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The Cancer Letter is taking a publication break. We will return on Sept. 6.

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A professional portrait of Elizabeth Comen, MD, a woman with long, wavy brown hair, wearing a maroon top. She is looking slightly to the left of the camera with a gentle smile. The background is a plain, light gray.

**“All in Her Head” catalogs
the history of medicine's
atrocities against women**

Elizabeth Comen, MD

*Associate professor, Department of Medicine,
NYU Langone Health's Perlmutter Cancer Center*

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Comen spoke with
Jacquelyn Cobb, a reporter with
The Cancer Letter.

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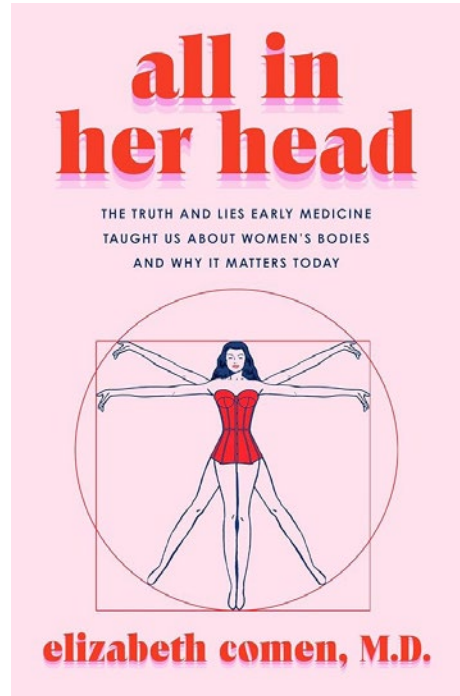
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THE CANCER LETTER

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I had every resource available to me, and yet I still apologized. I still felt shame. I still minimized my pain and neglected my own health. So, what does the average woman do, who doesn't have resources, who doesn't have any of the agency that I had, and who didn't just write a book about advocating for your own health?

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Elizabeth Comen originally set out to write a book about the wellness industry, but ended up writing a different book altogether.



The book she wrote, "All in Her Head: The Truth and Lies Early Medicine Taught Us About Women's Bodies and Why It Matters Today," tells the stories of the countless women throughout history who were dismissed, forgotten, controlled, sexualized, shamed, or brutalized by the medical system.

Is it possible that these horrific practices and beliefs still harm women in the modern healthcare system?

"In the process of caring for thousands of women and being a daughter, a sister, a mother, a wife, and then add to that the experience of all of the patient stories shared with me, all this coalesced into an unwavering passion that I felt I could not neglect to really try to unpack," Comen, a breast oncologist, said to *The Cancer Letter*. "What is this legacy that we've inherited, both as patients, but as physicians, as it relates to the experience of illness for women in our country and then, obviously, in

my own practice? I felt absolutely compelled to do it."

Comen, who spent 15 years at Memorial Sloan Kettering Cancer Center, first as a fellow then as an attending, is now an associate professor of medicine at NYU Langone Health's Perlmutter Cancer Center.

Hair-raising stories abound in this book. There is the tale of the 1907 kidnapping and imprisonment of "Typhoid Mary" Mallon, for being a carrier of typhoid. And there is the story of Timmie Jean Lindsey, who, in 1962, was talked into becoming the first human to receive breast augmentation surgery utilizing encased silicone. Lindsey wanted a tattoo removed from her breast, and doctors promised to give her tattoo removal plus cosmetic surgery on her ears if she agreed to undergo augmentation as well, Comen writes.

There is also the story of Henry A. Cotton, a surgeon, who in the early 20th century made an illustrious career of treating mental illness by removing the teeth, tonsils, gallbladders, stomachs, spleens, cervixes, colons, and ovaries of his patients.

Stories of women whose symptoms are overlooked or dismissed until it's too late emerge as an organizing principle of this book.

Writes Comen:

The first time Sierra tells a doctor she can't breathe, it's at the urgent care center near her daughter's preschool. She's walked here straight from drop-off, and while it's a beautiful spring day and the distance is only a few blocks, she's already winded. She's always winded, she says, and it's getting worse. She used to run for exercise, even trained for a half marathon; now she

has to stop, bent double and gasping for air, before she's even gone a mile. At home, her children run circles around her. She can't keep up.

The doctor gestures toward the window, and the budding trees beyond it.

"Allergies," he says. "I'm struggling with them myself."

He sends her home with an antihistamine.

The second time comes weeks later. Same clinic, different doctor. Again, she lists her symptoms—shortness of breath, decreased stamina, and now a steady ache in her shoulder that gets worse whenever she coughs. The doctor squeezes her shoulder and diagnoses her with a strained muscle. He points to her chart, the notes from her last visit.

"You have seasonal allergies, yes?" he says. "Try not to cough so hard."

The third time, the doctor is the same one who diagnosed her with allergies. It's been months now, and Sierra's cough is worse. She hasn't exercised in ages, and can barely walk a block or lift up her daughter without gasping for air. She's lost fifteen pounds anyway. The doctor frowns and says it looks like acid reflux. He sends her home with a prescription antacid. He says she'll be better soon.

The fourth time, Sierra doesn't go to that clinic. It's winter now, the blooms on the trees long since fallen, the antacid she was given six months ago long since finished. If it helped at all, it was only for a moment; now, a single breath of cold air causes her to cough uncontrollably. When she drives to the emergency room, it's partly because it's easier, but also partly because she

wants to see a doctor she hasn't seen before. One who won't wave her away, telling her it's allergies, or muscle strain, or heartburn, when all she wants—all she's ever wanted—was for them to actually look at her lungs.

The X-ray takes just a few minutes.

The doctor's face is grim.

"I'm afraid it's not good news," he says. "It's a shame you didn't seek care sooner."

It was lung cancer. By the time Comen met Sierra as a first-year fellow at MSK, the disease had metastasized throughout her body. Sierra died within a year.

"Respiratory medicine is plagued by the same tendency as other fields to write off a woman's symptoms as anxiety without searching more deeply for an organic cause," Comen writes.

Many diseases doctors like to describe as "silent killers" aren't, and the catch phrase is a dangerous misnomer.

Writes Comen:

Most women with early-stage ovarian cancer experience symptoms for which they often seek medical help. In 2022, gynecologic oncologist Barbara Goff surveyed 1,700 ovarian cancer patients and founds that misdiagnosis was rampant: "15% had their symptoms attributed to irritable bowel disease, 12% to stress, 9% to gastritis, 6% to constipation, 6% to depression and 4% to some other cause. Thirty percent were given treatment for a different condition. And 13% were told there was nothing wrong."

The problem is not that ovarian cancer is silent; it's that we're not listening.

Physicians are accustomed to having answers, Comen said. Bringing about change will require courage.

"I think it takes us having the bravery to take a step back and say, 'What are the things we think we know?'" Comen said to *The Cancer Letter*. "Take a step back—from as early as preclinical studies, to clinically meaningful treatments and drug development, ask, 'How can we really listen to what women are experiencing so that we can better address their needs?'"

Being a physician, a woman, and a patient can mean having to undo a tangle of shame and dismissal, Comen said.

Her example: six weeks following a back surgery, she developed a severe headache that got better when she was lying flat.

"As I explain more fully in my book, it was very classic for a cerebrospinal fluid leak, but in the course of trying to get help, I felt woefully shamed in all of it," Comen said. "I didn't trust my own gut, even when I had the medical knowledge. I apologized for the pain that I was in at the time I sought care, having been told I was 'crazy' for thinking I could have a dural tear over a month after surgery. A delay in diagnosis meant ongoing unnecessary suffering until I was readmitted to the hospital for an extended period of time."

Anyone can fall into that trap, Comen said.

"I had every resource available to me, and yet I still apologized. I still felt shame. I still minimized my pain and neglected my own health," Comen said. "So, what does the average wom-

an do, who doesn't have resources, who doesn't have any of the agency that I had, and who didn't just write a book about advocating for your own health?

"So, it's at once kind of horribly depressing, but I share it to say that I have a lot of empathy for what people can go through, and it's also to say that I don't care who you are. I don't care if you're Albert Einstein, if you are in extreme pain or anxious from a diagnosis, even if you're the most brilliant physician or researcher in the world, you can't advocate for yourself from a place of weakness. We can hope that those who are providing care for us will hear us and see us and validate us and advocate for us. But sometimes an imperfect healthcare system can't do that."

The process of writing "All in Her Head" has given a new wave of inspiration to Comen's work as an oncologist.

"For me, writing this book, researching this book, really reinvigorated my passion for medicine and my passion for how I think we should be caring for patients," Comen said.

Her vision for caring for patients? Valuing traditionally feminine qualities in the clinic, as much as the traditionally masculine qualities that are currently exalted, she said in a conversation with *The Cancer Letter*.

Said Comen:

We've all, as providers or as patients, we've all read the studies that women listen better, that female patients have better outcomes when they're operated on by a woman. But that does not mean that men can't do that, too. We all know that there are incredible male providers.

What is inherent to the system that we've built is that we have not val-

ued the same qualities in men vs. women, regardless of their sex.

We should not just expect women to uniformly be the "mom consult," (as I heard from countless female physicians regardless of speciality), i.e. that women inherently listen better and have more empathy. Anyone can be empathic and a good listener. We should be encouraging and nurturing those qualities in medical students from the very beginning and at the very top of leadership.

It shouldn't just be that fields that have continuity of care—fields that are perhaps paid less, but require longer time with patients—are dominated by women, while you have these other subspecialties that are dominated by men.

I think there needs to be a diversity of spirit and approach in all specialties. It doesn't matter what your sex someone is—if we're not valuing the different ways to provide care, then we're not fully delivering holistic care.

Comen spoke with Jacquelyn Cobb, reporter with *The Cancer Letter*.

Jacquelyn Cobb: Thank you so much for taking the time to meet with me today.

Your book astounded me, it enraged me, it held me captive the whole time. The historical and modern injustices against women are flabbergasting, even for someone who has some prior knowledge and has lived experience as a woman. How was it for you, researching this, writing this?

Elizabeth Comen: Well, I've definitely been asked that question a lot of times, and my thoughts on it have evolved.

The really transparent, honest answer is that I majored in the history of science in college, but I never would have imagined writing what people are describing as feminist literature. To me, for so long, women's health was reduced to gynecology.

And even though I was passionate about cancer and breast cancer, I didn't imagine that I would become this women's health advocate.

In the process of caring for thousands of women and being a daughter, a sister, a mother, a wife, and then add to that the experience of all of the patient stories shared with me that I heard, all this coalesced into an unwavering passion that I felt I could not neglect to really try to unpack.

What is this legacy that we've inherited, both as patients, but as physicians, as it relates to the experience of illness for women in our country and then, obviously, in my own practice? I felt just absolutely compelled to do it.

In that, I have stepped into this genre and role that I never imagined I probably would have.

Well, I'm so glad you did.

How was this book born? Is there a genesis moment that happened? When did you know you were going to write a book about this topic, rather than just pursue it as a passion?

EC: Originally, I thought I was going to write a book on the naturalistic fallacy that so many women fall into—this trap of wellness that is really unwell.

And that's what I originally thought I wanted to write about, and how that plays out into cancer treatment today. And where are we missing the mark, and how can we do better? And how can we take care of the whole person better?

And as I thought more and more about what it means to be a whole woman and a sick woman, beyond the cancer diagnosis, and where do we miss the mark? It was natural for me to want to include the history of medicine in this exploration.

Feeling that I was equipped to include the history was the hardest part. I felt very confident in the here-and-now, modern medicine, and that I could tackle that. But I definitely had imposter syndrome when it came to really believing that I could delve into the history of the entire body of work of women's health.

And how could I make this manageable and bite-sizeable and relatable? Because the last thing I wanted to do was a death by PowerPoint equivalent of a book that was academic and completely inaccessible, that people would say they read because it was intellectual, but no one actually ever read it, and no one felt anything meaningful from reading it.

We all know those books. They do well in some circles. But that wasn't what I wanted to write.

And for me, what really was the catalyst was several different moments. One was reading a book on the history of nymphomania and the story of Horatio Robinson Storer and what he said about nymphomania and women.

And I was just so horrified by this man who was such a stakeholder in the history of women's health—and it motivated me to go back in time and explore who built the system of medicine as we know it today. Who were these personalities? And how did they impact, including the

throughlines to today's practice of medicine for women?

Secondly, I had a colleague, a very close young colleague, Dr. Tomas Lyons, who passed away suddenly in clinic a few years ago. He literally dropped dead in my arms, suddenly.

And one of the last conversations that we had was my secret wish to write this book, and the last thing he said to me was, "You got to write the damn book, Elizabeth."

So, when he died, I was trying to find—we all try to find meaning in grief, and I really wanted to honor his legacy, his care of women, as it was extraordinary. Honoring his life and his remarkable commitment to caring for women was one of the deep motivations for me to write the book as well.

Thank you for sharing that. I'm so sorry for your loss.

EC: Thanks.

In terms of you not writing a death by PowerPoint book—all of the examples and the way they were written were so gripping.

There are multiple heart-wrenching examples of specific women who had diseases, and specifically cancers, like lung and ovarian—totally missed until it was too late because physicians wrote off the symptoms as anxiety or stress, or even as other diseases.

What can modern physicians do to avoid these pitfalls to avoid missing cancer specifically, but also other diseases in women? And what can oncologists do to avoid dismissing their patient's symptoms?

EC: Well, there are so many things, and I know that a lot of the book's examples are egregious and terrifying. But there's a lot of also hopeful stories of people of both genders, both sexes really being remarkable.

Whether it was Michael Lockshan and his caring about his medical student's wish to have children after she was diagnosed with lupus, and how that inspired him in his entire career, or whether it was Dr. Saadi Ghatan and his work with epilepsy patients, or Dr. Omri Ayalon at NYU, developing a prosthetic arm for a patient after really listening to what her needs were, which was not to have a robo-arm, a robotic looking arm, but an arm that looked like her real hand.

I think the biggest thing is thinking about what are the ways—and taking a step back to think about what are the ingested ways—that we have, whether we're a man or a woman, drank the Kool-Aid of what it means to be a patient, particularly as a woman, and experience illness.

And there is a little bit of hubris that we need to have. This is something that Dr. Lockshin and I spoke a lot about, because he's a rheumatologist, is that often, when we don't know, and we're used to being so smart and being able to study things and figure them out—whether we're scientists or physicians—that when we don't know something, often the default is to say, "Well, it must be because something is inherently wrong with the next person, as in it's psychosomatic or all in their head, because I don't know."

And I think a big component of the path forward is to recognize what we don't know, what we think we know, and acknowledge what we really don't know. And to start a little bit more from the ground up of listening to those people who are afflicted, whether it's cancer or other illnesses.

Think about how many syndromes are attributed to women, constellations of symptoms, not yet described as diseases with known pathology because we simply haven't devoted the resources, time, and interest into investigating them. Or perhaps the diseases that we think are relatively sudden in presentation and without warning.

A good example would be ovarian cancer. Is ovarian cancer really a silent killer? When you talk to patients, they describe their symptoms far sooner, far earlier than, in many instances, they are acknowledged and worked up for. So, I think it takes us having the bravery to take a step back and say, "What are the things we think we know?"

Take a step back, from as early as pre-clinical studies to clinically meaningful treatments and drug development, ask, "How do we really listen to what women are experiencing so that we can better address their needs?"

Even in the case of lung cancer, for example. Lung cancer kills so many women, including a huge proportion of women who have never smoked. Is that correct?

EC: That's a huge unmet need. The rise of lung cancer among non-smoking women.

In the absence of knowing for sure, what comes up is the stereotypes that everybody just leans on, if they don't find that bravery you mentioned.

EC: Yeah. And that includes all of us, whether we're newly practicing or have been practicing for decades.

Funding in medicine inevitably follows what the field and broader culture deems important. There are many examples of this in your book, but I thought a really salient one was that of ACL tears in women, and that even once the phenomenon of ACL tears being much more likely to occur in women than men, and in different ways, research is still focused on "non-modifiable risk factors" as opposed to "modifiable risk factors."

This example really touched on the fact that there's this underlying assumption that women's bodies are inherently inferior to men's, even in the modern age. Could you speak a little bit about this for people who haven't read your book yet?

EC: Sure, if you look at the history of Western medicine, there has never really been a consistent message that women's bodies are as powerful or as intelligent, and thus as capable, as men's.

And throughout history, from anatomical depictions to drug delivery, there is a pervasive idea that women are, at best, a smaller version of a man, or other times an imperfect, inverted version of a man.

Historically, the 70 kg man reigned supreme as the model for disease presentation and exploration—when in fact, at every biological and metabolic level, we know that women are not small men.

When I tore my ACL at 14 years old, it really impacted my life. I was a dancer. I was an athlete. I saw a great surgeon at the time. We're all products of the

context of our times—so I relay this story with grace and respect for him.

He essentially said to me, "Well, let's see how active you become for the rest of your life." And I tried to continue dancing and playing sports without an ACL for four years thereafter.

And I am a crazy "worker-outer." There isn't a fitness trend that I haven't tried. I still dance, I still play sports. I still work out, and ultimately, four years later, I ended up having another knee injury and needing the whole knee pretty much reconstructed.

I don't think that would have been said to me if I were a 14-year-old male soccer player.

You do have a lot of sort of examples of hope and you know positivity in this in the book, but it is really easy to get sort of fired up and downtrodden about all this.

EC: There's also this cultural component of, are women allowed to be angry?

I met with an oncologist, an older oncologist. And he said, "Wow, I can't believe how nice you are, and friendly. I thought you were going to be a lot angrier."

I think we should be allowed to be angry about the things that deserve the rage. Sometimes, that rage is powerful and constructive when unpacked and dissected in ways that are useful.

I'd love to dive into the topic of sex as a biological variable, and how NIH now mandates inclusion of women and minorities as participants in research involving human subjects. I'm also thinking about the basic science research in male mice, because female mice were considered too difficult to work with, and how that relates to immunotherapy in cancers.

EC: It wasn't until 1993 that the NIH was required to include women in clinical trials, and some of this was based on the idea that women of childbearing age should be protected.

But the underlying message there is that we are vessels, that our mission is to reproduce. And there were a lot of consequences to not including women in clinical, NIH-funded trials, or many trials, for that matter, whether it be the study of cardiovascular drugs, whether it was the study of chemotherapies, all sorts of different types of medications were biased towards understanding them in men, and then assuming the same would apply to women.

And it wasn't just medications. It's also devices as well, and other interventions.

The other thing to note: It wasn't until 2016 that researchers were required to state the sex of the mice used in laboratory studies. I actually wanted to title one of the chapters "Of Mice and Men."

How many of these preclinical trials and studies were done on male-derived mice across the board? And certainly, when you look at chemotherapies or immunotherapies, women have different side effects, and can have different metabolic reactions to the medications that they're receiving.

Do you think that that's pretty much been ameliorated now?

EC: The National Institute of Health published a policy in 2016, requiring researchers to include male and female subjects and samples and experiments.

And a recent Congressionally Directed Medical Research Programs policy on sex as a biological variable said that beginning with applications submitted to FY25 funding opportunities, the CDMRP expects researchers to study both males and females, unless there's a strong justification from the scientific literature, preliminary data, or other relevant considerations for only studying one sex.

You briefly touched on the issue of trans health in this book. I appreciate that you did, because a lot of books about women's health totally exclude trans women. But I'd love to give you the opportunity to expand on the topic, considering that trans women, in my understanding, have some of the worst health outcomes.

EC: I was just looking at an article in The New England Journal of Medicine: "A legacy of cruelty to sexual and gender minority groups."

The reality is, I wrote this book as a history of women's health, and as defined historically as women as XX. Historically, we didn't have other nomenclature in medicine. This is all, of course, very recent.

But there is certainly history that needs to be explored and exposed along these lines with respect to sexual orientation and gender minorities.

