is professor of Medicine and associate dean of Drexel Medical College, subtitles his book, Philosophical, Cultural, and Social Considerations. In these considerations, he employs the lens of postmodernism to analyze today's ethos of medicine and health care. In general, postmodern philosophy is highly critical of traditional narratives by which we ascribe meaning to institutions, processes, and even our own behavior. Postmodernists believe that institutions can be best
understood in terms of power relationships (Michel Foucault), and today's culture reflects the loss or abandonment of "grand narratives" (Jean-Francois Lyotard). While other observers have described features of today's medical ethos, e.g., consumerism, impersonality, self-interest, corporatization, and alienation, Eiser, quite rightly, locates all these features as aspects of the larger postmodern world view.

The Ethos of Medicine in Postmodern America analyzes the interaction of postmodern values with almost every institutional characteristic of contemporary medicine, including computerized technology, evidence-based medicine, corporate control, quality improvement measures, and the patient-centered medical home movement. I only have space here to comment on these interactions as they appear in two areas: medical professionalism and bioethics.

Two features of postmodern thought are especially damaging to traditional medical professionalism. The first is consumerism, in which all aspects of experience are monetized and "what one consumes becomes paramount in one's life and self-identity." Eiser writes, "The dominant voice of consumerism in our culture promotes individualism and self-interest because neither solidarity nor virtue is nourished in the marketplace." Despite avowing virtuous ideals, physicians participate in a culture that only reinforces their ability to "sell" services to consumers, i.e., patients. The second feature is egalitarianism, which seeks "flattening of social hierarchies, including medical ones." This flattening alters traditional relationships within the profession (e.g., teacher-student, patient-physician) so that all parties are susceptible to confusion of leadership, mixed messages, and enhanced skepticism.

Likewise, Dr. Eiser analyzes the inadequacy of principle-based bioethics to achieve equity in health care or to nourish traditional virtue. Although seemingly grounded in Kantian deontology, today's principle of self-determination (autonomy) does not embody the sense of duty that Kant's categorical imperative demands. In other words, autonomy, as used in bioethics, most often means a right to self-governance, period, with no personal responsibility implied. Eiser advocates a more communitarian ethic in which autonomous decision making is at least lightly constrained by considerations of one's duty to self and others. He cites, for example, the fact that the great majority of adults do not have advance directives (ADs), even after decades of promotional effort and education. To entice more people to accept them, he suggests that the Patient Self Determination Act be amended to require discussion of ADs at a time when the person is healthy, i.e., purchasing or renewing health insurance, rather than when the patient is undergoing a crisis, i.e., being admitted to the hospital. An incentive, like a small reduction in rates, might be provided to those who complete an AD in that context. This approach to promoting more responsible behavior is similar to that recommended by Richard Thaler and Cass Sunstein in Nudge: Improving Decisions About Health, Wealth, and Happiness. Dr. Eiser is candid about the limitations of postmodern thought. He writes, "Postmodernism has been long on critique and short on recommendations to correct the shortcomings of our current circumstances." To my mind, a major problem with postmodern assertions, like "there are no grand narratives or universal values," is that they hold little hope for the future. Paradoxically, the narrative of continued fragmentation and dissolution of values seems to establish a new, albeit far from "grand," universal.

Dr. Eiser adopts a pragmatic framework when recommending ways to restore the ethos of medicine. For example, to enhance medical professionalism, he recommends adopting programs to increase physicians' emotional intelligence and to teach mindfulness as a regimen for improving physician self-awareness. These are practical suggestions that would encourage better understanding of our patients and ourselves. Other recommendations include restructuring practice settings to favor more integrative, reflective, and team-based approaches.

One very important proposal is drawn from the work of French philosopher Emmanuel Levinas, who established a morality based on "the radical encounter of the Other as an ethical force of responsibility." In other words, each face-to-face encounter with another human being generates a "tug" of responsibility to/for that person. However, physicians are often insensitive to this "tug." They may profess to believe in some moral ideal, like altruism or compassion, that no longer has much practical impact, while being unprepared to experience the "tug," which could serve as a more effective basis for medical morality. Dr. Eiser's application of Levinas' sensibility to medical practice is exciting because it relates the notion of professional obligation to empathy, emotional intelligence, and reflective practice, topics currently under active investigation.