That was really not the intention of my book per se, but I hope to acknowledge that as much as there's a history of bias towards women, that extends to a spectrum of orientations, as well.

This history was really apparent when I was looking at the history of the study of endocrinology, and then discovery of estrogen and testosterone. The binary bias in that discovery (i.e. that estrogen is in women and testosterone in men) impacts medical research—such as the assumption that "effeminate" men were going to have more estrogen, or that you could "convert" effeminate men by giving them testosterone. And obviously, this is at best, preposterous, at worst, torturous and horrific.

So, the book touches upon this history, and certainly, I hope there is more done to illustrate the historical bias therein.

I'm definitely looking forward to reading that NEJM article.

I would love to touch on women's complicity, both as patients and as physicians, in the ongoing pervasiveness of these issues. I thought that your example of your cerebrospinal fluid leakage was really powerful.

EC: I think the key for me in reading this history is that it's very easy to look at it as black and white—to look at it as "The people who built this system were terrible. Their intentions were bad."

And that includes women who may perpetuate some of these stereotypes.

But I think I really try to see this and approach it with a lot of grace and forgiveness, including for myself and for those of the past, because as angry as I am at so many of the things that I read about, it's not going to serve me or our health

system as much as the energy of constructive thought will, moving forward.

But the example that I use at the end of the book was not one that I anticipated or expected.

I had written the entire book. I'd had a minor back surgery, and six weeks after the surgery, I had a horrible—this is not part of the book—GI bug. My whole family was sick. I ended up working shortly before the holidays, and I probably should have called out sick, but I didn't want to say that I was sick. I had already taken leave for when I had this back surgery.

But I was really quite sick, and I don't know how or why, but I developed a dural tear in the area of the surgery, and I was leaking CSF.

And I was at a New Year's Eve party, and very long story short, I noticed that when I lifted my head was when I had an excruciating headache. When I would lie back, I felt better. It was very classic for a CSF leak, but in the course of trying to share this diagnosis with both doctors that were not my doctor, but also doctors who were caring for me, I felt woefully shamed in all of it.

And I mean, that's putting it nicely. I'll leave it for the book to read for anyone who wants to read what happened.

But the point is that I didn't trust my own gut, even when I had the medical knowledge. I apologized for the pain that I was in at the time I sought care. I was really quite ill, and could have had a catastrophic event from that.

And even in those moments—I had every resource available to me, and yet I still apologized. I still felt shame. I still minimized my pain and neglected my own health. So, what does the average woman do, who doesn't have resources, who doesn't have any of the agency that I had, and who didn't just write a book about advocating for your own health.

So, it's at once kind of horribly depressing, but I share it to say that I have a lot of empathy for what people can go through, and it's also to say that I don't care who you are. I don't care if you're Albert Einstein, if you are in extreme pain or anxious from a diagnosis, even if you're the most brilliant physician or researcher in the world, you can't advocate for yourself from a place of weakness.

And we can hope that those who are providing care for us will hear us and see us, and validate us, and advocate for us. But sometimes an imperfect healthcare system can't do that.

And we all need someone to champion us, and be by our side, whether it's a friend or a family member, to bring somebody to an appointment, or to an emergency room when things really go sideways, because we all need someone to advocate for us.

In the book, you mentioned that medicine has not been feminized with increased gender parity. I really appreciated that idea that you proposed, of elevating and giving greater respect to the traditionally feminine attributes in the field, such as treating patients as a comprehensive system, rather than a series of broken parts.

And you have some other examples in the book as well. To read just one quote, "What if we valued these skills as highly, and rewarded them accordingly, so that all doctors have a powerful incentive to engage with patients in this way?"

I'd love to give you a platform to speak a little bit more about this, for our readers.

EC: I'm really passionate about the idea that this book is not to say that there should be warring factions between men and women. We've all, as providers or as patients, we've all read the studies that women listen better, that female patients have better outcomes when they're operated on by a woman.

But that doesn't mean that men can't do that, too. And I think that we all know that there are incredible male providers.

What is inherent to the system that we've built is that we have not valued the same qualities in men vs. women, regardless of their sex.

We should not just expect the women to uniformly be the "mom consult," (as I heard from countless female physicians regardless of speciality), i.e. that women inherently listen better and to have more empathy.

Anyone can be empathic and a good listener. We should be encouraging that and nurturing those qualities in medical students from the very beginning and at the very top of leadership.

It shouldn't just be that fields that have continuity of care—fields that are perhaps paid less, but require longer time with patients—are dominated by women, while you have these other subspecialties that are dominated by men.

I think there needs to be a diversity of spirit and approach in all both specialties. We should value the more ineffable, but also the characteristics in a physician that we value, and that includes both those who are primary caregivers, but also those in positions of leadership, because it doesn't matter what your sex someone is—is if we're not valuing the different ways to provide care, then we're not fully delivering holistic care.

Even if you just look at NCI-designated cancer center directors, only 10 are women. How can we get more women into leadership positions, especially when leadership propensity is based on very masculine metrics of success?

EC: Well, you're asking me the question, and you're doing it in an important publication. So, hopefully, people will read it and be a little bit more open-minded.

But I think this really speaks to the point that when we have more variety and diversity in leadership, it will also change who's at the table, and who's listening to the problems that need to be addressed.

It goes back to all of these unmet needs. Whether it's ovarian cancer as a silent killer. Whether it's that 80% of autoimmune diseases are in women, and somehow we don't know why. There's so much for us to investigate.

If we have more people who are curious, as opposed to dismissive of what these broader questions can be and are, and are open-minded, I think we'll move the needle towards more equitable care across the board.

How would you summarize your goals in writing the book?

EC: There are two different ways to look at this: both as a patient and then as a physician.

As a patient, the book is clearly not prescriptive. This is not a 12-step guide to your wellness; take a bath, make sure you have your checkup, sleep well, eat more protein. This is really about stories, stories from the past, stories from the present, and stories from that

past-present continuum that plays out when you are not well.

And what I invite the reader to do in this book is to think about when you read these stories that seem so foreign, but yet they clearly trigger something in so many of us, is to say what are the stories that you've told yourself about your body as a result of history, as of a result of culture, as a result of maybe ancestral heritage and what your family has told you about your body?

And to think, "How could I tell myself a different story about myself? What are the places where it is negatively impacting me?" and "How, in turn, when I go to my next doctor's appointment, or I'm thinking about something with respect to my body, can I ask that question I always wanted to ask? Can I advocate for myself just a little bit differently?"

So, the book is not a pure answer, but an invitation to think differently about how you see your own body as a part of a broader society, but also your relationship with yourself.

It's also an invitation to physicians to say, including myself, "How are you trained? How does that approach—how you enter a patient exam room, and maybe even how you negotiate for yourself about what you value in yourself as a physician, how together, if we continue thinking of and questioning these narratives that we've so, maybe unwittingly, ingested—how can we perhaps create a new future narrative that's a little better?"

Well, thank you so much. Did we miss anything?

EC: I think so many people go into oncology because we have a love of the science and a dream of better outcomes. But many of us are also drawn to the

field for the uncomfortable conversations, for the willingness to sit with patients in incredibly hard moments, and to ask those existential questions, often very creatively, both of themselves and of their patients.

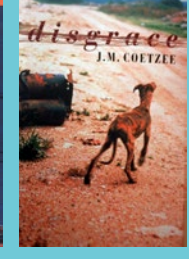
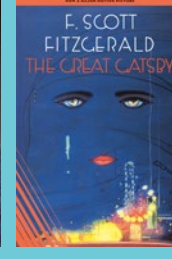
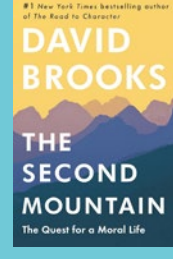
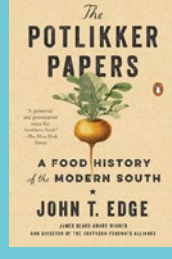
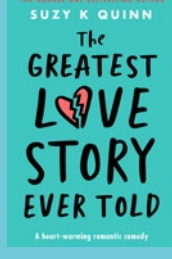
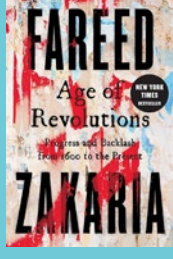
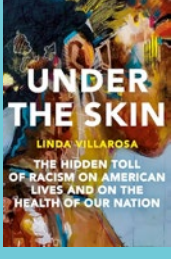
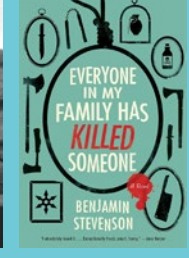
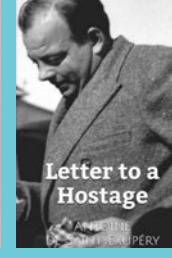
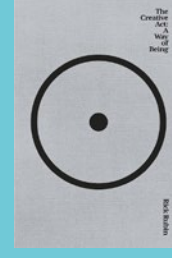
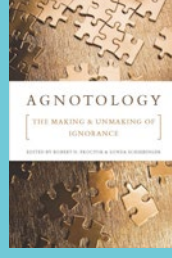
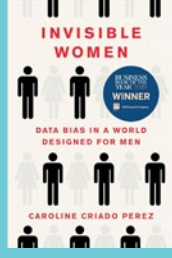
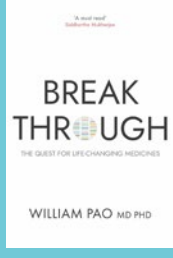
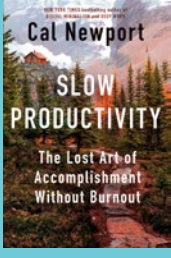
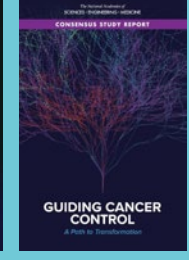
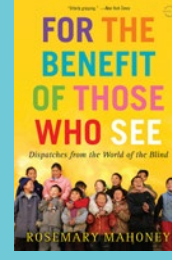
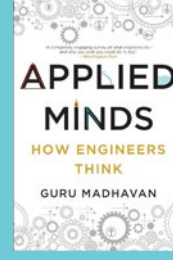
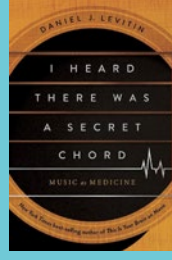
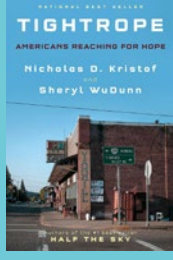
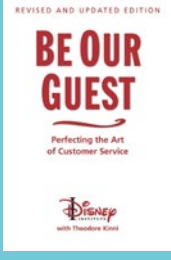
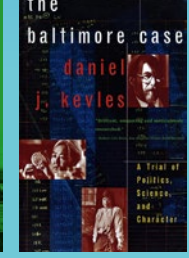
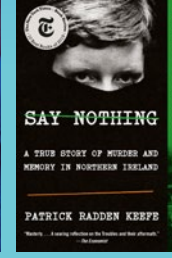
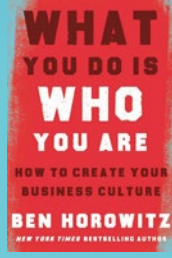
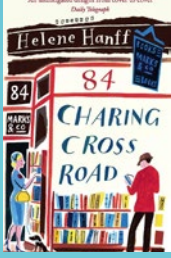
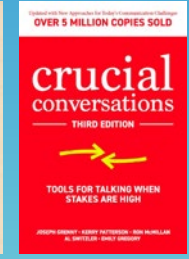
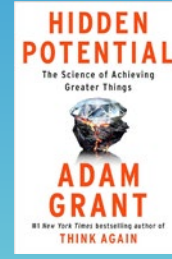
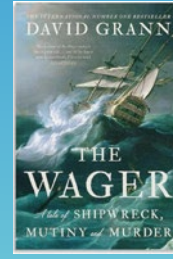
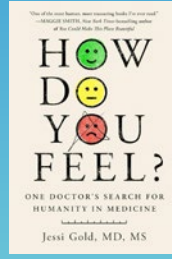
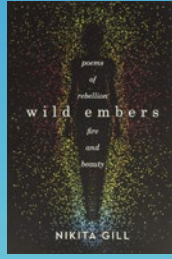
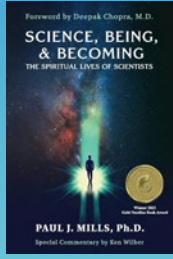
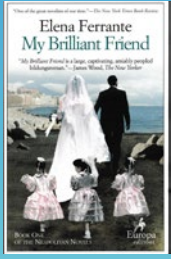
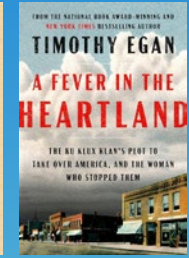
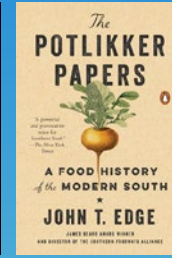
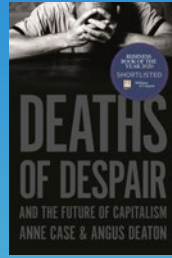
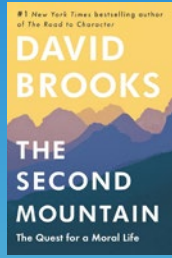
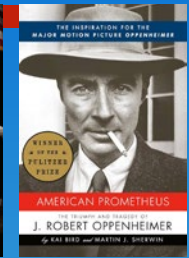
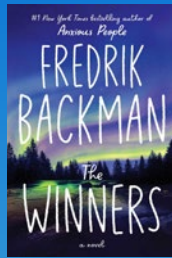
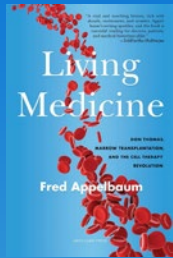
Out of that, I know there are probably many people who have a book in themselves that they might want to write. And for me, writing this book, researching this book, really reinvigorated my passion for medicine and my passion for how I think we should be caring for patients.

So, my other piece would be: If there's anybody reading this who has a story in them, don't be afraid to share it and go for it.

Thank you so much.

“What is inherent to the system that we've built is that we have not valued the same qualities in men vs. women, regardless of their sex.”

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BOOK REVIEW

What are you reading in 2024?

By Katie Goldberg

The
Cancer Letter's
summer reading
list is here and it's full of titles
to help you drive professional growth, reflect on
a divided nation—and even explore a little “neural
nostalgia” with Beyoncé.

Since 2020, *The Cancer Letter* has tried to capture the ethos of the year by asking a panel of clinicians, basic scientists, early-career faculty, patient advocates, government officials, and regulators this simple question: What are you reading?

Some years, the books reflect a need to make sense of a complex world (2020: “[What the hell is going on?](#)”, 2021: “[How can we be better?](#)”). Other years, they

reflect a need for escape (2022: “[The year of the thriller](#)”). In 2023, the list was dominated by science and memoir (*The Cancer Letter*, [Aug. 11, 2023](#)).

This year, the reading list features the highest density of nonfiction selections of any prior year (74%), with novels comprising only 20% of recommended titles. The list also includes a poetry anthology, a podcast, and a Beyoncé album.

“*The Demon of Unrest: A Saga of Hubris, Heartbreak, and Heroism at the Dawn of the Civil War*,” by Erik Larson, is in part responsible for skewing the nonfiction statistics this year—it was recommended four times by *The Cancer Letter*'s panel.

Andrew E. Chapman, director of Sidney Kimmel Cancer Center and enterprise vice president of oncology services at Jefferson Health, calls it a “terrific and

detailed account of the months leading up to the attack on Fort Sumter and the start of the Civil War.”

Several expressed concern about how the book reflects the divisiveness they see today.

“History may be repeating itself. Much of the politically-based rhetoric and incivility seen then is repeating itself now,” said Otis W. Brawley, Bloomberg Distinguished Professor of Oncology and Epidemiology at Sidney Kimmel Comprehensive Cancer Center.

“The story is relevant in today’s divided political and social environment in the United States and reminds us that we have gone through incredible challenges before and that this is not the first time that the people of this nation grew apart,” said Daniel M. Geynisman, chief of the division of genitourinary medical oncology at Fox Chase Cancer Center and editor-in-chief of *JNCCN*. “Knowing that we were able to move past that once is something I find comforting.”

Radiation oncologist Stacy Wentworth also recommended the book, but something Larson said in person has stuck with her even more.

“This summer, I bought tickets to hear Erik Larson speak at our local bookstore. In these fraught political times, I hoped his take on the months leading up to the Civil War would quell my anxieties,” she said. “An audience member asked Larson what lesson he learned from writing this book. His answer still haunts me: ‘When extremists tell you what they’re going to do, believe them.’”

Extremism was on Robin Zon’s mind, too.

Zon, ASCO 2024-2025 president and physician emeritus at Michiana Hematology Oncology, recommended “Fever in the Heartland: The Ku Klux Klan’s Plot

to Take Over America, and the Woman Who Stopped Them,” by Timothy Egan.

“This year (May 2024), my hometown celebrated the 100th anniversary of the confrontation known as the ‘Notre Dame versus the KKK,’ which occurred during the time of the book,” Zon said. “I would describe the book as a disturbing example of humanity at its height of imperfection and brutality—and yet a stunning story of the woman who sacrificially stopped it.”



An audience member asked Larson what lesson he learned from writing this book. His answer still haunts me: ‘When extremists tell you what they’re going to do, believe them.’



– Stacy Wentworth

“I enjoy books that give me a different perspective on history and events,” said NCI Director Kimryn Rathmell about her selection, “The Potlikker Papers: A Food History of the Modern South,” by John T. Edge, which explores post-Civil War history in a new way—through cuisine.

“Many of those events we’ve heard before, but sharing the impact farmers, cooks, and home cooking had on them—many monumentally—provides a different level of insight and connection with the events,” Rathmell said. “This book provides a different view of culture,

of relationships, and our human relationship with food as sustenance as well as symbolism, economy, and culture.”

“As we close in on the height of the election campaign season, reference to us being a divided nation is frequently mentioned,” said Suresh Ramalingam, executive director of Winship Cancer Institute and the Roberto C. Goizue-ta Chair for Cancer Research at Emory University School of Medicine.

To that end, he recommends “Age of Revolutions: Progress and Backlash from 1600 to the Present,” by Fareed Zakaria.

“Zakaria walks the reader through the impact of these events on the social and political fabric of each nation, and how it influenced the rest of the western world,” Ramalingam said. “He elegantly explains that divisions have always been part of the society, with the main difference being that the lines along which they occurred were deeply influenced by the major events of the time.”

The year of professional development?

This year, with a whopping 17 books on leadership and personal growth, we could go so far as to call it the year of professional development.

“I consider myself a student of leadership, and soak up articles on LinkedIn almost daily,” said Thomas Sellers, director of the OHSU Knight Cancer Institute. Two of his book recommendations fall into the professional development genre: “Crucial Conversations: Tools for Talking When Stakes are High,” by Joseph Grenny, Kerry Patterson, Ron McMillan, Al Switzler, and Emily Gregory and “Science, Being, and Becoming: The Spiritual Lives of Scientists,” by Paul J. Mills.

Of the latter, Sellers says, “I’m deeply committed to ending cancer as we know it, but the belief that we are all connected influences my interactions with colleagues, and brings whole new meaning to the concept of challenging paradigms.”

“Currently, I am working on bringing back the positive culture of pride and excellence in the work we do, and always keeping patient care and satisfaction as our North star,” said Ben Ho Park, director of the Vanderbilt-Ingram Cancer Center and Benjamin F. Byrd, Jr. Professor of Oncology. To that end, Park recommends “Be Our Guest-Revised and Updated Edition: Perfecting the Art of Customer Service,” a Disney Institute Book with Theodore Kinni.

Park is not alone in contemplating organizational culture.