The Ethos of Medicine in Postmodern America is a sobering book to read. It confirms and documents the widespread dysfunction in medicine. However, it also provides us with tools for understanding the problem and concrete suggestions for reviving ethics of respect and responsibility in the clinical encounter.

References

Dr. Coulehan is a member of the Editorial Board of The Pharos and one of its book review editors. His address is:
Center for Medical Humanities, Compassionate Care, and Bioethics
Stony Brook University
Stony Brook, NY 11794-8335
John.Coulehan@stonybrookmedicine.edu
A Life After Cancer

Does it matter what we do? Well, there is a risk, but there is a benefit, we hope we can look inside with our camera, we can look, we can biopsy your body, your bladder, your life.

Does it stop, in the inner layer? No, the muscle is involved, within the layer, invading, growing into the deepest parts of an area that must be taken to save it, to save you.

Does it shrink, with each regimen? Every time, sick and tired, try to be sure it does not grow now it is smaller, you can be closer now, toward the goal, our goal. It will be time to cut soon is good but now is better.

Does the scan say it went away? Did it disappear, from here, from me? Or, did it stay inside, the layer, that layer? Has it already left, escaped does it dare, we worry. Is there a place to look, to check a met, a node? Now, wonder, why, how, when if it will spread? A family, a wife, a son, wait. We all wait. Should we give a regimen, more and more?

Does it have an end? No, not for this it will be here forever, but it may never come back, to your body, to your life. We can watch and wait and pray that it will hide. Does it matter if we ... no Maybe it will not go on, again to start again, start over.

Does it seem ok? This cancer, this life, your life, it does for now, I hope, I hope.

Matthew Mossanen, MD

Dr. Mossanen (AGA, David Geffen School of Medicine at UCLA, 2010) is resident in the Department of Urology at the University of Washington School of Medicine. His address is: University of Washington School of Medicine 1959 NE Pacific Street, Box 356510, Seattle, Washington, 98195. E-mail: mmossan@uw.edu.

Illustration by Laura Aitken.
Minutes of the 2014 Board of Directors Meeting

The annual meeting of the board of directors was held in Portland, Maine, on October 4, 2014.

President John Tooker opened the meeting and introduced staff and attending members:

- C. Bruce Alexander, MD, Immediate Past President, Member at Large
- Carol Aschenbrener, MD, Medical Organization Director representing the Association of American Medical Colleges
- Robert G. Atnip, MD, Member at Large
- Richard L. Byyny, MD, Executive Director
- Lynn M. Cleary, MD, Councilor Director representing the State University of New York Upstate Medical University
- Tonya Cramer, MD, Student Director representing the Chicago Medical School at Rosalind Franklin University of Medicine & Science
- Charles Griffith III, MD, MSPH, Incoming Councilor Director representing the University of Kentucky College of Medicine
- Eve J. Higginbotham, MD, SM, Member at Large
- Holly J. Humphrey, MD, Incoming Member at Large
- Jane Kimball, Administrative and Editorial Assistant
- Debbie Lancaster, Managing Editor, The Pharos
- Richard Latuska, Incoming Student Director representing Vanderbilt University School of Medicine
- Mark J. Mendelsohn, MD, Councilor Director representing the University of Virginia School of Medicine
- William F. Nichols, Assistant Treasurer
- Douglas S. Paauw, MD, President Elect, Member at Large
- Suzann Pershing, MD, Coordinator, Residency Initiatives
- Sheryl Pfeil, MD, Member at Large
- Barbara Prince, Controller
- Alan G. Robinson, MD, Member at Large
- Griffin Rodgers, MD, MBA, Incoming Medical Organization Director representing the National Institutes of Health
- Wiley Souba, Jr., MD, DSc, MBA, Member at Large
- Joseph W. Stubbs, MD, Secretary-Treasurer, Member at Large
- Laura Tisch, MD, Student Director representing the Medical College of Wisconsin
- John Tooker, MD, MBA, President, Member at Large

- Steven A. Wartman, MD, PhD, Member at Large.

Absent were:

- Christopher M. Clark, MD, Student Director representing the University of Mississippi Medical School
- Candice Cutler, Programs Administrator
- Richard B. Gunderman, MD, PhD, Member at Large
- Alan G. Wasserman, MD, Councilor Director representing the George Washington University School of Medicine and Health Sciences.