“At the end of the day, it is critical to look past the marketing slogans and vision statements that can ‘fit on a t-shirt’ and critically review the actions of those in the organization. It is what you do, not what you say that really counts,” said Monica Baskin, associate director of community outreach and engagement and associate director of health equity at UPMC Hillman Cancer Center.

Baskin recommends “What You Do Is Who You Are: How To Create Your Business Culture,” by Ben Horowitz.

“As it relates to my cancer-related work, I think these principles are key to why some institutions fare better with recruiting and retaining a diverse biomedical workforce that feels included and welcomed, as well as clinical trials and other research that is representative and relevant to the catchment areas served,” Baskin said. “Talk is cheap. It is time for us all to do better.”

Several books reflect that desire to do better—from addressing burnout to fighting systemic inequities.

“Most of us who work in health care thrive in periods of intense work and long days. However, we also need periods to work on long-term goals and system change,” said Edward R. Arrowsmith, executive vice president of therapeutics at Tennessee Oncology, who recommended Cal Newport’s “Slow Productivity: The Lost Art of Accomplishment Without Burnout.”

Rathmell’s pick, “Agnotology: The Making and Unmaking of Ignorance,” by Robert N. Proctor and Londa Schiebinger gave her new insight into addressing public trust in medicine.

“Thinking about how society views health and how individuals are empowered to take command of their own health made me very interested in understanding why we choose not to follow sound medical advice, or distrust public health measures such as vaccination or cancer screenings,” Rathmell said. “This book breaks down something that we don’t often think about—why don’t we know what we don’t know?”

Shikha Jain, associate professor of medicine in the division of hematology and oncology at the University of Illinois, Chicago, as well as director of communications strategies in medicine, and associate director of oncology communication and digital innovation at University of Illinois Cancer Center, recommended Jessi Gold’s “How Do You Feel: One Doctor’s Search for Humanity in Medicine.”

“What impressed me most about this book is its raw honesty and vulnerability,” said Jain, who is also the founder and president of Women in Medicine. “Dr. Gold shares her own experiences and those of others in the medical field, shedding light on the immense pressures and emotional toll that come with being a healthcare provider. The book emphasizes the importance of acknowledging and addressing mental health concerns, breaking the stigma

that often surrounds them in the medical profession.”

Many of the recommended titles focus on making a positive difference in medicine.

Jain’s new book, “An Evolution of Empowerment: Voices of Women in Medicine and Their Allies,” of which she is co-editor with Avital O’Glasser, shines a light on gender inequities in medicine.

“As one of the editors and authors, this anthology holds a special place in my heart, bringing together the powerful stories and experiences of women in medicine and their allies, highlighting the challenges, triumphs, and transformative journeys of these individuals,” Jain said. “Reading about the resilience and determination of these women is incredibly inspiring, as their stories of overcoming obstacles, breaking barriers, and achieving their goals despite the odds serve as a testament to the strength and spirit of women in medicine.”

UPMC’s Baskin recommended “Legacy: A Black Physician Reckons with Racism in Medicine,” by Uché Blackstock, calling it “a call to action that should resonate with diverse audiences.”

“Dr. Uché Blackstock masterfully illuminates issues related to Black women’s health, healthcare inequities, and structural racism in medicine, from both historic and current vantage points,” Baskin said.

“However, this book left an even greater impression on me as a daughter who lost a parent to cancer at a young age, a Black woman in academic medicine, and a mother of two daughters who are pursuing medical careers. It reminded me of the legacy my father left for me and my sister and the legacy that I hope to be leaving for my girls—no matter what degree, title or role you have, make a positive difference in the world.”

The full reading list follows.

The 2024 Summer Reading List

Edward R. Arrowsmith, MD



Executive vice president of Therapeutics, Tennessee Oncology

- [Slow Productivity: The Lost Art of Accomplishment Without Burnout](#), by Cal Newport
- [The Wager: A Tale of Shipwreck, Mutiny and Murder](#), by David Grann

“**Slow Productivity**” is the latest work of pragmatic non-fiction by the theoretical computer scientist Cal Newport.

Two ideas from *Slow Productivity* really resonated with me. One is his concept of pseudoproductivity—we need to avoid having days full of email replies and Zoom calls that don't move toward our big goals. The second is his guidance to work at a natural pace.

Most of us who work in health care thrive in periods of intense work and long days. However, we also need periods to work on long-term goals and sys-

tem change. Newport is the foremost evangelist of the deep life and “*Slow Productivity*” is full of practical tips and case studies that can help us find the balance and focus we need. If Marie Curie could find time to travel with her family, then so can we.

Speaking of which, David Grann's latest, “*The Wager*,” is a wonderful vacation read. A stunning tale of a sea voyage that went spectacularly awry. In addition to being a great story, it's a wonderful elucidation of the omnipresence of class dynamics and imperialist ideology. The role that disease played in the voyage was fascinating—the sailors were ravaged by typhus and scurvy but did not understand their etiology or prevention. It made me wonder what parts of our society that we're misunderstanding.

Monica L. Baskin, PhD



Professor of medicine, Division of Hematology/Oncology, University of Pittsburgh School of Medicine; Associate director of Community Outreach and Engagement, Associate director of Health Equity, UPMC Hillman Cancer Center, Assistant vice chancellor for community health equity, University of Pittsburgh

- [Legacy: A Black Physician Reckons with Racism in Medicine](#), by Uché Blackstock, MD
- [What You Do Is Who You Are: How To Create Your Business Culture](#), by Ben Horowitz

Legacy: A Black Physician Reckons with Racism in Medicine - Dr. Uché Blackstock masterfully illuminates issues related to Black women's health, healthcare inequities, and structural racism in medicine, from both historic and current vantage points.

For example, she highlights the devastating and lasting impact of the 1910 Flexner Report that led to the closure of five of the seven Black medical schools and up to 35,000 fewer Black physicians in the U.S. today. At the same time, she points to what should have been foreseeable failures in our healthcare system to meet the challenges of preventing and treating COVID among marginalized populations.

The book's critical assessment of the legacy of our nation's healthcare system is interwoven with the story and legacy of Dr. Blackstock's mother, also a physician, who died from leukemia at the age of 47. The early life experiences, including watching their mother as a physician, organizational leader, and patient fueled twin sisters Drs. Uché and Oni Blackstock to pursue their careers in medicine to carry on their mother's legacy.

As a behavioral scientist who has spent the majority of my academic career conducting research on minority health and health disparities, this book is compelling in its detailed account of current health inequities, how we got here, and what we must do to achieve health equity. The book is certainly a call to action that should resonate with diverse audiences.

However, this book left an even greater impression on me as a daughter who lost a parent to cancer at a young age, a Black woman in academic medicine, and a mother of two daughters who are pursuing medical careers. It reminded me of the legacy my father left for me and my sister and the legacy that I hope to be leaving for my girls—no matter what degree, title or role you have, make a positive difference in the world.



Dr. Uché Blackstock masterfully illuminates issues related to Black women's health, healthcare inequities, and structural racism in medicine, from both historic and current vantage points.



—Monica L. Baskin

What You Do Is Who You Are: How To Create Your Business Culture - Hands down, this is the best leadership book I have ever read. The title says it all! This book demonstrates core principles of setting up any organization for success.

Primarily, the author highlights the fact that culture is not what you say, but rather *what you do*, particularly what your team does when you are not around. The author brilliantly weaves in global history and contemporary hip hop culture to emphasize his step-by-step formula for an intentional culture that moves an organization toward innovation and maximum impact.

An intentional culture, as described by Horowitz, is designed to reflect the leader (her strengths, beliefs, etc.) as opposed to trying to mimic another leader. The second key ingredient is that the culture facilitates employees to act in ways that align with the organization's vision.

This book was recommended to me by a colleague who was making final decisions about leaving his organization. He talked about having devoted a great deal of his career to the organization (and endured sacrifices in his personal life in service to his employer), but did not feel like the institution was living up to the mission and vision statements that are plastered around the building.

The timing of this suggestion also coincided with some of my own reflection on the culture I needed to create in a recent leadership role. I further recognized that it was critical for me to not look to other leaders to set the tone for those I would directly influence, but that I recognize my leadership strengths and build from there.

The book also helped me to better understand why I have been compelled to pass on certain career opportunities and even step away from others that initially seemed to be a good fit. Namely, the culture did not match the actions, and those actions did not match my personal values.

At the end of the day, it is critical to look past the marketing slogans and vision statements that can “fit on a t-shirt” and critically review the actions of those in the organization. It is what you do, not what you say that really counts.

As it relates to my cancer-related work, I think these principles are key to why some institutions fare better with recruiting and retaining a diverse biomedical workforce that feels included and welcomed, as well as clinical trials and other research that is representative and relevant to the catchment areas served. Talk is cheap. It is time for us all to do better.

Otis W. Brawley, MD



Bloomberg Distinguished Professor of Oncology and Epidemiology, Sidney Kimmel Comprehensive Cancer Center, Johns Hopkins University; Former chief medical and scientific officer, American Cancer Society

- [Applied Minds: How Engineers Think](#), by Guruprasad Madhavan
- [Guiding Cancer Control: A Path to Transformation](#), consensus study report of the National Academies of Sciences, Engineering and Medicine
- [Deaths of Despair and the Future of Capitalism](#), by Anne Case and Angus Deaton
- [The 1619 Project: A New Origin Story](#), by Nikole Hannah-Jones
- [Under the Skin: The Hidden Toll of Racism on American Lives](#), by Linda Villarosa
- [The Demon of Unrest: A Saga of Hubris, Heartbreak, and Heroism at the Dawn of the Civil War](#), by Erik Larson

“**Applied Minds**” by Guru Madhavan, a senior scholar at the National Academy of Engineering explains the engineer's

way of thinking and understanding problems. For those who seek to understand, it is a good way to take an alternative approach and view to problems and issues.

Guru Madhavan is also a lead author of “**Guiding Cancer Control: A Path to Transformation**,” which is the National Academy of Medicine yearlong study leading to a cancer control plan. The study summary describes the principles, attributes, methods, and tools needed to implement an effective national cancer control plan. The committee that did the study was chaired by Mike Johns, MD and staffed by Guru Madhavan.

“**Deaths of Despair and the Future of Capitalism**” by Anne Case and Nobel Laureate Angus Deaton. After consistently going up for a hundred years, life expectancy is going down in the U.S. It is not going down in other western countries that we compare ourselves to. This book explains the reasons why. Spoiler alert: capitalism, which lifted countless Americans out of poverty, is now destroying middle-class America.



Spoiler alert: capitalism, which lifted countless Americans out of poverty, is now destroying middle class America.



– Otis W. Brawley

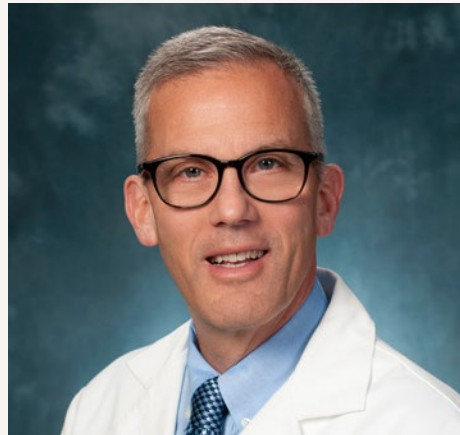
“**The 1619 Project: A New Origin Story**” by Nicole Hannah-Jones—or more specifically the health sections written

by Linda Villarosa, who is an amazing writer and Pulitzer Prize winner.

“**Under the Skin: The Hidden Toll of Racism on American Lives**” by Linda Villarosa explains the roots of the social determinants of health and the root of health disparities in the US. She is especially good at discussing the myths of race and biologic differences used to justify slavery and are amazingly believed today.

“**The Demon of Unrest**” by Erik Larson is a history of the pivotal five months between the election of Abraham Lincoln and the start of the Civil War. History may be repeating itself. Much of the politically based rhetoric and incivility seen then is repeating itself now.

Andrew E. Chapman, DO



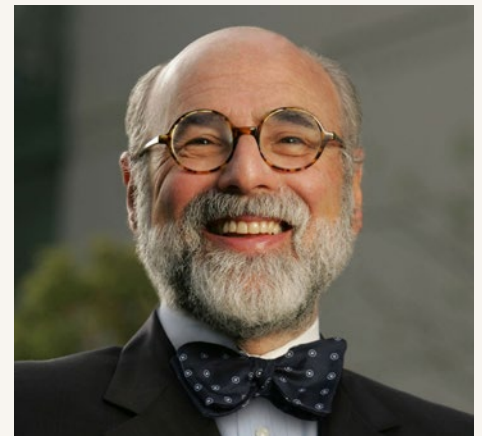
Director, Sidney Kimmel Cancer Center; Enterprise vice president, oncology services; Co-director, Senior Adult Oncology Center, Jefferson Health

- [The Winners](#), by Fredrik Backman
- [The Demon of Unrest: A Saga of Hubris, Heartbreak, and Heroism at the Dawn of the Civil War](#), by Erik Larson

The Winners - The final book in the Beartown trilogy. A great escape into a small hockey town in Scandinavia with abundant life lessons.

The Demon of Unrest - Terrific and detailed account of the months leading up to the attack on Fort Sumter and the start of the Civil War.

Michael A. Friedman, MD



Emeritus cancer center director, City of Hope Comprehensive Cancer Center, Former CEO, City of Hope; Former acting commissioner, FDA; Former associate director, NCI

- [I Heard There Was a Secret Chord: Music as Medicine](#), by Daniel J. Levitin, PhD
- [Letter to a Hostage](#), by Antoine De Saint-Exupéry

I Heard There Was a Secret Chord: Music as Medicine - This is a book I am looking forward to—it is not published yet but will be available Aug. 27!

The author is a distinguished musician, neuroscientist and writer. His previous books include “[This Is Your Brain on Music: The Science of a Human Obsession](#),” which sold more than 1 million copies

and was praised by numerous critics. I have heard him speak on this subject a number of times along with Renee Fleming and Dr. Francis Collins and his insights are keen. As oncologists, the power of music to improve the quality of life for our patients is a noteworthy subject.

“Letter to a Hostage” by Antoine De Saint-Exupéry is a very short work originally published in 1943. It is a remembrance and homage to his dear friend, Leon Werth, a Jew who was trapped in France during the Nazi occupation. The writing is luminous (as you would expect from this author) and the sheer humanity is breathtaking. It is a frankly emotional work with elements of the power of friendship despite separation, war, and patriotism.

Daniel M. Geynisman, MD



Chief, Division of Genitourinary Medical Oncology,
Associate professor, Department of Hematology/Oncology,
Vice chair, Quality Improvement Program,
Fox Chase Cancer Center;
Editor-in-chief, Journal of the National Comprehensive Cancer Network;
Testicular Cancer Panel member, NCCN

- [The Second Mountain: The Quest for a Moral Life](#), by David Brooks
- [The Demon of Unrest: A Saga of Hubris, Heartbreak, and Heroism at the Dawn of the Civil War](#), by Erik Larson

The Second Mountain - Published in 2019, Mr. Brooks weaves together stories of multiple individuals through history to show us how to move from an individualistic, self-centered and often unsatisfactory way of life to one of relationalism and a more meaningful existence. He does so without preaching too much and without taking himself too seriously.

He argues that hyperindividualism, the way we are often taught and encouraged to live and succeed, can lead to isolation and insecurity. To move beyond this, we require a commitment larger than oneself, but importantly one that is different from a simple tribalism solution.

Mr. Brooks presents attachments, commitments and relationships as the foundational aspects of a moral ecology that can help us transcend internal and external turbulent times and something each of us can strive toward. I think the field of oncology and the profession of medicine are particularly positioned to allow us to practice these skills.

The Demon of Unrest - An incredible storyteller, Mr. Larson published this book in 2024 and it provides a historical account of the months between the election of Abraham Lincoln and the start of the Civil War.

The novel is gripping as it weaves the narrative from the perspective of multiple individuals in the North and South and shows both the everlasting nature of human beings and their desire for self-worth, power and the moral high ground and how a series of small but ever-growing differences can lead to great calamity.

The story is relevant in today's divided political and social environment in the United States and reminds us that we have gone through incredible challenges before and that this is not the first time that the people of this nation grew apart. Knowing that we were able to move past that once is something I find comforting.

Kathy Giusti



Founder, Multiple Myeloma Research Foundation;
Founding co-chair, Harvard Business School Kraft Accelerator

- [Have a Beautiful, Terrible Day!: Daily Meditations for the Ups, Downs & In-Betweens](#), by Kate Bowler
- [Hidden Potential: The Science of Achieving Greater Things](#), by Adam Grant
- [The Mel Robbins Podcast](#), by Mel Robbins

While writing [“Fatal to Fearless: 12 Steps to Beating Cancer in a Broken Medical System,”](#) I went back and read every journal I'd kept since being diagnosed with multiple myeloma nearly 30 years ago. You can imagine what it's like reading back every year. This incredible window of hindsight showed me that life is a roller coaster, especially when you're a young mom facing a fatal disease.

By the time I was done writing F2F, which is part memoir and part “how to”, I was looking at life differently. Yes, my work at the MMRF and Harvard Business School had incredible purpose but now in my 60s, what impact did it have on what mattered most—family and friends?

My new perspective led me to Kate Bowler’s latest book “**Have a Beautiful, Terrible Day!**” As a stage III cancer survivor and Duke theologian, Kate looks at life differently. She reminds us that life is filled with challenges. You will have good days and lousy days. Embrace both. Give yourself grace and have a sense of humor.



As a stage III cancer survivor and Duke theologian, Kate looks at life differently. She reminds us that life is filled with challenges. You will have good days and lousy days. Embrace both. Give yourself grace and have a sense of humor.



– Kathy Giusti

I am also a big Adam Grant fan, so I read his most recent book “**Hidden Potential: The Science of Achieving Greater Things.**” Adam reminds us that we are often our own worst enemies when looking at our potential. We can build certain skill sets by having a curious

mind and reminding ourselves that we won’t be perfect at learning new things. He also reminds us that it’s ok to take risks. I was never a writer, so his book was helpful when I took on this new challenge.

Finally, I find **Mel Robbins’s podcast** to be enlightening. She is funny, self-deprecating, and brings on great experts to cover everything from happiness to sleep to motivation and relationships. Her entire focus is on building a better life.

Related article:

- [Kathy Giusti’s “Fatal to Fearless” memoir tells the story of prevailing over multiple myeloma](#) Book offers [12 steps to beating cancer in a broken medical system](#)

Shikha Jain, MD



Associate professor of medicine, Division of Hematology and Oncology, University of Illinois, Chicago; Director of communications strategies in medicine, Associate director of oncology communication and digital innovation, University of Illinois Cancer Center; Founder & president, Women in Medicine

- [An Evolution of Empowerment: Voices of Women in Medicine and Their Allies](#), by Shikha Jain, MD and Avital O’Glasser, MD
- [How Do You Feel: One Doctor’s Search for Humanity in Medicine](#), by Jessi Gold, MD, MS
- [Simply Lies: A Psychological Thriller](#), by David Baldacci

“**An Evolution of Empowerment: Voices of Women in Medicine and Their Allies**” is a profoundly impactful book that I believe all my colleagues should read.

As one of the editors and authors, this anthology holds a special place in my heart, bringing together the powerful stories and experiences of women in medicine and their allies, highlighting the challenges, triumphs, and transformative journeys of these individuals.

The book captures a wide range of voices and perspectives, reflecting the diversity within the medical community. Each story is authentic and deeply personal, offering insights into the unique challenges and successes that women in medicine face. Reading about the resilience and determination of these women is incredibly inspiring, as their stories of overcoming obstacles, breaking barriers, and achieving their goals despite the odds serve as a testament to the strength and spirit of women in medicine.

The book emphasizes the importance of community and allyship, underscoring how crucial it is to have a support system, whether through mentors, colleagues, or allies, to navigate the complexities of a medical career. Moreover, the narratives in this book are a call to action for empowerment and advocacy, highlighting the importance of standing up for oneself and others, advocating for equality, and striving to create a more inclusive and supportive environment in the medical field. These stories prompt

self-reflection and encourage growth, both personally and professionally, providing valuable lessons and insights that can guide and inspire others in their own journeys.

“An Evolution of Empowerment” is not just a book; it's a movement that resonates with anyone who reads it, encapsulating the essence of what it means to be a woman in medicine today—resilient, empowered, and unwavering in the pursuit of excellence and equality.

“**How Do You Feel**” by Dr. Jessi Gold is a compelling and insightful book that I had the privilege of reading early. This book delves deep into the often-overlooked emotional and mental health aspects that come with taking care of others. Dr. Gold's candid exploration of mental health issues within the medical community provides a refreshing and necessary perspective that is both enlightening and relatable.

What impressed me most about this book is its raw honesty and vulnerability. Dr. Gold shares her own experiences and those of others in the medical field, shedding light on the immense pressures and emotional toll that come with being a healthcare provider. The book emphasizes the importance of acknowledging and addressing mental health concerns, breaking the stigma that often surrounds them in the medical profession.

Another striking aspect of “How Do You Feel” is its practicality. Dr. Gold doesn't just highlight the problems; she offers actionable strategies and tools for managing mental health, fostering resilience, and seeking support. Her approach is both compassionate and pragmatic, making it accessible and applicable to anyone in the medical field, and beyond.

Furthermore, the book serves as a powerful reminder of the importance

of self-care and emotional well-being. It encourages readers to prioritize their mental health, not just for their own sake but also to better care for others. Dr. Gold's insights are a call to action for a cultural shift within the medical community, advocating for greater awareness and support for mental health issues.

Overall, “How Do You Feel” left a lasting impression on me because it tackles a critical yet often neglected aspect of our lives as medical professionals. Dr. Gold's thoughtful and empathetic writing provides much-needed validation and guidance for those struggling with mental health challenges. This book is a must-read for everyone, and especially for those in the medical field, offering hope, understanding, and practical advice for navigating the complex emotional landscape of healthcare.

Simply Lies: A Psychological Thriller - Some of my favorite types of books to read are thrillers, mysteries, and books that keep me on the edge of my seat. I am currently reading “Simply Lies” and can't put it down!

E. Anders Kolb, MD



*President and chief executive officer,
Leukemia and Lymphoma Society*

- Poverty, by America, by Matthew Desmond

Incredible discussion of systemic problems in America. It's not just a new telling, it is a call to action: “It's more complicated than that, some will say. Most social problems are complicated, of course, but a retreat into complexity is more often a reflection of our social standing than evidence of critical intelligence. Hungry people want bread.” (Matthew Desmond)

C. Ola Landgren, MD, PhD



*Director, Sylvester Myeloma Institute,
Co-leader, Translational and
Clinical Oncology Program,
Paul J. DiMare Endowed
Chair in Immunotherapy,
Sylvester Comprehensive Cancer Center,
Professor of medicine,
Chief, Division of Myeloma,
Department of Medicine,
University of Miami*

- Elon Musk, by Walter Isaacson

I just read the book “Elon Musk” by Walter Isaacson.

It is a fascinating story that gives insights on why Elon Musk's family emigrated from North America to South

Africa. It describes Elon Musk's life as a kid and how he was beaten regularly by bullies. Also, it describes the many emotional traumas caused by his father, who was an engineer and rogue personality. The book describes how his parents' divorce added stress to his mother, who worked as a model and had several other side jobs to support Elon and his brother. When the mother was working, the boys were often unsupervised and did lots of things that many parents would not allow.

As a teenager, Elon Musk moved back to Canada and eventually he moved to the U.S. After several rough years in school with numerous emotional meltdowns and social awkwardness, he became one of the greatest inventors in modern history. He has created novel payment methods, creative banking models, digital maps, electrical cars, spaceships, and exploration of our Universe, and more. Also, he has an endless drive to deliver change—significant change and disruption.

The book describes events from Elon Musk's childhood and discusses how they impacted him later in life. For sure, he had a highly complex childhood filled with struggle and trauma. Young adulthood was challenging, and many situations were fueled by frustration and more trauma. Recurring themes throughout his life are hard work without breaks, computer programming, fast cars, risk taking, and computer games.

According to background information about the book, Isaacson shadowed Musk for two years, attended his meetings, walked his factories with him, and spent hours interviewing him, his family, friends, coworkers, and adversaries. This is a fascinating story about the private life and the professional outcomes of a man who is fearless and highly disruptive.

“

This is a fascinating story about the private life and the professional outcomes of a man who is fearless and highly disruptive.

”

— C. Ola Landgren

Caryn Lerman, PhD



*Distinguished Professor of Psychiatry and the Behavioral Sciences and Psychology
H. Leslie Hoffman and Elaine S. Hoffman Chair in Cancer Research,
Director, Associate Dean
for Cancer Programs,
USC Norris Comprehensive Cancer Center*

- [Disgrace](#), by J.M. Coetzee
- [My Brilliant Friend](#), by Elena Ferrante
- [The Great Gatsby](#), by F. Scott Fitzgerald
- [End of the Affair](#), by Graham Greene

Shail Maingi, MD



*Medical oncologist,
Dana-Farber Brigham Cancer
Center at South Shore Health;
Member, Cancer Care Equity Program,
Dana-Farber Cancer Institute*

- [COWBOY CARTER](#), by Beyoncé
- [Power, for All: How It Really Works and Why It's Everyone's Business](#), by Julie Battilana and Tiziana Casciaro
- [Invisible Women: Data Bias in a World Designed for Men](#), by Caroline Criado Perez
- [The Truths We Hold: An American Journey](#), by Kamala Harris

COWBOY CARTER - Since its release, this album has been part of my daily life. The intentionality and beauty of the album is genius and redefines a genre of music that has long denied its roots and connections to Black Americans.

In part, it is about building community and storytelling while expanding and changing country music and Americana. I consider it a civil rights album and it's made me an even bigger fan of Beyoncé. Letting go of preconceptions and listening to this album from start to finish is something we should all do to

immerse ourselves in an authentic and modern take on our shared culture.

Neural nostalgia is stimulated by so many subtle aspects of the album making it a real experience. Why wouldn't I want my peers and colleagues to share that rich experience?

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Neural nostalgia is stimulated by so many subtle aspects of the album making it a real experience. Why wouldn't I want my peers and colleagues to share that rich experience?

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— Shail Maingi

Power, for All: How It Really Works and Why It's Everyone's Business - I was lucky enough to hear one of the authors, Julie Battilana, speak about power and how we can understand, understand and wield it. It changed how I approach several professional aspects of my career.

The book can help teach us how to make impactful change and meaningful collaborations within our reach. It has also helped me better understand how to empower my patients with cancer and their loved ones.

Invisible Women: Exposing Data Bias in a World Designed for Men - I have worked for years on the health care disparities experienced by invisible populations such as LGBTQ+ people whose

sexual orientation and gender identity are not accurately collected in most databases which creates research challenges. This book offers insight on how by centering the experiences of, in this case, men vs women, can lead to real and pervasive data gaps that negatively impact all women.

Understanding the limitations of available data makes us better researchers. It also helps make our work more applicable to real-world populations who are, in fact, people with a diverse set of lived experiences

The Truths We Hold: An American Journey - I've had this book for 4 years and it seems like a good time to read it. I am curious to see how her mother's work as a breast cancer researcher who died from colon cancer shapes her worldview and priorities.

Ben Ho Park, MD, PhD



Director, Vanderbilt-Ingram Cancer Center;
Benjamin F. Byrd, Jr.
Professor of Oncology,
Professor of Medicine, Division of Hematology-Oncology,
Vanderbilt University Medical Center

- Be Our Guest-Revised and Updated Edition: Perfecting the Art of Customer Service, a Disney Institute Book with Theodore Kinni

For full disclosure, I am still reading the book but it has made a lasting impression already. I think many would agree that post-pandemic, customer service in many areas of work has been lacking, and this also includes healthcare and research enterprises.

Currently, I am working on bringing back the positive culture of pride and excellence in the work we do, and always keeping patient care and satisfaction as our North star. This book offers many tips and insights into service excellence and provides subtle but important examples of what we can do as healthcare providers and researchers to achieve our goals.

Raphael E. Pollock, MD, PhD



Director, The Ohio State University Comprehensive Cancer Center—
Arthur G. James Cancer Hospital,
Professor, Division of Surgical Oncology,
The Ohio State University,
Kathleen Wellenreiter Klotz
Chair in Cancer Research,
Director, Ohio State Sarcoma
Research Laboratory

- American Prometheus, by Kai Bird and Martin J. Sherwin

American Prometheus is the biography of J. Robert Oppenheimer, the “Father”

of the atomic bomb. An exceptionally complicated man, especially personally as well as professionally, this magnum opus thoroughly explores the person and the contexts in which Oppenheimer tried to square the circle that his life and accomplishments entailed.

A remarkably well written book, my interest was piqued by the [movie](#) about Oppenheimer that was released last year, and this biography filled in almost all of the gaps and questions that I had after seeing this amazing film.

Suresh S. Ramalingam, MD



*Executive director, Winship Cancer Institute,
Roberto C. Goizueta Chair for Cancer Research,
Emory University School of Medicine*

- [Age of Revolutions: Progress and Backlash from 1600 to the Present](#), by Fareed Zakaria

As we close in on the height of the election campaign season, reference to us being a divided nation is frequently mentioned. These divisions are noted in the realms of socioeconomic status, race, educational status, wealth, rural versus urban and many more.

In “Age of Revolutions,” Fareed Zakaria looks at various revolutions that have taken place in the western world over the past four centuries. These include the Dutch, French and British revolutions; the emergence of the United States as a dominant power thanks to industrialization is a key focus of the book. More recently, technological revolution and globalization have also impacted the world in a major way.



He provides room for optimism as we look at what the recent geo-political changes mean for the future, while also providing a warning of how quickly things could deteriorate if the community of nations do not work together with intent.



– Suresh S. Ramalingam

Zakaria walks the reader through the impact of these events on the social and political fabric of each nation, and how it influenced the rest of the western world. He elegantly explains that divisions have always been part of the society, with the main difference being that the lines along which they occurred were deeply influenced by the major events of the time.

The last part of the book focuses on the emergence of China as a major econom-

ic power and its potential impact on the future of the global community. I found the book to be an excellent high-level overview with sufficient detail, without dragging down the reader too far into any specific topic. He provides room for optimism as we look at what the recent geo-political changes mean for the future, while also providing a warning of how quickly things could deteriorate if the community of nations do not work together with intent.

I highly recommend the book for those interested in history and politics. The book has some memorable quotes, including the one by Voltaire who described the “Holy Roman Empire” as “neither holy, nor Roman, nor an empire.”

W. Kimryn Rathmell, MD, PhD, MMHC



Director, National Cancer Institute

- [The Potlikker Papers: A Food History of the Modern South](#), by John T. Edge
- [Agnotology: The Making and Unmaking of Ignorance](#), by Robert N. Proctor and Londa Schiebinger
- [84, Charing Cross Road](#), by Helene Hanff

I enjoy books that give me a different perspective on history and events. “**The Potlikker Papers**” walks you through the post-Civil War and Civil Rights Era, as well as the more modern South telling the stories through food. Many of those events we've heard before, but sharing the impact farmers, cooks, and home cooking had on them—many monumentally—provides a different level of insight and connection with the events. It also deepens levels of understanding about the connections between history and current times.

This book provides a different view of culture, of relationships, and our human relationship with food as sustenance as well as symbolism, economy, and culture.

I started reading “**Agnotology**” upon the recommendation of a good friend. Thinking about how society views health and how individuals are empowered to take command of their own health made me very interested in understanding why we choose not to follow sound medical advice, or distrust public health measures such as vaccination or cancer screenings.

This book breaks down something that we don't often think about—why don't we know what we don't know? More, it provides an in depth look at how will-igness to not know can be exploited. It makes you think, and offers some insights into the complex psychology of what we know, want to know, or choose to not know.

When I have downtime, I really enjoy books that just make you feel good about humanity. “**84, Charing Cross Road**” is a fictional story told in letters between an avid reader in search of books and an antique bookseller.

By offering some opening into herself, the letter-writer gradually spurs a relationship—platonic and carried out by post—with the bookseller, and ul-

timately all of the workers in the shop. The book is light, and draws you into the complex events of the bookstore and the time (set initially in post-WWII, but spanning 20 years) in ways that are utterly plausible and emotionally gripping.

The deep friendship that forms is the win for me, and speaks to how important and valuable it is that we show our true selves even in mundane correspondence, and how much opportunity there is for humans to find connection.



This book breaks down something that we don't often think about—why don't we know what we don't know?



– W. Kimryn Rathmell

Thomas A. Sellers, PhD, MPH



Director, OHSU Knight Cancer Institute,
Professor of medicine, Division
of Oncological Sciences

- [Crucial Conversations: Tools for Talking When Stakes are High](#), by Joseph Grenny, Kerry Patterson, Ron McMillan, Al Switzler, and Emily Gregory
- [Tightrope: Americans Reaching for Hope](#), by Nicholas D. Kristof and Sheryl WoDunn
- [Science, Being, and Becoming: The Spiritual Lives of Scientists](#), by Paul J. Mills, PhD

Crucial Conversations: Tools for Talking When Stakes are High

- I consider myself a student of leadership, and soak up articles on LinkedIn almost daily. I'm currently reading “Crucial Conversations,” which provides “tools for talking when the stakes are high.” It takes a very logical approach to navigating those situations where people differ in their opinions, the stakes are high, and emotions run strong.

Tightrope: Americans Reaching for Hope

- As a citizen who was trained in public health, I'm very concerned about climate change, homelessness, drug addiction, violence and access to health care. There is appropriately a lot of discussion, debate and efforts to find solutions, but at times it feels like we are addressing symptoms rather than underlying causes.

“Tightrope”, written by Nicholas Kristof and Sheryl WoDunn, is based on the lives of people he grew up with in the small town of Yamhill, Oregon. He supplements those personal stories with historical events and data that shines a light on causes and thus solutions.

Science, Being, and Becoming: The Spiritual Lives of Scientists

- I have been a lifelong reader of books that speak to the more existential issues of meaning and purpose. I also follow Dr. Deepak Chopra on LinkedIn, which led to a book by Paul J. Mills entitled “Science, Being and Becoming: The Spiritual

Lives of Scientists.” Fascinating personal interviews with 30 scientists lead to the conclusion that science can contribute to the spiritual awakening of humanity and a more harmonious life here on earth. I'm deeply committed to ending cancer as we know it, but the belief that we are all connected influences my interactions with colleagues, and brings whole new meaning to the concept of challenging paradigms.

Norman E. Sharpless, MD



Professor of Cancer Policy and Innovation, UNC School of Medicine; Managing director and co-founder, Jupiter Bioventures; Former director, the National Cancer Institute

- [Say Nothing: A True Story of Murder and Memory in Northern Ireland](#), by Patrick Radden Keefe
- [Breakthrough: The Quest of Life-Changing Medicines](#), by William Pao, MD, PhD
- [Everyone in My Family Has Killed Someone](#), by Benjamin Stevenson
- [Living Medicine: Don Thomas, Marrow Transplantation, and the Cell Therapy Revolution](#), by Fred Appelbaum

Say Nothing: A True Story of Murder and Memory in Northern Ireland - This book was recommended by the *New York Times* as one of the best books of the 21st century, and it lives up to the billing. It delves into the history of “The Troubles”—including assassination attempts, informants, hunger strikes, abductions and a secret library in Boston. Starting in the late 60's and going through to the present day, it is meticulously researched, fast-paced and at times heart-breaking, with jaw-dropping real-life plot twists (these things actually happened!) to rival any true crime novel.

Breakthrough: The Quest of Life-Changing Medicines - A lively description of the scientific histories of breakthrough medicines for cancer and other diseases. William is a well known molecular biologist and oncologist who has worked in academia and industry, with a personal involvement in some of the scientific advances he describes. The book is written to be approachable to the non-scientist, but even researchers or doctors who are familiar with these medicines will learn a lot about the backstory of their origin.

Everyone in My Family Has Killed Someone - The algorithm thought I would like this mystery novel, and the AI was right. My wife and I listened to it together as an audiobook over a couple of car trips and it's ideal for this purpose. A humorous murder mystery with many surprising plot twists, it is written by a real student of the genre who respects its rules and traditions, but still figures out a way to make the whodunit feel fresh and contemporary.

Living Medicine: Don Thomas, Marrow Transplantation, and the Cell Therapy Revolution - I visited the Fred Hutchinson Cancer Research Center recently and they gave me this book as swag, and I basically finished it on the airplane back from Seattle. Fred, a giant of medical oncology, writes well and

tells the story of how Don Thomas and colleagues developed bone marrow transplantation through a few decades of trial and error. Even though I thought I knew a lot about this topic, I was inspired by the descriptions of how basic science discoveries (e.g. Peter Medawar and immune tolerance in cattle) were avidly ingested by these physician-scientists and then directly incorporated into curative human therapy.

““

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””

– Norman E. Sharpless

Related articles:

- **Book review:** [How Don Thomas's brilliance and luck led to the invention of BMT and the cell therapy revolution](#)
- **Podcast:** [Fred Appelbaum's "Living Medicine" tells](#)

the story of bone marrow transplantation and Don Thomas's discoveries

- **Excerpt:** Excerpt of “Living Medicine: Don Thomas, Marrow Transplantation, and the Cell Therapy Revolution.”

Lilian L. Siu, MD



*Professor of medicine,
University of Toronto,
Senior scientist and medical oncologist,
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Association for Cancer Research*

- The Creative Act: A Way of Being, by Rick Rubin
- For the Benefit of Those Who See: Dispatches from the World of the Blind, by Rosemary Mahoney

“**The Creative Art: A Way of Being**” by the legendary American music producer Rick Rubin is an inspiring collection of ideas and thoughts on what drives and

grows creativity. The idea of embracing uncertainties and unknowns really resonates with me. This is not a guidebook on how to be creative, but it sheds insights on thought-provoking philosophies and approaches that I believe are relevant to any field.

“For the Benefit of Those Who See”

by Rosemary Mahoney was a gift to me from a visiting scholar. This book describes the courage and capabilities of blind individuals, offering the perspectives that disabilities do not compromise life experiences and interactions. There are substantial references to schools and institutions that work with the blind, such as the Braille Without Borders school in Tibet. I appreciate this gift from my visitor who aims to broaden her views and horizons by spending time learning from cancer centers around the world.

Stacy Wentworth, MD



*Radiation oncologist and author;
Founder, Cancer Culture;
Former medical director of
cancer survivorship,
Atrium Wake Forest Baptist Health*

- The Demon of Unrest: A Saga of Hubris, Heartbreak, and Heroism at the Dawn of the Civil War, by Erik Larson

- The Greatest Love Story Ever Told, by Suzy Quinn
- The Baltimore Case: A Trial of Politics, Science and Character, by Daniel Kevles
- wild embers: poems of rebellion fire and beauty, by Nikita Gill

The Demon of Unrest: This summer, I bought tickets to hear Erik Larson speak at our local bookstore. In these fraught political times, I hoped his take on the months leading up to the Civil War would quell my anxieties. An audience member asked Larson what lesson he learned from writing this book. His answer still haunts me: “When extremists tell you what they’re going to do, believe them.”

The Greatest Love Story Ever Told: I downloaded this self-published book on Amazon for free at the recommendation of a friend. I have not read many YA novels so I didn’t know what to expect. The challenges faced by the up-town girl/downtown boy protagonists reminded me that I only get a glimpse of my patient’s lives, particularly when they are AYAs. If you cried at the end of *The Fault In Our Stars*, you will love this book as well.