The minutes of the 2013 Board of Directors meeting in Denver were approved unanimously.

The investment program report was led by Dr. Stubbs and Mr. Nichols. Jennifer Ellison from Bingham Osborn & Scarborough was present, and Diana Lieberman, an independent investment consultant, attended by conference call.


Review of the investment policy followed.

Dr. Tooker announced the new officers of the board, effective the end of the meeting: Immediate Past President John Tooker, President Douglas Paauw, President Elect Robert Atnip. He welcomed the new directors to the board: Holly Humphrey, Griffin Rodgers, Charles Griffith, and Richard Latuska. He announced the renewal of terms for members at large: Robert Atnip, Eve Higginbotham, Joseph Stubbs, John Tooker.

Two honorary members were elected: Ignacio Sánchez Díaz, President of the Pontifical Catholic University of Chile, and John K. Iglehart, Founding Editor of Health Affairs.

Dr. Stubbs presented the 2013/2014 financial report.

Dr. Tooker presented the President’s report and reiterated AΩA’s mission statement, summarizing its relationship to the society’s strategic priorities in national office programs.

Dr. Byyny presented the Executive Director’s report. He summarized the national office organization and national programs, reviewed communication with members, and dues solicitations. He noted that this year the national office requested an annual report from chapters, and summarized the results. The chapter handbook that was produced last year will be updated in the coming year. The Commonwealth Medical College in Scranton,
Pennsylvania, was granted a charter in 2014. Hofstra North Shore—LIJ School of Medicine at Hofstra University was approved for a charter pending final LCME accreditation. Dr. Byyny and Dr. Tooker introduced the strategic priorities discussion.

Dr. Pershing presented her report on the resident initiative during the strategic priorities discussion.

Dr. Paauw presented his report on the Edward D. Harris Professionalism Award during the strategic priorities discussion.

Dr. Higginbotham and Dr. Byyny presented the report on the Fellow in Leadership Award during the strategic priorities discussion.

Dr. Tooker and Dr. Byyny introduced the diversity policy statement derived from the constitutional nondiscrimination statement. The diversity statement is as follows:

The primary criteria for board positions and programs and awards will be merit and achievement. AΩA supports diversity among its officers and board and in its programs and awards, including: race, ethnicity, gender, geography, academia, community, organizations, institutions, specialties, professional activities, physical disability, and sexual orientation.

The policy was adopted unanimously.

Ms. Lancaster presented her report on The Pharos.

Dr. Stubs and Mr. Nichols presented the proposed 2014/2015 budget. It was approved unanimously.

Dr. Tooker recognized and thanked retiring members: Student Director Tonya Cramer, Medical Organization Director Carol Aschenbrener, and Immediate Past President C. Bruce Alexander.

Dr. Tooker announced the dates for the 2015 board of directors meeting: October 2-3, 2015, to be held in Colorado.

Dr. Tooker recognized the incoming officers: Douglas Paauw as incoming President and Robert Atnip as incoming President Elect.

The meeting was adjourned.

Respectfully submitted,
Richard L. Byyny, MD, Executive Director

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**Alpha Omega Alpha elects new officers and directors**

Alpha Omega Alpha Honor Medical Society is pleased to announce the election of its officers and directors for the 2014/2015 year.

**Officers**

President—Douglas S. Paauw, MD, MACP (AΩA, University of Michigan, 1983) joined the AΩA Board of Directors in 2005 as a Councilor Director for the University of Washington. Dr. Paauw has been Councilor at the Alpha Washington Chapter at the University of Washington since the early 1990s. He is Director of Medicine Student Programs, a Professor of Medicine, and the Rathmann Family Foundation Endowed Chair in Patient-Centered Clinical Education. Dr. Paauw has received many teaching awards, including the AΩA Robert J. Glaser Distinguished Teacher Award in 2001. Dr. Paauw is also co-chair on the AΩA professionalism committee. His specialty is internal medicine.