The Baltimore Case: I was unaware of the political scandals that rocked the NIH and NCI in the early 1990s until I started researching my upcoming podcast about the NSABP and Bernie Fisher. I quickly got up to speed and Nobel Laureate Dr. Baltimore’s name kept popping up. Considering the current politician-led attacks on scientists, this book, written by Yale University history professor Dr. Daniel Kevles, shows us that history doesn’t repeat but it rhymes.

wild embers: The poem “Your Heart is not a Hospital” begins:

Your body is not a first aid kit for broken people and damaged souls and hearts that are too tired to fix themselves.

A rapidly changing healthcare environment combined with a bounty of exciting new cancer therapies overlaid with the fallout of a global pandemic all contribute to a feeling of uncertainty. What is my role in this new world, I wonder. Gill's synthesis of the mystical and the mundane doesn't provide the answer but helps me live with the question.



Considering the current politician-led attacks on scientists, this book, written by Yale University history professor Dr. Daniel Kevles, shows us that history doesn't repeat but it rhymes.

– Stacy Wentworth

A guest editorial by Wentworth is available on [page 34](#).

Robin T. Zon, MD



President (2024-2025), ASCO; Physician emeritus, Michiana Hematology Oncology; Consultant, Cincinnati Cancer Advisors; Chair, South Bend Medical Foundation

- [The Personal Librarian](#), by Marie Benedict and Victoria Christopher Murray
- [A Fever in the Heartland: The Ku Klux Klan's Plot to Take Over America, and the Woman Who Stopped Them](#), by Timothy Egan

I am a long-time fan of historical fiction, which, luckily (for me), is a favorite genre for our book club.

One author I especially enjoy is Marie Benedict, who rather than focusing on a particular time period, seeks out women whose compelling stories and contributions have been hidden or suppressed. I found her book co-authored by Victoria Christopher Murray, "**The Personal Librarian**," to be particularly impactful.

The story centers around Belle de Costas Greene, the daughter of Richard Greener, the first African American graduate of Harvard. Belle was the personal librarian to JP Morgan and became one of the most powerful people in the art

world in times of segregation and racism due to her skin as passing as white. Author Marie Benedict acknowledged she did not have the perspective needed to portray the life of Belle and collaborated with Victoria Christopher Murray.

Words that come to mind describing the book include: bold yet tender, brilliant, eye-opening, and transformative for the reader. I highly recommend this book as well and her other books, including "[The First Ladies](#)."

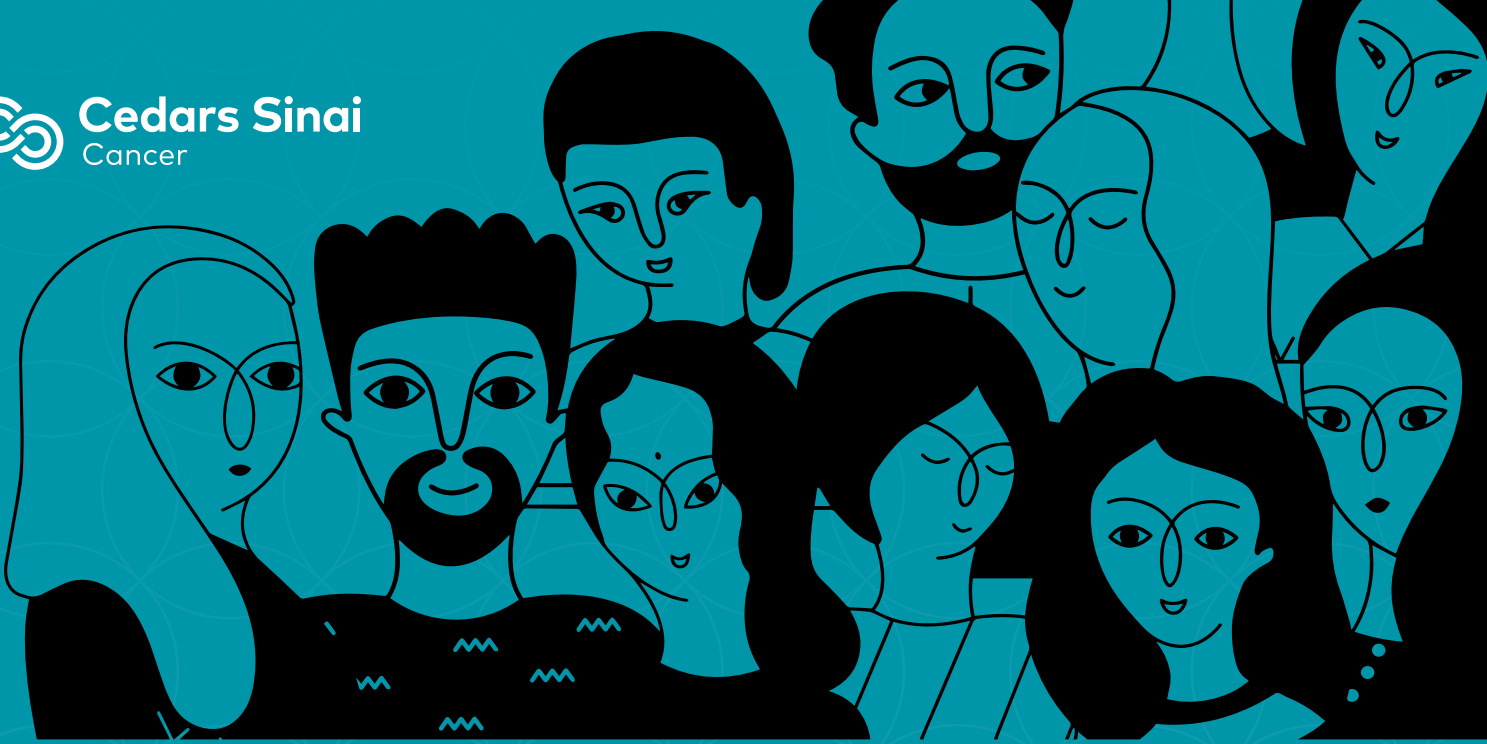
The second book, "**A Fever in the Heartland: The Ku Klux Klan's Plot to Take Over America, and the Woman Who Stopped Them**," by Timothy Egan, is noteworthy due to its relevance to where I have spent my last four plus decades of my life in Indiana/Michiana area.

The epicenter of the story is in Indiana, where the resurgence of the KKK in the 1920's started. I would describe the book as a disturbing example of humanity at its height of imperfection and brutality—and yet a stunning story of the woman who sacrificially stopped it.

Even more relevant, this year (May 2024), my hometown celebrated the 100th anniversary of the confrontation known as the "Notre Dame versus the KKK," which occurred during the time of the book. In fact, this act of defiance of the Notre Dame students against religious intolerance, proved to be a historical inflection point; and has been memorialized as the event which led to the nickname, "The Fighting Irish!"

Next on my reading list: Todd Tucker's "[Notre Dame vs. the Klan: How the Fighting Irish Defied the KKK](#)."

.....
Jacquelyn Cobb and McKenzie Prillaman contributed to this story.



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CANCER HISTORY PROJECT



Why Bernie Fisher deserves a biography (and why I am writing it)



By Stacy Wentworth, MD

*Radiation oncologist and author;
Founder, Cancer Culture;
Former medical director of cancer survivorship,
Atrium Wake Forest Baptist Health*



In June 2020, I was seeing consults in the damp, windowless basement of a community hospital in North Carolina.

As the pandemic wore on and social tensions continued to rise, I thought about stories older physicians told me about the violent animosity Bernie Fisher faced as he promoted less mutilating operations for breast cancer in the 1980s. I wondered what wisdom this contrarian, pugnacious surgeon might be offering about COVID.

When I searched his name online, I was saddened to find his *New York Times* obituary from 2019.¹

As I skimmed pages of professional tributes, I learned that except for a few years at the University of Pennsylvania, Fisher spent his entire life in Pittsburgh.² Remaining within blocks

of his childhood home, Fisher changed the world's approach to breast cancer treatment forever.

I had heard of Bernie Fisher in my radiation oncology residency. Now, I went into what might be called a Bernie Fisher obsession, which gradually led to determination to write a book about this curmudgeon with a scratchy voice and surgical personality who changed the way we think about cancer.

I knew the basics, of course. Fisher's second landmark trial, NSABP B-06, established the surgical treatment of early-stage breast cancer. Women had a choice in what surgery they wished to undergo because of Bernie Fisher, and most chose to conserve their breasts with a lumpectomy and radiation.

By cementing organ preservation into the foundation of the most common cancer in women, Fisher gave radiation oncologists like me a steady job. I would later learn all his other contributions—prevention of breast cancer in high-risk women, the role of neoadjuvant chemotherapy in downstaging inoperable tumors, and even sphincter preservation trials in patients with rectal cancer.

As I progressed in my career, I noticed that no one talked to breast cancer patients about Bernie Fisher. This omission, I felt, left women oblivious to the science behind their care. So, I began to tell newly diagnosed patients who passed through my practice the story of Bernie Fisher.

The arc of Fisher's research put my recommendations and their choices in the context of dozens of clinical trials engineered to provide an approach to breast cancer that is both personalized and evidence-based.

Through the fall of 2020, I spent more time learning about Fisher. For the first

time, I read about the scandal that engulfed him near the end of his career.

Targeted by a powerful congressman, a determined reporter, and a furious NCI director, Fisher resigned from his position of chair of the NSABP on March 31, 1994.

As I drilled deeper into the story, I could see how leaving the group he had founded and led for almost forty years destroyed Fisher. The sudden loss of identity, complicated by the betrayal of NCI leaders and administrators at the University of Pittsburgh, left this elderly lion broken and depressed.

After his accusers moved on, I learned, Fisher spent the remaining years of his life picking up the pieces.

Twenty years into my career, I was not shocked by the behavior displayed by the powerful during the political maelstrom that has become known as the NSABP Scandal. The scandal was overblown—most of it was hot air—and Fisher was never culpable of any wrongdoing. Throughout the story, he stood stooped yet unbending, surprised and disappointed by the blowing winds.

That such a heroic story should end with such an unhappy ending elicited only knowing recognition. On a smaller scale, decisions informed by professional expediency have shaped my own career and those around me. But the larger-than-life Fisher was one of the foundational characters in our field.

How had his story ended like this? Fisher lived in a time when giants of cancer care really did walk the Earth, and he was one of them. And yet, when I asked our residents about him, few knew his name. How could that be?

I mulled the answers to these questions throughout the pandemic. I watched every video of Fisher that I could find. Once it reopened to visitors, I made an

appointment at the National Archives and spent hours picking through dusty boxes of documents.

I took a week of vacation and drove to Pittsburgh. There, I was disappointed to learn that most of his archives are not yet publicly available and the University of Pittsburgh archives contain little information about his groundbreaking work.

I scoured past issues of *The Cancer Letter*, *The Pittsburgh Post-Gazette*, *The New York Times*, and *The Washington Post*. I joined the Squirrel Hill Historical Society and learned more about Pittsburgh's Jewish community. I even submitted a FOIA request to the FBI for any records on Fisher. (There were none).

Close associates of Fisher spoke to me anonymously or declined to talk to me at all out of concern over upsetting his family. Finally, I asked every physician of a certain age as well as any I met if they knew Fisher. Even if they wouldn't say it on the record, everyone, it seemed, had a story to tell about the time they met Bernie.

Dr. Vincent DeVita agreed to share his memories about working with Fisher on the record. When we finally met on Zoom, I asked him about a story I read in his biography, "The Death of Cancer." He agreed to tell it again.

In the late 1970s, DeVita attended a meeting at Rockefeller University. A group of prominent physicians gathered to hear Fisher give a talk on the surgical treatment of breast cancer.³

He began his talk by reviewing the data he collected during what he referred to as his "Promethean period." Using radiolabeled cells injected into animals, Fisher's experiments demonstrated how cancer cells readily traversed lymph nodes, entered the bloodstream

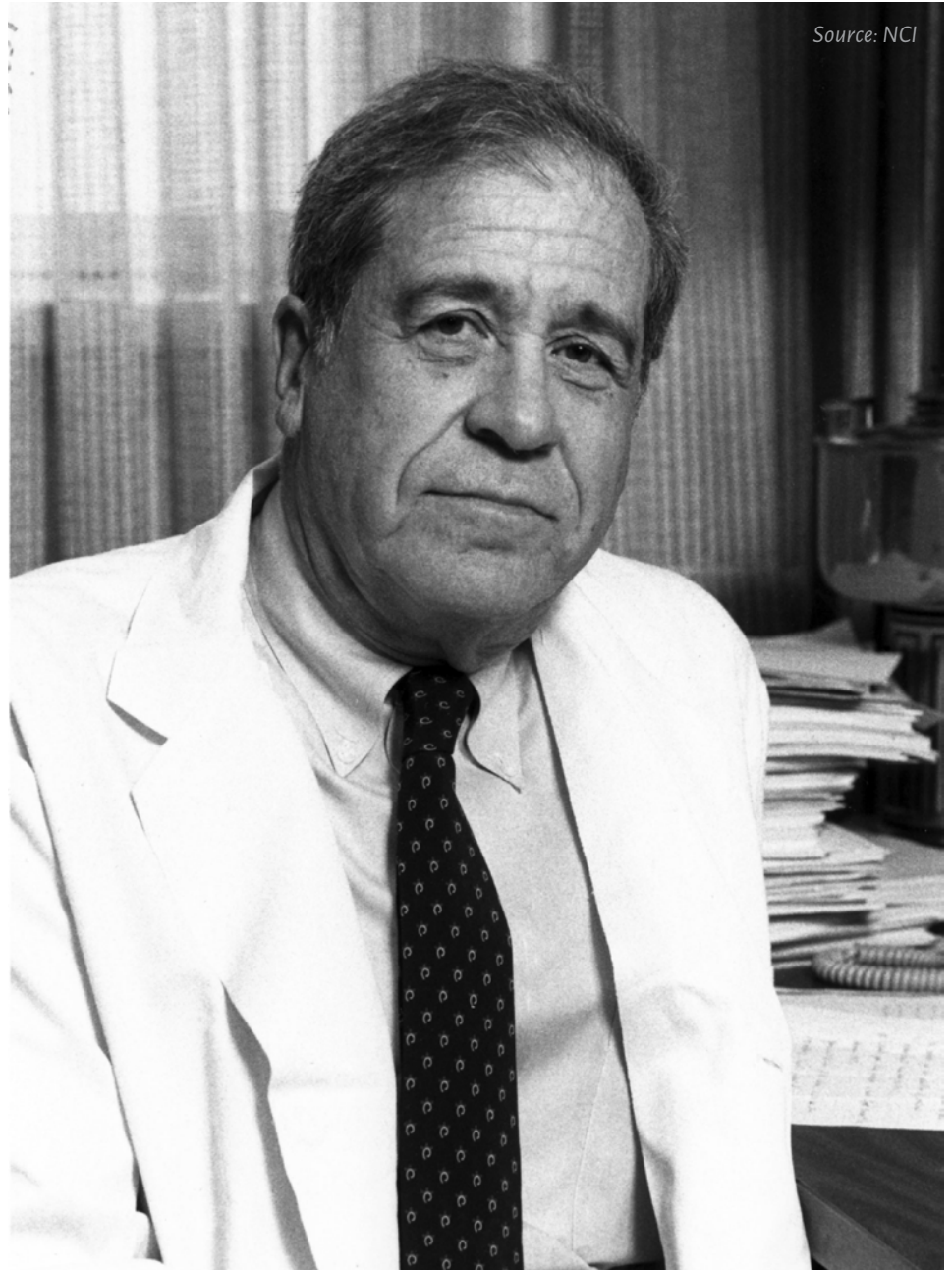
and spread to other organs. These results suggested that cancer was a systemic disease from almost the moment it formed.

Fisher's rusted hinge of a voice tinged, by his signature Pittsburgh accent, reverberated around the packed auditorium, but the audience didn't believe a word he was saying.

Any surgeon worth his scalpel knew that local lymph nodes, aka Virchow's filters, trapped cancer cells. Cancer spread locally by contamination of a careless surgeon's knife rather than through the blood. Extensive, technically complex and physically deforming surgeries were necessary to remove every cancer cell. Halsted's radical mastectomy had been surgical dogma for almost a century. What Fisher was suggesting was completely bonkers.

Ignoring the murmurs of disbelief in the crowd, Fisher proceeded to discuss the results of NSABP B-04, the first clinical trial to evaluate how much surgery was necessary to cure breast cancer.¹ Hundreds of women had been randomly assigned to either the "standard" Halsted radical mastectomy, a "modified" radical mastectomy with radiation or a "modified" radical mastectomy alone. The results of B-04 were clear: less aggressive surgery cured just as many women as the barbaric Halsted radical mastectomy. In fact, Fisher suggested, a partial mastectomy or "lumpectomy" that preserved the breast might be just as effective as removing it. Either way, the radical mastectomy, Fisher declared, was dead.

The words were barely out of his mouth when Dr. Jerome Urban, chief of breast surgery at Memorial Hospital, jumped to his feet and began screaming at Fisher. The audience held their breaths as the legendary New York surgeon, whose clientele included Second Lady Happy Rockefeller, berated Fisher. "You're a traitor to your own profession," Urban spewed. The pack of surgeons around



Source: NCI

Urban howled in agreement, shaking their fists and hurling insults at the burly Fisher who waited patiently.

His calm confidence only fueled their rage. Eventually, the surgeons returned to their seats, still fuming. Fisher motioned for his last slide.

On the screen, a graph appeared with two overlapping lines—an upward curve labeled "CR" and a downward curve labeled "PR." These were familiar terms to the oncologists in the room,

usually denoting "complete response" or "partial response" of a leukemia patient's bone marrow to treatment with chemotherapy.

There was no established role for chemotherapy in breast cancer in the 1970s and this was a surgical presentation. The men shifted uncomfortably in their seats. What was Fisher suggesting now?

Fisher paused and pointed to the first curve. "Here is the problem with my critics," he said, tracing the up-sloping

curve. “Increasing cerebral rigidity,” he sang out amid furious whispers, “is matched by,” moving the pointer along the downward sloping line, “decreasing penile rigidity.” The crowd erupted as the most respected surgeons in the country again rose to their feet in anger.

Fisher yelled over the clamor that his critics’ inability to accept the results of randomized trials revealed their age and ineptitude. Dr. Urban and half the audience stormed out.

After speaking with DeVita, I searched online for interviews of Urban. To my surprise, I found national news footage of Urban unabashedly dismissing Fisher’s ideas. In written editorials, Urban declared that any doctor who performed less than a radical mastectomy was playing Russian roulette with a patient’s life.

Another Fisher critic, Columbia University surgeon Cushman Haagensen, wrote that doctors would suffer “ruination of the soul” if they changed their practices and followed Fisher.

These men had refused to participate in Fisher’s trials and yet castigated his results. To defend their outdated approach, each published retrospective reports of selected patients.

These sloppy articles, Urban and Haagensen argued, showed that radical or even supra-radical approaches were necessary to cure breast cancer. Acting as anonymous reviewers at prestigious journals, these same establishment surgeons criticized Fisher’s well-reasoned manuscripts for lack of follow up and refused to publish them.

Surgical conferences evinced a Jerry Springer vibe as debates between Fisher, Urban, and Haagensen sometimes ended in physical violence. Verbally, and less often physically, beating up on Bernie Fisher became a sport. At one point, the hulking 6’3” Fisher confided to DeVita that he feared for his life.

Confident in his quest, the pugnacious Fisher ignored the establishment and instead recruited general surgeons across the country to join his efforts.



Surgical conferences evinced a Jerry Springer vibe as debates between Fisher, Urban, and Haagensen sometimes ended in physical violence. Verbally, and less often physically, beating up on Bernie Fisher became a sport. At one point, the hulking 6’3” Fisher confided to DeVita that he feared for his life.



Acting as salesman, researcher, and surgeon, Fisher promised aspiring surgeons at lesser-known institutions national recognition in what was sure to be practice-changing research.

Fisher’s enthusiasm attracted young, bright surgeons like Norman Wolmark, Armando Giuliano, and Terry Mamounas. He even convinced the NCI to pay Canadian hospitals to enroll patients on his trials. Never had so many surgeons in so many locations been involved in clinical research.

With few established protocols for conducting clinical research, Fisher and his

talented team made them up as they went along. The NSABP created best practices for centralized pathology review, patient consent, and data collection. The complexity of this undertaking in the 1970s boggles the mind.

Through decades of carefully plotted clinical trials, each building on the findings of the last, Fisher forced surgeons to examine the shaky foundation on which their tightly held beliefs rested—the opinion of a long-dead surgeon and his successors.

The establishment squirmed under pointed questioning of their lack of intellectual curiosity and the possibility that their beliefs were wrong. Accustomed to fawning adulation, these men were incredulous that another surgeon, particularly one from a place like Pittsburgh, would dare to challenge their experience and ability.

“While we take for granted the clinical trial mechanism today,” Fisher said in an interview, “when I began my clinical trials, it was difficult for me to get women and physicians to take part in them. When the radical mastectomy was being evaluated, the idea of performing less extensive operations was considered, in some institutions, to be equivalent to malpractice.” Undaunted by this fierce opposition, Fisher followed the data and demanded that others do the same.

Sometimes I wonder how Bernie would have regarded me and my book obsession.

After all, he did not set out on a feminist quest to dismantle the surgical patriarchy. He was a “man’s man” by all accounts. What he could not tolerate, however, was decision-making based on instinct, personal experience, or historical anecdotes. Thus, his most famous quote: “In God we trust, all others must bring data.”

The societal upheaval of the 1970s provided fertile ground upon which to test Fisher's hypotheses. The rise of feminism prompted women to demand a louder voice in their medical care about the same time as Fisher opened B-04.

Noting this interplay, I tracked down a yellowed copy of Rose Kushner's book, "The Breast Cancer Controversy." I read about Shirley Temple Black and finished Betty Ford's autobiography on a family beach trip. On YouTube, I watched Mary Tyler Moore play journalist Betty Rollins in "First You Cry."

I bought a copy of the June 1973 *Esquire* magazine on eBay to read Philip Nobel's epic profile, King Cancer. In it, Urban admitted that he probably did more surgery than was needed and referred to anything less than a radical mastectomy as "all that small crappy stuff."

Nobel interviewed breast cancer survivor and journalist Rosamond Campion. After a biopsy revealed cancer, Campion refused a radical mastectomy. She instead flew to Cleveland where the lone breast conservationist at the time, Dr. George Crile, Jr., performed a lumpectomy and sent her on her way.

Campion wrote a book, "The Invisible Worm," about her experience, encouraging other patients to practice self-advocacy. Women, including Rosmond, Rollins, Kushner, and others began to speak. Armed with Fisher's data, they also forced their doctors to listen.²

By the mid-1980s, women with early-stage breast cancer had a choice, based on Fisher's work and the women's advocacy, to not have their breasts removed at all.

After all this time spent in his world, I wondered: should I write a book about Bernie Fisher?

This question was on my mind after the loss of my longtime mentor and boss, Dr. William Blackstock. I had never known a career without him, and his unexpected death unmoored me.

My CV contained a modest number of publications, but I was not a prolific author. I'm a great radiation oncologist and love seeing patients, but I had no formal writing training. I do like a side job, however, and with the project Dr. Blackstock and I worked on together hanging in the balance, I wondered if writing a book about Fisher could be my next challenge.

While contemplating my professional future, my husband and I planned a trip to New York City to visit our daughter in the fall of 2023. After leaving her apartment one afternoon, we found ourselves walking past Rockefeller University, the site of Dr. Fisher's presentation fifty years earlier.

Imposing fences surrounded the leafy campus, and a stern security guard declined my request for a quick peek inside. Heading back towards our hotel, we crossed over Broadway and into Rockefeller Center.

Overseeing the long lines of sweaty families waiting in line to get into the LEGO store stood the recognizable statue of the Greek titan Prometheus. His muscular figure sits atop circles of gold, in one hand, a ball of fire. This is allegedly the most photographed statue in New York City, and I obligingly raised my phone to capture the moment.

According to Greek mythology, Prometheus stole fire from Zeus and gave it to humankind. Using Prometheus' gift, humans evolved from their animal-like existence to civilized life. Zeus punished Prometheus' betrayal by chaining him to a mountain for eternity, tortured by a liver-eating eagle.

“

What he could not tolerate, however, was decision-making based on instinct, personal experience, or historical anecdotes. Thus, his most famous quote: 'In God we trust, all others must bring data.'

”

As Prometheus's body floated in front of me and the leafy Rockefeller University courtyard was fresh in my mind, I thought back to Fisher's defiant presentation here in New York.

"Women in the U.S. should erect a statue to Bernie Fisher," DeVita told me in our interview. "He changed breast cancer surgery from the horrendous Halsted operation...to a more compassionate procedure resulting in far less morbidity."

Prometheus's statue stands in one of the most prominent places in the United States, representing science, knowledge, and stories. Dr. Fisher is present in the room of every woman diagnosed with breast cancer.

Yet no statue stands in his honor and no book has told his story.

- "The Emperor of All Maladies" dedicates almost fifty pages to William Stewart Halsted and less than ten to Bernie Fisher.



- “The Cambridge Illustrated History of Surgery” tells the story of Halsted over a dozen pages and does not mention Fisher at all.
- The most recent cancer book of cancer history, “From Whispers to Shouts: The Ways We Talk About Cancer” contains zero references to how Fisher broke the chains of surgery once and for all.

Fisher bestowed knowledge to human society and civilized the process of cancer research. The foundation he laid informs the treatment plan of every newly diagnosed patient we meet and provides the answer that every survivor asks, “Did I do enough?”

Fisher worked well into his nineties, pondering the future and synthesizing the lessons of the past. In his later writings, he challenged us to pick up his sword and continue the quest towards more personalized and less radical treatments for breast cancer. As we march forward toward that exciting future, it is time to celebrate Bernie Fisher’s contributions to science, to us and to patients.

Acknowledging that Bernie’s achievements warrant a statue, I must acknowledge also that I don’t work in bronze and granite.

Instead, I am telling his story in its full human grandeur, portraying him as he was.

““

By the mid-1980s, women with early-stage breast cancer had a choice, based on Fisher’s work and the women’s advocacy, to not have their breasts removed at all.

””

The first episode of “Less Radical,” a podcast about the life of Bernie Fisher, will be released on Sept. 25. [Listen to the trailer](#) and subscribe on [Cancer Culture](#).

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Stacy Wentworth will be joining the Department of Radiation Oncology at Duke Health in the fall.



BOOK REVIEW

Wafik El-Deiry carted a bunch of books around the Mediterranean

Here are his reviews



By Wafik S. El-Deiry, MD, PhD

American Cancer Society Research Professor, Chair, Worldwide Innovative Network (WIN) Consortium for Personalized Cancer Medicine; Director, Legorreta Cancer Center at Brown University; Director, Joint Program in Cancer Biology, Attending physician, Hematology/Oncology, Mencoff Family University Professor of Medical Science, Professor of Pathology and Laboratory Medicine, Associate Dean, Oncologic Sciences, Warren Alpert Medical School, Brown University; Editor-in-Chief, Oncotarget

I accumulated some books I found interesting over the last several months, knowing I would eventually take time off on vacation and have a chance to delve into them more than my schedule normally allows.

This has become a tradition, and one that I've enjoyed, including the books reviewed in 2023 (*The Cancer Letter*, Aug. 11, 2023).

While spending a week in Europe this summer, there was less time to sit for very long with a book in places

like Rome, nor would my family take kindly to my missing planned activities with them.

We went to a couple of nice Italian restaurants while briefly in Rome, one on the evening of our arrival near the water, called Antico Traiano, where the service was amazing and the pasta, pizza, and seafood were out of this world. I would recommend Corte Al Bigio Chianti Classico 2020 red wine. After dinner, we walked by the water and enjoyed a beautiful sunset among locals and tourists.

The Hilton Garden Inn at Rome's airport is a good place to stay due to the convenience and great staff. They have a free shuttle from the airport. The next day we stopped by La Frascetta Romanesca near Vatican City for lunch, as recommended by our driver, Maurizio Giovanelli. Maurizio has a sense of humor and told us about his family when he joined us for lunch. We had been to the Vatican in the past but not inside St. Peter's Basilica.

We had a great tour guide named Lorenzo Di Salvo, who told us many stories



The books Wafik El-Deiry took on vacation.

over a couple of hours about Michelangelo and Bernini, centuries of history, art, floors, ceilings, statues of many popes, and their burial places, including the place where the bones of St. Peter are located.

Lorenzo shared many interesting tidbits, including how Italians feel about and are protective of the precious contents of the Basilica, the personalities and the politics of some popes with some kings, and evolution of how the

church raised money through forgiveness of sins. One such opportunity will occur at the [2025 Jubilee](#), an event years in planning with many millions of visitors expected.

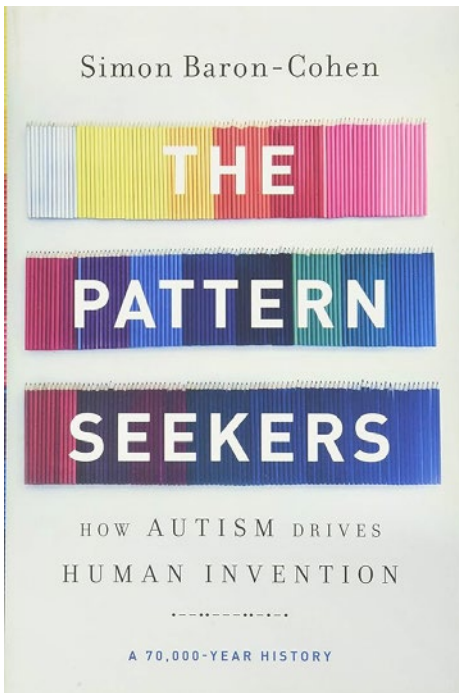
The current Pope, we understood, takes time off in July when we were there visiting, is not in great health, and, in any event, doesn't meet with groups of visitors on Saturdays (only on Wednesdays with prior arrangements). But we were able to get a blessing for my disabled daughter Jennifer.

Overall, visiting St. Peter's Basilica is highly recommended as a bucket list item, and we may return in the future with better planning to get her another blessing, maybe even from the Pope himself.

The books reviewed are:

- [The Pattern Seekers: How Autism Drives Human Invention](#), by Simon Baron-Cohen
- [On Call: A Doctor's Journey in Public Service](#), by Anthony Fauci, MD
- [When Women Ruled the World: Six Queens of Egypt](#), by Kara Cooney
- [The Surrender Experiment: My Journey into Life's Perfection](#), by Michael A. Singer
- [The Structure of Scientific Revolutions](#), by Thomas S. Kuhn
- [Accidental Medical Discoveries: How Tenacity and Pure Dumb Luck Changed the World](#), by Robert W. Winters, MD
- [Henrietta Lacks: The Untold Story](#), by Ron Lacks
- [How We Do Harm: A Doctor Breaks Ranks About Being Sick in America](#), by Otis Webb Brawley, MD and Paul Goldberg

The Pattern Seekers: How Autism Drives Human Invention



A book I was eager to learn more about is Simon Baron-Cohen's "The Pattern Seekers: How Autism Drives Human Invention," published in 2023. The book came to my attention when the editor of *Science* magazine, Holden Thorp, earlier in 2024 shared a bit about his journey with cognitive diversity.

As the book starts out, a young boy named Al, who was late in beginning to talk by the age of four, had a habit of asking for clarifications and frequently asking "why."

I immediately realized this as a trait that I have and one that, when I was in college, presented some challenges, because during that time college professors were not to be questioned about the unknown so much, as it would reveal their limitations. Unless I thoroughly understood how something worked and why it worked, there was often a

block to learning, remembering, and applying what came more easily to others.

Al would go on to be homeschooled, where he excelled in many ways to "pursue his passion for seeking patterns in the world." Al was a true genius who taught himself physics and Morse code that he used to make money at the age of 16 when he left home. He would experiment at night, learning how machines work, building his own to transmit Morse code.

Another child named Jonah, whose mother was worried because she was told by her pediatrician that the "late talkers... are more spatial, more musical, more mathematical—they love patterns." When Jonah eventually started talking, "he was pointing to classify objects, for himself" very precisely, such as "This is a porcini mushroom."

The book features the lives of gifted individuals in different centuries, their successes (won't spoil it here) as well as their challenges, including social difficulties and obsessions. Of interest to the author (an autism researcher) is the origin of inventiveness and its links to autism. He puts forth a theory that suggests certain genes that are involved in autism may promote inventiveness through "if-and-then" patterns after having curiosity and asking "why" or "how" questions.

However, he comes back to the "playful curiosity" of a child that is in all humans.

The book offers a glimpse into thought processes such as the "systemizing mechanism" in all our brains and how this can lead to invention and discovery. When we apply "if-and-then" rules, we understand a system better with observation, experimentation, and modeling. This is why some who are gifted are super good at building mental spreadsheets.

The reader learns about different types of brains, some good at systemizing, and some better at empathy, while others are "balanced," and yet others are more at extremes. It was interesting to learn that most people are not Type B (balanced), that there are similarities between "hyper-systemizers" and those with autism, and that "systemizing and empathizing can be a zero-sum game," with biological factors including sex differences.

Who knew that prenatal exposure to testosterone increases systemizing and reduces empathy? Or that autistic people who record information well are hyper-systemizers with hypermnnesia and make up for challenges with cognitive empathy by having intact affective empathy.

They are upset by other people's suffering and try to figure out how to help them. Another way to think about hyper-systemizers is that they are perfectionists, something many in STEM fields can relate to.

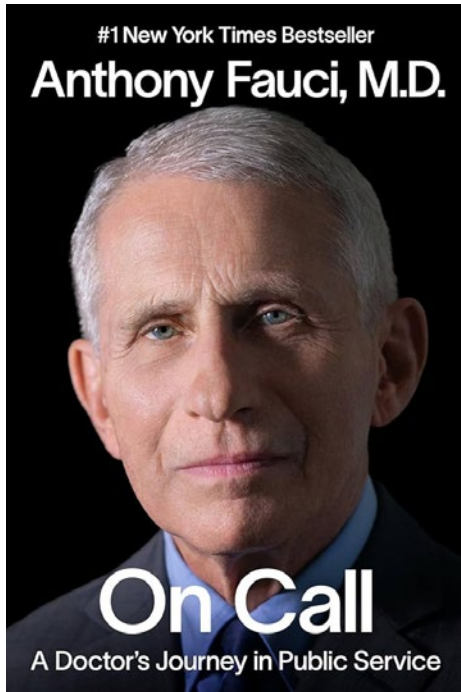
The book walks through human evolution and how the systemizing mechanism may have led to key inventions and advances in history perhaps coinciding with a cognitive revolution as a result of genetic change.

Psychologists and others will appreciate chapters comparing humans, apes, and chimpanzees, including use of tools, understanding causality, and how humans came to invent so much. The book speaks about neurodiversity and where the next Thomas Edison or Elon Musk may come from, and how employers need to understand that when they conduct job interviews, those with autism have challenges.

It remains unclear how the autistic talents and learning disabilities relate to each other and there are speculations

about why there is much anxiety and OCD among those with autism. But with the limitations, there is also hope for the future to be made by those with autistic traits.

On Call: A Doctor's Journey in Public Service



I have never met Dr. Fauci, nor have I been in the same auditorium to hear him speak. But I've respected him for decades as the leader of his field and longtime editor of "Harrison's Principles of Internal Medicine," and I do recall the AIDS epidemic well, as a medical student in Miami in the early 1980s.

He was a world authority on the topic at the time, along with Dr. Margaret Fischl in Miami and Dr. Richard Chaisson in San Francisco (he was later my attending when I saw patients on the AIDS ward at Johns Hopkins during medical residency in the late '80s).

I have heard Dr. Robert Gallo, who studied the AIDS virus years ago, give a keynote while I was in medical school

in Miami. Anyone who went to medical school in the early 1980s, especially in cities where HIV was common—in hospitals in New York, San Francisco, or Miami—knows well what seeing young men actively dying from severe immune suppression and opportunistic infections in the lungs, brain, and elsewhere looks like, not to mention Kaposi sarcoma, lymphoma, diarrhea, and dementia.

Early in my career, I considered working on HIV research but decided to pursue cancer instead. Having just gone through (hopefully the worst part) the COVID-19 pandemic and having Dr. Fauci still there as the expert authority for guidance to the world, I looked forward to reading the book "On Call: A Doctor's Journey in Public Service," by Anthony Fauci, MD, published in 2024.

There has been controversy about the origins of SARS-COV-2, the role of NIH in funding "gain-of-function" research in Wuhan, and how both Dr. Fauci and past NIH Director Francis Collins have endured the controversies that evolved since early 2020.

So, I wanted to see what Dr. Fauci was saying, firsthand.

The book begins with a preface that mentions how Dr. Fauci received a call sometime in 2020 from Albert Bourla, CEO of Pfizer, who shared the results of a phase III trial of the Pfizer COVID-19 vaccine that revealed 90% efficacy, much better than was expected. This was the realization of the hope that would turn the tide on the COVID-19 pandemic. I was personally incredibly relieved and fortunate to get the first vaccination in December of 2020 as a medical professional.

In his autobiography, Dr. Fauci goes on to describe his journey from his birth on Christmas Eve in 1940 in Brooklyn, NY.

The reader learns about Dr. Fauci's childhood as a second-generation Italian American growing up in a close-knit neighborhood, and the early impact of the nuns at Our Lady of Guadalupe had on his path to the very competitive Regis High School in Manhattan, and to the College of the Holy Cross in Worcester, MA.

We learn about his love of basketball, his days as a point guard (as much as he loved basketball, it was not in the cards given his height), who first called him Tony, his love of the humanities, his summer activities, including as a member of a union of laborers in New York (and how one time he was asked to leave an auditorium at Cornell he would later return to).

Using a broom handle to play stickball on the street in Brooklyn where you were considered a wimp if you didn't hit the ball a distance of two manhole covers reminded me of my own childhood in Brooklyn three decades later, near Kings County Hospital, where my dad worked, and some of the rough, poor neighborhoods like Bedford-Stuyvesant—and the movie "The Lords of Flatbush."

I begged my parents to move to Queens because I was terrified to go to the high school featured in that movie. In those days, they talked tough about playing frisbee with the manhole covers in Brooklyn.

Dr. Fauci walks us through his path in medical school at Cornell, his love of medicine, his mother's diagnosis with advanced cancer in the liver that took her life within eight weeks when he was in his fourth year, his decision to stay at Cornell for residency as first in his class, and his path to NIH, where the first question he was asked by Dr. Sheldon "Shelly" Wolff was whether he liked soft shell crabs. He arrived at NIH as a result of his choice to serve in the United States Public Health Service during the Vietnam War.

It was fascinating for me to read about how Dr. Fauci, who had become interested in infectious disease that could be cured, studied immunology with Dr. Wolff (who also became his friend and best man). In particular, he studied Wegener's granulomatosis, and he used drugs like Cytoxan and steroids at doses to suppress overactive immune systems and inflammation.

This happened within an environment where the very same drugs were being used to treat malignancies at NCI two floors above, and, in that same environment, physicians-scientists like Dr. Fauci could study clinical specimens from the patients they were treating a few yards away on the wards of the clinical center at the NIH.

I saw textbook examples of Wegener's granulomatosis, as it was referred to then, at Johns Hopkins Hospital, including the triad of nasal sinus, lung, and kidney inflammation with associated bleeding, where, during the late 1980s, sick patients were being given low dose Cytoxan plus steroids by rheumatologists. This disease is well-known by internists with cognitive skills.