Immediate Past President—John Tooker, MD, MBA, MACP (AΩA, University of Colorado, 1970) is beginning his second term as Member at Large. He joined the AΩA Board in 2009 as the Medical Organization Director, representing the American College of Physicians (ACP). Dr. Tooker is the Emeritus Executive Vice President and CEO of the ACP. He served as the Executive Vice President and Chief Executive Officer of ACP from 2002 through July 2010 and remains active in supporting ACP’s mission of excellence and professionalism by representing ACP to external organizations. Currently, Dr. Tooker also serves on the boards of NCQA, the National Quality Forum, and the Advisory Committee of Health Level 7 (HL7). His specialty is internal medicine.

President-Elect—Robert G. Atnip, MD, FACS, RPVI (AΩA, University of Alabama at Birmingham School of Medicine, 1976) is beginning his third term as Member at Large on the Board of Directors. He first joined the Board in 2006 as a Councilor Director. Dr. Atnip has been the Councilor at the Eta Pennsylvania Chapter at the Pennsylvania State University College of Medicine since 2002 and is a Professor of Surgery and Radiology. He is ABS certified in surgery, vascular surgery, and surgical critical care. His specialty is vascular surgery, vascular ultrasound, wound care, and hyperbaric medicine.
Alpha Omega Alpha elects new officers and directors

Douglas S. Paauw, MD, MACP
John Tooker, MD MBA, MACP
Robert G. Atnip, MD, FACS, RPVI
Joseph W. Stubbs, MD, MACP
Charles Griffith III, MD, MSPH, FACP
Holly J. Humphrey, MD
Richard Latuska, MSIV
Griffin P. Rodgers, MD, MBA, MACP
Secretary Treasurer—Joseph W. Stubbs MD, MACP (AΩA, Emory University, 1978) joined the Board of Directors in 2008 as a Member at Large and is now beginning his third term. In 2011, he became the Secretary Treasurer, an office he still holds. Dr. Stubbs is a private physician in Albany, Georgia. He is past president of the ACP (2009–2010) and currently the medical director of South Georgia ACO. His specialty is internal medicine/geriatrics.

Directors

Councilor Director—Charles Griffith III, MD, MSPH, FACP (AΩA, University of Kentucky, 2000, Faculty) currently serves as the Councilor to the Beta Kentucky Chapter at the University of Kentucky, a position he has held since 2004. Dr. Griffith is the Senior Associate Dean of Medical Education. He received the AΩA Robert J. Glaser Distinguished Teacher Award in 2004. His specialties are internal medicine and pediatrics.

Member at Large—Holly J. Humphrey MD (AΩA, University of Chicago, 1983) is currently the Dean for Medical Education at the University of Chicago Pritzker School of Medicine, and the Ralph W. Gerard Professor in Medicine. From 2001 through 2011, she served as AΩA Councilor to the Beta Illinois Chapter at the University of Chicago. Her specialty is internal medicine.

Student Director—Richard Latuska, MSIV (AΩA, Vanderbilt University, 2014) is a fourth-year medical student at Vanderbilt University. He received his undergraduate degree at the University of Notre Dame, where he graduated magna cum laude and was inducted into Phi Beta Kappa in 2011. Mr. Latuska is the son of a nurse and a gastroenterologist. He plans to specialize in pediatrics.

Medical Organization Member—Griffin P. Rodgers MD, MBA, MACP (AΩA, Warren Alpert Medical School of Brown University, 2008, Alumnus) has served as the Director of the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) since 2007. He is widely recognized for his contributions to the development of the first effective (FDA-approved) therapy for sickle cell anemia. He performed basic research that focused on understanding the molecular basis of how certain drugs induce fetal hemoglobin gene expression. He was also a major collaborator in developing a modified blood stem-cell transplant regimen that is highly effective in reversing sickle disease in adults with relatively low toxicity. His specialty is hematology.

Letters to the editor

“The care of the patient”

I greatly enjoyed reading your editorial in the recent issue of The Pharos (Autumn 2014, pp. 2–3). It summarized my current struggles with medicine. I’m an intern in Pediatrics and just finished a month of general inpatient pediatrics. To sum it up, I feel as if I just spent a month in the twilight zone. The paragraph regarding Dr. Marr’s article perfectly summarized many of my qualms. Two points I would also include are the redundant notes (both I and the fellow/attending must write daily progress notes) as well as the barriers to great nursing-physician communication. But the penultimate frustration I am running into is that it seems as if our current medical system has the severe side effect of eroding any idealism a young resident may carry. Multiple times I have attempted to go beyond acting like the “shark” and offered to care for a patient more intimately post-discharge (with home visits for example), only to be told that it doesn’t fit proper protocol. I’m worried that the “caring” component our MD title carries has been transformed from its older idyllic form to one that must fit in the constraints of for-profit medicine. My single goal has become to finish residency with my “caring” and “idealism” intact. The next step would be to find/create a system that highlights these characteristics rather than the “bottom-line.”