At that time, Johns Hopkins was very strong academically in rheumatology, and there were also plenty of great private docs in the community. Later on in my career, after oncology training, I came to realize that low-dose oral Cytoxan was something doctors can give more easily than high-dose chemotherapy, and it was much less scary.

During residency, while looking from the perspective of rheumatology in the late '80s, giving Cytoxan was much more mysterious and required much more knowledge or skill than that of a resident, especially because dangerous chemotherapy pills could be taken at home, where side effects could also occur. It was hard for me, early in training in the late 1980s, to picture how such things could be managed for an outpa-

tient from the perspective of inpatient medicine where bad things happen, the current world of hospitalists.

I loved reading about Dr. Fauci's decision to remain at the NIH as a senior investigator to achieve a "multiplier effect" through a combined career of medicine and research. He worked out a deal with Shelly Wolff to return to Cornell for a year as chief resident, which years earlier was on his mind and would have opened doors for a career in clinical practice.



Between his friendship with then-Vice President George H. W. Bush and Sen. Edward M. Kennedy (D-MA), Dr. Fauci, since the 1980s, had the respect and highest access in government across party lines.



By 1981, Dr. Fauci saw the first reports of opportunistic infections initially in gay men in San Francisco and New York, but later elsewhere, including female IV drug users and other heterosexual transmissions of a new disease we now know as AIDS.

He describes his thought processes about what this could have been and his decision to change career path in some ways, possibly due to fate, as he was both an immunologist and infectious

disease specialist. He also spoke of early skepticism by others of his choice.

During the 1980s, Dr. Fauci cared for hundreds of patients with AIDS at the NIH and describes the ravages of the disease he and his colleagues there and elsewhere helplessly observed and its impact on physicians on the front lines as akin to PTSD. Dr. Fauci shares stories of evolution of his research as the HIV virus was discovered, his personal life including how he first met his wife of nearly 40 years, Christine, who is a nurse, running marathons, and his rise to lead the NIAID.

It was great to read about his non-negotiable conditions that made him the first to continue doing research and seeing patients in such a leadership position of great impact, and the youngest to assume such a position at the time.

There are some good lessons to learn from Dr. Fauci from the days when he became director of NIAID, such as taking the time to learn about the institute locally and broadly, recognizing parts that were "sleepy" or "lacking in a palpable sense of urgency," the art of "budget-busting lite" and doing things like advocating for doubling AIDS research funding with Congress, and succeeding at doing things no one had done before.

Other lessons included staying in touch with what was happening at the epicenter of the epidemic, for example, by visiting Greenwich Village, a place he knew very well, and seeing the devastation of very ill people walking the streets, often with spots on their faces from Kaposi sarcoma.

Lessons in leadership included his efforts to create a national research focus on a single disease and to advocate for more and more funding despite pushback by some. Dr. Fauci recounts his first meeting with Dr. C. Everett "Chick" Koop, another Brooklyn boy, who was

referred to him as a patient and who became U.S. Surgeon General.

Their 30-year personal and professional friendship—and impact Dr. Koop had through his report on AIDS and efforts to raise awareness—are described, as are chapters on AIDS research, impact of AIDS on colleagues, AIDS activism, and his meeting with Vice President George H. W. Bush in 1987.

I enjoyed reading about advice Dr. Fauci received, such as when your advice is sought and you tell the truth, those seeking the advice may not want to hear what you have to say, and you may never be invited back, for example, to the White House. He was advised not to “fall into that trap” of sugar-coating information to avoid the “shooting the messenger” outcome.

Between his friendship with then-Vice President George H. W. Bush and Sen. Edward M. Kennedy (D-MA), Dr. Fauci, since the 1980s, had the respect and highest access in government across party lines. He was offered the NIH director job by the first President Bush and turned it down, because he said he could serve better doing what he was already doing. This earned him even more respect from the president.

Dr. Fauci describes the experiences with developing a vaccine against HIV dating back to 1987 and the many challenges and mysteries that were encountered. This is certainly interesting reading!

He recounts having to explain to President Clinton what some of the difficulties were and how it might help to have a Vaccine Research Center at the NIH. President Clinton made it happen while he was in office within two years, but the AIDS vaccine remained elusive. And, of course, other progress was made with protease inhibitors so that AIDS is no longer a death sentence. Global AIDS relief would become a priority.

Dr. Fauci recounts in vivid detail his presence in New York on the day of the Sept. 11, 2001 attacks, and his return to Washington, DC. He was needed to take part in plans to respond to bioterrorism threats including anthrax threats that would surface in ensuing months and kill a number of people around the country, and threats of other unknown attacks and worries about smallpox.

Then, there was SARS and Project BioShield that was authorized to spend \$6 billion over 10 years. Dr. Fauci was invited to the White House during the Obama administration at a time of threat from H5N1, H1N1, and need for vaccine preparedness, but also on people's minds were risks for Guillain-Barre with vaccines. There are chapters about Ebola and Zika before we get to COVID-19, “a disease like none other,” that was being discussed at the White House by Jan. 2020.

Dr. Fauci was recognized by President Trump because he heard about him from Lou Dobbs (who died recently) but had also met him once before. That conversation was about “identification, isolation, and contact tracing.” It was recognized quickly that a vaccine would be needed. It was interesting to read that Dr. Drew Weissman was mentored by Dr. Fauci in his NIAID lab from 1991-1997. The sequence of the virus was available by Jan. 10, 2020, and efforts were underway at NIAID to create a vaccine and there were parallel efforts at Moderna, Pfizer, and BioNTech.

Dr. Fauci recounts a night he was called by President Trump after 10 p.m. and how he indicated the importance of not underplaying the seriousness of COVID-19, and how the president the next day at a rally referred to the “new hoax.” This was before COVID-19 hit Italy in Feb. 2020. He recounts a visit by President Trump to the vaccine center at NIH and explains why early on he didn't recommend masks to avoid a stampede on masks due to lack of availability. As

the seriousness and reality of the pandemic set in, Dr. Fauci describes the atmosphere at the White House that was hostile to the press and the president's desire to latch on to any possible solution, such as hydroxychloroquine, that Dr. Fauci said did not work.

Dr. Fauci stuck to who he was as a physician and longtime editor of “Harrison's Principles of Internal Medicine” in contradicting the White House. He recounts how he then became a target. He kept a brutal schedule and remained amicable with the president. He describes the famous press briefing that he did not personally attend where the bleach disinfectant was talked about. The president chose to not wear a mask, and the vice president didn't wear a mask when he visited NIH.

Dr. Fauci recounts his complex relationship with the president who also wanted to “be good” with him. The president did get angry at Dr. Fauci when the latter suggested to JAMA by June that vaccine immunity would wear off and boosters would be needed. The chapter “He Loves Me, He Loves Me Not” goes on and on with the ongoing drama that readers of the book can read as the months went by in 2020. Joe Biden took office on Jan. 21, 2021, as Dr. Fauci was “straddling parallel universes,” and while some things changed, he has had unpleasant congressional hearings and has had to deal with ongoing accusations.

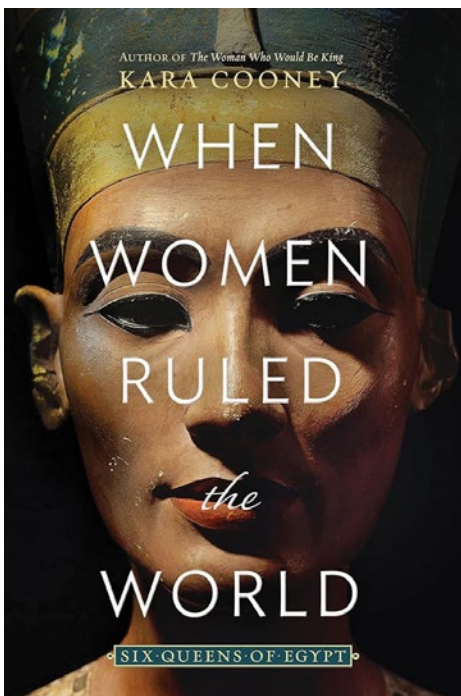
On one topic Dr. Fauci states clearly: “The smear campaign soon boiled over into conspiracy theories. One of the most appalling examples of this was the allegation, without a shred of evidence, that an NIAID grant to the Eco-Health Alliance (EHA) with a sub-grant to the Wuhan Institute of Virology (WIV) in China funded research that caused the COVID pandemic.”

But he also states, “As it stands, the origin of SARS-CoV-2 remains uncertain, and there are still heated discussions

over whether it was the result of a 'lab leak' or was a natural spillover from an animal reservoir to humans...That is why, as I have often stated publicly, we must keep an open mind to the origin of COVID, as I do...Keeping an open mind about both possibilities does not mean that one cannot have an opinion."

In the epilogue, Dr. Fauci states that "my story is about what it means to devote one's life to public service."

When Women Ruled the World: Six Queens of Egypt



During my time away this summer on the Mediterranean, while not too far from Egypt, I saw a post on Facebook with a striking image of an Egyptian pharaoh named Ramesses II (or Ramesses II) taken with a local Bedouin standing by for perspective on the size of the statue.

The post referred to the giant foot as a giant step which immediately reminded me of a certain giant leap for mankind.

I posted to X (formerly Twitter), "The huge statue of Ramesses II in Luxor, Egypt, shows what may be an original giant step for mankind? This giant step preceded the small step representing the giant leap for mankind that came later." Ramesses II was an impactful pharaoh, and it has been debated whether he was the pharaoh during the time of Moses and Exodus.

In any event, this piqued my curiosity, and while searching for "Ramses and Moses," I quite unexpectedly came across an interesting phone interview of Kara Cooney from Dec. 2018, by Simon Worrall entitled "[The truth behind Egypt's female pharaohs and their power.](#)" I hadn't read the book yet, but I was interested to see what I could learn from the interview about the remarkable women who ruled Egypt.

There was savagery "that makes the sopranos seem like lambs," and a somewhat disappointing theme that the female rulers were parts of conservative dynasties to maintain rule over centuries when there were no male heirs. However, some female rulers were truly great, although again Cooney reiterates "these women in ancient Egypt were serving a patriarchy," and changed their identity as, for example, Nefertiti, who "had herself renamed and was no longer depicted in that feminine way." She does bring out something about the Egyptian queens that "The Egyptians knew that women ruled differently, that they weren't warlords or rapists, they weren't going to throttle you in the night. Not that they're not capable of murder. But fewer women commit violent crimes today and we should assume that it was the same in the ancient world."

In Kara Cooney's book "When Women Ruled the World: Six Queens of Egypt," published in 2018, Merneith, Neferusobek, Hatshepsut, Nefertiti, Tawosret, and Cleopatra ruled as heads of state in different dynasties at different

times during a 3000-year period BC. The author states: "In the long run, ancient Egypt was no less cruel and oppressive to women than every other complex society on Earth—but, here, they snatched the gift away after graciously bestowing it. So even ancient Egypt—the only state that consistently allowed female rule—suffered a woman leader only when it had to, expunging her from the eyes of her people as soon as possible." It is clear these women ascended to power "through political consensus" and were elevated "to the top precisely *because* a woman doesn't usually resort to military conquest and fractious aggression."

They weren't all peaceful. The author does acknowledge "the Egyptians were light-years ahead of us in their trust of female power." The author published the book at a time when she had been teaching a class on women and power in the ancient world for years where there was a focus on "gender disparity," and at a time when the topic came into public discourse much more, including in politics in America. The role of women in power in Egypt's history of continuity of the blood-line within different dynasties minimized "political threat," given the close family relationships involved, as a preferable solution versus a male uncle of an "underage nephew-king."

It is interesting that during the first dynasty around 3000 BC, a "chosen King's Brothers may have been considered so hazardous to the succession that they were killed in a ritualized and sacred setting." Some women also posed a threat if their son wasn't the chosen one, and so some were sacrificial victims, although there are other explanations where they were needed in the king's afterlife. As many of the victims were known to a new king, "The first day of a kingship in Dynasty 1 was characterized not by joyous celebration, but by deep grief and loss... When the king died, hundreds went with him."

This brutality and ritual is described to the reader as it was practiced in the early dynasties, such as the time of Merneith who “probably ruled six to eight years for her young son, until he reached the age of about 16 or 17.” Her tomb was discovered in 1900 and is described along with some of the detective work to figure out her status as a queen. Her tomb itself was a display of her power and likely she co-reigned with her son after he became king. But her name was no longer mentioned on lists of kings from a few reigns later.

A twist in the logic appears because some of the female rulers had no heirs and were the last of a dynasty but were allowed to rule for reasons that are discussed, including in the manner in which they ruled as differently from men who might have “scorched earth policies.” Some of this has to do with “fervent religious beliefs” that “a king was actually divine on body and soul.” Another issue that comes out is “perplexing” to the author that any dynasty would have no male heirs given the harem structure and “sacred duty.”

I am not sure how the author concludes “a few of the kings in Egypt’s history had little interest in women and wanted to sleep with men instead” given that this was “always unwritten, mind you.” It is also unclear why suddenly with a young king, “the king’s seed might be infertile,” although incestuous relationships are documented in ancient history and this could have such effects, even while preserving wealth and power within a royal family. It is speculative and based on knowing human nature that “hasn’t changed much in the last 4,000 years.”

The author portrays Egyptian dynasties as clinging to inbreeding to keep power while risking sterility for a 3,000-year period. Malformed bones, cleft palates, large heads, club feet and “intellectual deficiencies” have apparently been noted among offspring of kings’ sisters. The reader learns that “Tutankhamun,

with his own clubfoot and DNA showing incestuous origins, represents such systemic choices. The two stillborn fetuses found in Tutankhamun’s tomb are evidence of what happens.” The book highlights inbreeding and “royal incest.”



Reading this book, at some level, I was looking for wisdom from the female rulers in terms of what made them successful or how and why they were better and what can be learned for the benefit of today’s world.



I will interject here that, for over a decade, I have had issues with mummies being excavated and analyzed as they never gave informed consent. One could argue that we are learning about important human history but one could also argue that history and some secrets of an ancient civilization should remain buried or at least have some safeguards in place. I also suspect Egypt is not unique in such a history of royal incest and there are royal families that remain in the world today and have for hundreds of years. There are also other ancient civilizations with dynasties.

Modern politics is woven in the book in places describing how “authoritarian regimes thrive on placement of family members in positions of power,” with reference to “Trump’s base” and “Howard Stern radio interviews in which

Trump openly discusses the sexual attractiveness of his own daughter.”

An important point the book makes is that a family dynasty was more than continuing a blood-line, but also “it was about continuing a balance between elites; continuing the economy of trade, mining, and agricultural check and balances; continuing the pact between the gods and men; continuing the divine kingship itself.” Other references to modern politics include “Still, a woman in power must masculinize more than her dress,” with Hillary Clinton in 2016 getting “the message to de-feminize her speaking style,” and that this phenomenon is not new given the history of Neferusobek as Egypt’s first female king.

Hatshepsut broke some rules by acting as “regent for a boy who was not her son,” and extended her power for over two decades as the longest ruling female leader of Egypt. To her credit she is remembered as having “left Egypt better off than she’d found it,” even if later in history some who followed her tried to erase her to take their own credit. During her tenure and before and despite her “path breaking and glass-ceiling busting,” she supported “Egypt’s patriarchal system.”

It is clear that rituals of selecting the next king are shrouded in mystery to this day, but it’s also evident that money and influence by the elite was at play (as well as benefit to elites from a given outcome).

Reading this book, at some level, I was looking for wisdom from the female rulers in terms of what made them successful or how and why they were better and what can be learned for the benefit of today’s world. What I realized I was learning was how rulers such as Hatshepsut maintained power for as long as she did as a king’s daughter with connections, as one who surrounded herself with those whose ambitions

could serve her interests, by figuring out how to get the elites to compete with each other often in similar roles in her government, and through a “veil of ideology.”

These tactics made her unstoppable at the time along with erasing the boy-king who was bedside her, who was not her son. She succeeded with no bloodshed. She was so powerful that we don't have personal information on her and there was “no place for any political competitors to disseminate human details to discredit her.” She tried to have her daughter Nefrure succeed her, but it was unclear if she ever did, given the circumstances that are described.

In the long-term, she “lost economic and political influence...to keep it in the short-term” by “selling posts for influence and support.” But “she had control of the money,” and built many temples.

The author describes other modern examples of men taking credit for women's ideas, including the story of James Watson, Francis Crick, and Rosalind Franklin.

In the rest of the book, the lives and rules of the remaining female rulers are described.

The chapter about Cleopatra is particularly interesting in that her rule took place many hundreds of years after the prior female ruler, but she built upon the achievements of those who came before her. She was of Greek origin. Unlike others, there are texts from Cleopatra herself and much about her from Roman politicians, in some cases described as “propaganda.” She was very ambitious and managed to achieve “succession via her own children, as a man would.”

The title of her chapter is “Cleopatra: Drama Queen.” But a flavor of her tenure includes “Ptolemaic life was one of persistent PTSD. There were duplicitous alliances, blades slipped between the

ribs, and extensive poison lore, reaching, and level of domestic chemical warfare,” and “Such an existence must have been soul-destroying. Brother killed sister. Wife worked against husband. Father executed daughter. And, all the while, these family members were inbred in a self-protective system of royal incest to keep outside competition from coming into the family. To be a Ptolemy was a difficult and dangerous thing.”

The relationship of Antony and Cleopatra is laid out as are the politics between Rome and Egypt, self-serving human nature and inevitable challenges of world domination.

In the epilogue, the author deals with some stereotypes of men and women and some of the lessons learned from when women ruled the world.

We had an amazing tour guide while visiting Ephesus named Selin Usun. Her late father was one of the original tour guides in Turkey and her family now has many tour guides. In Turkey, tour guides attend tour guide school and learn many things so that, for example, when they take tourists to see carpets being made, they already know how carpets are made.

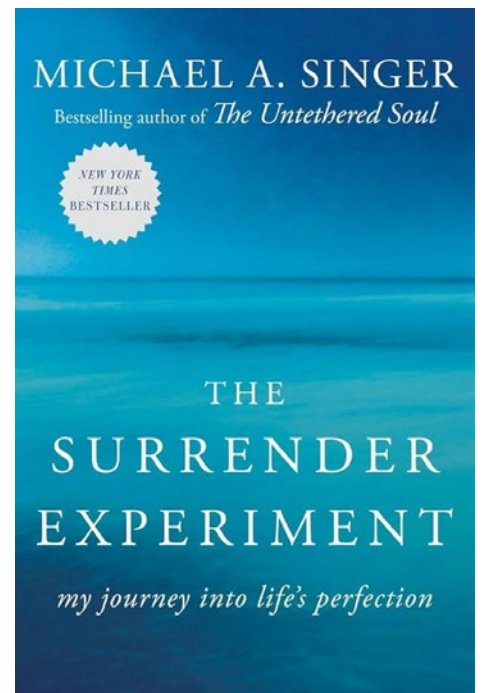
Selin is well-spoken, educated, and may have a future as diplomat or ambassador. When she learned that I am a physician and oncologist, she took extra attention to point out relics of interest. Selin pointed out the caduceus symbol on a stone with its two snakes often used as a symbol in medicine but also showed us Hermes with a staff on his left hand with intertwined snakes.

Hermes's caduceus in mythology came to be when he threw his staff at two snakes that were fighting, and the snakes wrapped around the staff and so it symbolizes peaceful resolution. The two snakes of the caduceus in Ephesus are not to be confused with the rod of Asclepius that has one snake. Asclepius

is an ancient Greek god of healing and medicine. We saw a headless statue of Alexandros, and Selin told us he discovered malaria and used eucalyptus to treat it.