Igor Shumskiy, MD (AΩA, University of Colorado, 2014) Boston, Massachusetts

“David Seegal”

I loved Dr. Dans’ article about David Seegal in the Autumn Pharos (Autumn 2014, pp. 4–9). It brought back memories, and I have an anecdote to share. I was a visiting student (from Harvard, at the suggestion of John Loeb, who preceded me there two years earlier) on the Goldwater Memorial Hospital service, where I had the joy of working under Dr. Seegal and Dr. Arthur Wertheim. Indeed, I credit my experience there with the origin of my career in chronic illness.

My introduction to the Columbia way of doing things began with the first patient I presented to Dr. Seegal. I started my presentation in the casual (Boston) way I knew: foot on a dropped bed rail, notes in hand. I was immediately instructed to stand straight, remove the foot, and dispense with the notes. To be certain that I understood, Dr. Seegal called for a strip of gauze bandage, whereupon he proceeded to tie my hands behind my back. (The things that we accepted in those days!)

The lesson stuck, and I kept the bandage in my drawer as a reminder for years thereafter.

The other side of the story is that, later, when I did a fellowship at Columbia, I saw a lot of residents make up data rather than say ic ne wat. On the other hand, the CML2 reflex stays on to this day.

Michael D. Lockshin, MD, MACR (AΩA, Cornell University, 1979) New York, New York
Holy silent killer
sent to find and root out
the ugly, monstrous foreign cells
that turn the healthy pink tissue
to sickly gray.
Your hateful, nauseating touch
lifts me from the tear-filled dark
up to the blessed light of day.
Come, healer—
I embrace you,
and when you've done
your healing miracle
may the waters of Lethe
cleanse my mind of black memories.
A bright new world awaits.

Barnett Zumoff, MD

Dr. Zumoff (ΔΩΔ, SUNY Downstate Medical Center, 1992) is professor of Medicine at Albert Einstein College of Medicine. His address is: Beth Israel Medical Center, Milton and Carroll Petrie Division, First Avenue at 16th Street, New York, New York 10003. E-mail: bzumoff@chpnet.org. Illustration by Jim McGuinness.
I knew you as a heavy breather.
Each inhalation commanding the flare
of nostrils, fearful and strong,
two expansive spheres limited
only by the elasticity of your skin,
and the struggle to reclaim
all that had escaped the moment prior.

I watched you as you slept,
even then filling your chest with pride,
a gowned, blue-breasted creature
exhaling slowly by mouth, the mist
hovering above your lips like a secret
meant for the singular ear
of your late wife.

Suddenly, you
wheeeze...struggle...pant...
in a manner that does not fit
the wise furrow of your eyebrows,
the eyes of a once stoic man
now painfully narrowed, as though straining
to see through the dark, ultimately exhausted
by the last breath
that was your own.

Now you breathe
through a hole
in your neck.
The sound like dishes
breaking in an earthquake,
unyielding and sharp,
and hardly like air at all.

Jana Lichtenfeld, MD
A proud reflection of AΩA

AOA’s new scarf highlights the society’s insignia, based on the shape of the manubrium sterni. The center medallion feature the Pharos lighthouse of Alexandria, one of the seven wonders of the ancient world, for which AΩA’s journal is named. The borders are stylized DNA strands.

Alpha Omega Alpha neckties or freestyle bowties are fashioned from fine silk.

Scarves are 35 x 35 inches, of 12 m/m silk twill with handrolled hems. Four colorways are available as shown: red/black, turquoise/purple, peach/mint, and navy/lavender. Scarf design by J&J Designs of San Francisco (jnjdesigns.biz).

To order, send a check for the appropriate amount to: Alpha Omega Alpha, 525 Middlefield Road, Suite 130, Menlo Park, CA 94025. Or order online at www.alphaomegalpha.org/store. Price includes shipping and handling.