Selin spoke about hygiene and told us that medicine is all about the dose—what could be a poison can also be a cure. She had some great stories about a Turkish coffee tradition when a groom and his family goes to meet his bride and her family, he is offered Turkish coffee with salt instead of sugar to gauge his character. She spoke about the Amazon female society of Turkey, religion, Turkish food, and mentioned that Turkey's name was officially changed recently to Türkiye because the Turkish people didn't like the name Turkey that is like the bird eaten on Thanksgiving.

The Surrender Experiment: My Journey into Life's Perfection”



“The Surrender Experiment: My Journey into Life's Perfection,” by Michael A. Singer, published in 2015. I had no idea what this book was about before

I started reading it. The author of “The Surrender Experiment” begins with an interesting premise: if life can manifest the DNA molecule on its own, not to mention create the human brain, how is it that we feel that we have to control everything on our own?

He goes on and proposes the basis for an amazing experiment to test the question whether it's better to fight reality to make things his way or to let go and serve the forces of reality that managed to create the entire perfection of the universe. He would pursue exerting free will within the forces existing around him and says that he did this for 40 years leading to surprisingly powerful results.

At some level, it felt like a *laissez-faire* notion and one that is at odds with the medical profession, not to mention goals of building programs and centers within the university. In our professional endeavors, the goals are purposeful and not to be left to chance by the forces around us. We strive to prolong life and to build excellence with specific goals and metrics.

So, with that in mind, I proceeded to read the book to at least understand how this may lead to inner peace and maybe some appreciation of his perspective and how to apply it or maybe realize it's not necessarily at odds with what I just said.

At the age of 22, the author counts a subtle yet transformational event in his life, where he found himself in an awkward moment of silence and suddenly changed his perspective on the situation, such that he was more of an observer. He made a joke about the person inside his head, telling him what to say. As I read what the author was saying, referring to an inner awakening, I couldn't help but think, “Who is this guy with voices inside his head speaking to him?”

It turns out the guy was hearing voices and trying to figure out if others had similar experiences, but people just gave him strange looks, and he was also really interested in getting the voices to stop. He was also saying that he thought if he mastered a foreign language that the voices would speak to him in that language and if he understood what the voices were saying, without expending effort on translation, then it meant that he had mastered the language. But I couldn't understand what would cause the voices to speak inside this author's head in a different language.

A friend of his in his doctoral program gave him a book entitled “Three Pillars of Zen,” by Philip Kapleau, about Zen Buddhism. Even though he was brought up Jewish, by the time he got to college, he was not religious.

When he started reading the book he realized that this was what he was looking for, a way of “quieting the mind.” The book directed him to meditate, which he started doing on his own by following what the book said to do. Then, he started hearing another voice about “what is beyond” him as during meditation he reached another state of mind. The state was peaceful and one that he wanted to remain in or at least have it coexist with other things he needed to be doing while maintaining the inner peace.

Michael Singer's life began to change as his new being started to have issues such as his wife deciding to leave him. “In place of a married man with a defined career path, my thoughts started to envision myself as a meditator who was seeking a deeper truth.”

When summertime came, he decided to travel to Mexico without a plan and found a spot above some hills with glorious views where he stayed for weeks. He had been warned about safety, but

then experienced an act of kindness with an 8-year-old boy bringing some milk to the American on top of the hill. He spoke about how he “followed the flow” and could see the “experiences as a gift from life.” Another experience on his way back “left an indelible impression on my mind to stop letting that scared person run my life.”

I particularly enjoyed reading a chapter entitled “Unexpected Inspiration” about when he went back to Gainesville to attend graduate school in economics and was on the verge of deciding to drop out of school and was feeling unmotivated. The economics department chair was like a father figure who encouraged him to get through his coursework, but he was missing classes and tried to negotiate with one of his professors to base his grade on his final term paper and other exams.

He describes how he wrote the paper by freeing himself from pressure, avoiding the library, and just allowing his creativity and logic to take over. I found his inspiration to be inspiring!

As I read on, I found myself thinking about the transcendentalist Henry David Thoreau, who spent time at Walden Pond, owned by Ralph Waldo Emerson. I learned about them in high school while growing up in south Florida attending Coral Gables Senior High, and I always remember the quote by Emerson: “to be great is to be misunderstood.”

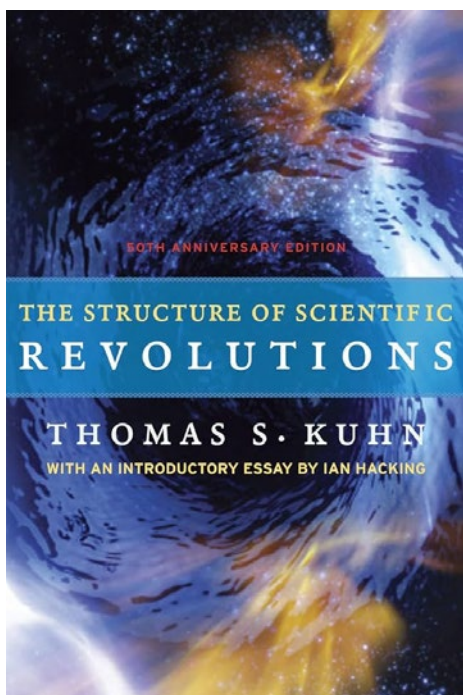
Michael Singer and his friends built a house in 1971 where he would look forward to meditating. The house would become his “temple,” his “monastery,” and he “vowed to use it well.” He would get another book, “Autobiography of a Yogi,” by Paramahansa Yogananda, and would realize “I had merely stuck my toe into the ocean Yogananda was swimming in,” and that he “had gone far beyond” his “beyond.”

The book goes on with the “experiment of a lifetime” where he lets “life take charge,” and the great opportunities that came his way in academia!

Letting go had many rewards. He published his thesis that sells on Amazon. He became known as a Buddhist and started a group he would lead in a north Florida prison. Chapters about a temple, chakra, and ashram would follow along with more growth in his life in his path to running a \$300 million computer software company and launching the Medical Manager, a corporation that would become publicly traded and have a relationship with WebMD.

The book definitely has unexpected directions and some surprises that await the reader.

The Structure of Scientific Revolutions



“The Structure of Scientific Revolutions,” by Thomas S. Kuhn, published initially in 2012 as the 50th anniversary edition. I love reading a book that starts

with these three sentences: “Great books are rare. This is one. Read it and you will see.”

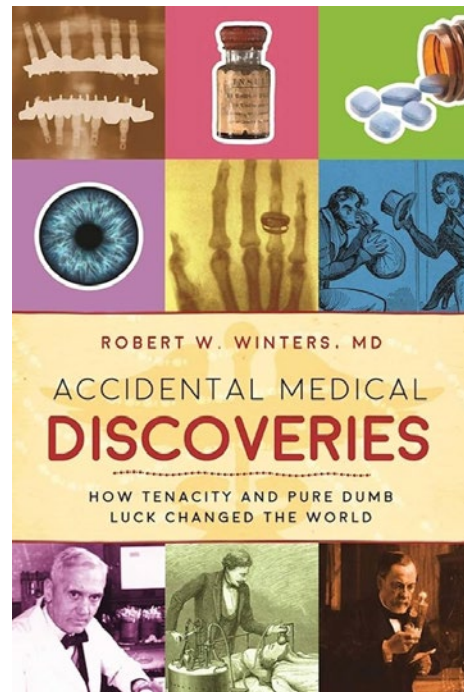
The first edition of this book was written in 1962. Physics was where the action was at the time. 1962 was also the year of the Nobel prize for the double helix and the structure of hemoglobin.

In the preface the word structure, which appears in the title, is highlighted because revolutions have structure. In the structure of scientific revolutions, not surprisingly there is an existing paradigm, and then there are anomalies that ultimately lead to the establishment of a new paradigm. An interesting idea is one of “incommensurability,” which during a paradigm shift, the “ideas in assertions cannot be strictly compared to the old ones.” Another idea that is brought out is that “progress in science is not a simple line leading to the truth,” but rather “progress away from less adequate conceptions of, and interactions with, the world.”

I was reading these words while on vacation at Elia Beach in Mykonos as I was trying a drink called the Moscow mule, made of vodka, lemon juice, green apple, and ginger beer. Definitely a great drink and fitting, as the Cold War is no more—and it was in Greece that mathematical postulates were transformed to proofs, as the author points out.

There have been many scientific revolutions over the centuries, and some are recounted including those of Immanuel Kant, Max Planck, and Albert Einstein. A comment was made about American society and how many things that are incremental are sometimes referred to as revolutionary. This is also the case in biomedical science. The book has a rather long introductory essay, followed by a preface and an introduction before setting the stage for the chapters that I am still reading.

Accidental Medical Discoveries: How Tenacity and Pure Dumb Luck Changed the World



As a scientist, I've learned that we learn much from unexpected results. I'm never disappointed in seeing results that counter expectations or challenge preconceived notions. After all, the scientific method involves building on existing knowledge, generating new hypotheses, and trying to disprove them.

As such, I was eager to see what the book by Robert W. Winters, entitled “Accidental Medical Discoveries: How Tenacity and Pure Dumb Luck Changed the World,” published in 2016, had to say. The author shares that he became interested in the history of medicine as a first-year medical student at Yale University School of Medicine, where he mentioned the story of Mrs. Anne Miller, wife of the athletics director at Yale, whose life in 1942 was saved through Professor John Fulton obtaining some precious newly available, but in limited

amounts, penicillin. The book and Dr. Winters's interest is in the role serendipity played in medical discovery.

It was interesting to read that Charles Darwin in the early 1800s witnessed two surgeries before anesthesia in a chapter about Fanny Burney, who had agonizing breast surgery to remove a tumor causing pain and inflammation. The vivid description of agony highlights the endured horror at the time including scraping the knife against the breastbone.

Experience with nitrous oxide, aka laughing gas, went the way of circuses and shows where people inhaled the gas. An accident onstage at a show enlightened a dentist named Horace Wells that the gas could be used in tooth extractions. Wells went to MGH to demonstrate the power of the gas, but it didn't go well.

I had read about this story before and visited the Ether Dome at MGH (with the Interurban Clinical Club) where, after the mishaps in front of skeptical doctors, "sulfuric ether" or "sweet vitriol" also came into use. I recall that the Ether Dome is high up in a building at MGH because it was meant to be isolated in early days of surgery without anesthetics (so that those below would hear less of the screams of patients).

The book mentions some fun-loving people (including some physicians) who took part in "ether frolics" or parties with ether and nitrous oxide for what in modern times is referred to as "recreational uses." Pain-free operations were being conducted in the 1840s as a result of the accidental discoveries.

There was some academic drama with a Boston dentist named William T.G. Morton who "claimed the spotlight" with use of ether after the failed nitrous oxide demonstrations he had arranged 18 months earlier. "Morton was not only a bold dentist, but he was also a gifted publicist and a sly businessman."

After a demonstration of ether use in a 24-minute operation in the Ether Dome, the course of surgical practice changed worldwide. Patent disputes and their resolution and more drama for recognition await the reader including a bill "in 1854 in the U.S. Congress that promised a \$100,000 prize to the discoverer of anesthesia, if one could be determined."



I'm never disappointed in seeing results that counter expectations or challenge preconceived notions. After all, the scientific method involves building on existing knowledge, generating new hypotheses, and trying to disprove them.



Chloric ether or chloroform came later as a less volatile sweet-smelling anesthetic that was used in childbirth, but it carried risks. Then, cocaine came—"Freud's Favorite"—but it, like morphine, was addictive.

Freud's collaborator Carl Koller discovered the anesthetic properties of a 2% cocaine solution in the eye of a guinea pig, a discovery that would impact eye surgery by the 1880s. "While cocaine's popularity increased, Koller's did not. Koller was certainly famous, but being Jewish and working in the hotbed of antisemitism of Vienna, he encountered widespread hostility." Koller moved to

Mount Sinai in New York in 1888 and was later honored back in Vienna in 1930.

Other examples of accidental discoveries are provided.

The discovery by H.J. Almquist of vitamin K in chickens fed a sardine meal that developed hemorrhages that were prevented by Alfalfa is interesting to read. His paper, submitted to *Science*, was rejected because a conflicting paper on the cause of hemorrhages was submitted by his colleagues from the same department at Berkeley!

Almquist's paper was eventually published in *Nature*, "but left Almquist in second place for claiming priority of the discovery of a new vitamin and a potential candidate for the Nobel Prize (awarded to Dam in 1943).

Also interesting is the discovery of warfarin that "began with a bleeding cow" in Wisconsin. "Sweet Clover Disease" or "bleeding disease" motivated veterinarians to track down the cause to sweet clover hay the cows were fed and that caused their fatal bleeding. The chapter has good stories about Karl Paul Link as an "outspoken iconoclast" and his co-worker Arnold Stahmann, who pursued number 42 of the analogues that was patented as warfarin. Stories about credit would come out after Link's death.

It is interesting reading about smallpox, and that "infected the human race about 10,000 years ago, probably in Egypt. The mummified head of the Egyptian pharaoh Ramses V bears the pockmarks of smallpox." We learn about Dr. Edward Jenner, who knew about the protective effects against smallpox by prior infection of a milder cowpox in milkmaids and who inoculated an 8-year-old with pustule fluid from cowpox, and later inoculated the child with live smallpox virus! He had difficulty getting others to follow-up or to even publish his work in a reputable journal. He ended up publishing his observations in a book in 1798

that described the first time a disease had been prevented.

Early in my career, I had previously heard of vaccinia virus which is the cowpox virus, and the inoculation that came to be known as vaccination. But there was opposition in part due to deviations from Jenner's protocol, resulting in serious side effects. Jenner had personal tragedies, losing family members to tuberculosis. By 1980, smallpox was eradicated, although there may be stockpiles of the virus at CDC and in Russia.

A detailed accounting of the observations in 1928 of Alexander Fleming, the discoverer of penicillin, awaits the reader in a chapter about "the crucial role of weather." The discovery occurred as Merlin Pryce, Fleming's colleague, was decontaminating some plates. "As the plates in the stack were slowly sinking in the bath, Pryce noticed that the top one, still above the level of the bath, contained a white fluffy mold, around which was a clear zone where the bacteria had been killed." There was a mold lab one floor below Fleming's lab.

Interestingly, while Fleming, a trained physician, published his observations, he didn't recognize the value for patients, and the publication was later picked up on at Oxford University by Ernst Chain and Howard Florey. The first animal experiments and human use are described and will be enjoyed by the reader.

There is also an amazing story about the first use of penicillin to treat a close friend of Fleming who had streptococcal meningitis. Fleming, Chain, and Florey won the Nobel Prize in 1945. Other discoveries are described with some common themes of chance disputes that arose and Nobel Prizes that were won.

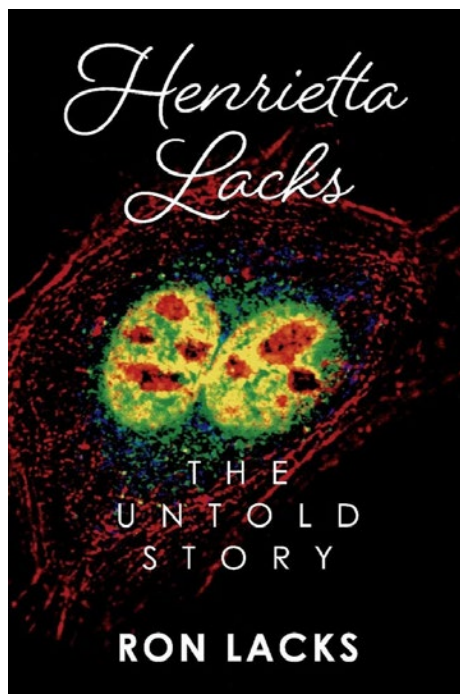
There is a chapter about peptic ulcers that describes observations by Dr. Robin Warren at the Royal Perth Hospital in Australia that ultimately led to a Nobel Prize.

Dr. Warren died on July 23, 2024 in Perth.

Warren and his collaborator Dr. Barry Marshall described the bacteria they isolated as the cause of chronic gastritis and peptic ulcer disease. The chapter has interesting reading for gastroenterologists; the discovery and natural history of *Helicobacter pylori* infection, a similar illness in children, described by Sir William Osler in 1910; those interested in the serendipity; and also those in opposition to pharma that was making billions on H2 receptor antagonists.

There are a number of chapters about heart drugs, tranquilizers, thiorazine, lithium, vitamins, insulin, Viagra, and even x-rays. A takeaway is to keep an open mind, as you never really know where the next breakthrough discovery will come from.

Henrietta Lacks: The Untold Story



I had previously read Rebecca Skloot's "The Immortal Life of Henrietta Lacks," and so, I wanted to read the book by Ron Lacks, the oldest grandson of Henrietta

Lacks: "Henrietta Lacks: The Untold Story," published in 2020.

Ron talks about why he wrote the book, and starts by saying something about Rebecca Skloot as the "woman who exploited my family for her own gain."

Well, I wasn't expecting to read that, and so, now, I looked forward even more to reading this book.

Ron also recalls hearing a comment made on national television (Baltimore's WJZ) by Gayle King, calling his deceased aunt Deborah (the family calls her Dale) "crazy," which touched a nerve with him. Dale was Henrietta Lacks's daughter. Ron says he wanted to "clear the record" about his family as "not some poor, uneducated, black family in need of pity or saving."

He gives examples of portrayals and exploitations of his distant family members, and distortions of the truth that necessitated his corrective action through this book, because "it matters a lot." "So, I will tell this story. I'm not worried about whose feelings get hurt or who doesn't like what I have to say. This is about truth and reclaiming the Lacks family legacy."

We learn that Henrietta Lacks's white great-grandfather owned a plantation in Clover, VA, in an area called Lackstown. Henrietta worked in tobacco farms and had her first child Lawrence (Ron's father) at the age of 14. In the 1920s, it wasn't uncommon for cousins to marry, and Ron takes issue with Rebecca Skloot's portrayal of his family as ignorant, "evil and incestuous."

Lawrence grew up living with his mother Henrietta, and was the only one of her children who knew about her life before moving to Baltimore when she was 21. There are memories of horseback riding, swimming, cookouts, and fishing in rural Virginia.

Ron heard from his father about Henrietta's knowledge of the stars and constellations, from fond memories sitting by a fire pit looking at the stars and telling stories among Lacks family members. Ron never heard anything bad about the white side of the family that owned a lot of land and mentioned that "Henrietta's white grandfather left them a nice piece of land to farm and raise their family."

Henrietta married at the age of 20, moved to Baltimore with her husband Day who worked with Bethlehem Steel, and they lived in a house in Turner Station (now known as Dundalk), "a thriving community" of Black middle-class families. Ron is proud of his family that were only two generations out of slavery and resents Rebecca Skloot's portrayal. Henrietta is remembered as a fun-loving classy lady who went to nightclubs to dance and "to see entertainers like Billie Holiday and Cab Calloway."

After her fourth child was born, Henrietta developed cervical cancer, diagnosed at Johns Hopkins in 1951 when she was 31. Ron recounts some stories he got from his father, Henrietta's oldest son, about the times she was getting treated at Johns Hopkins. The family felt like second-class citizens, sometimes waiting in their car until she was done with her treatment.

At the time, Johns Hopkins did not have a good reputation with the Black community, and there were major issues with mistrust of doctors and what they did. They were suspicious of why Henrietta was getting so much attention. It is recalled that on the day she died, a biologist named George Otto Gey went on national television with a vial of cells called HeLa claiming that cancer can now be studied because now they had cells, something he couldn't do for 20 years before.

Ron recalls visiting Lackstown during his childhood and how many houses were

seen on a dirt road where different family members lived. He mentions a misrepresentation by Rebecca Skloot that Henrietta couldn't write, saying "I feel that is a racist, stereotypical lie," as "she even wrote in cursive." He recounts family history in Baltimore and vacations in Virginia emphasizing there was neither poverty nor racism in his upbringing.

Henrietta's family found out about her immortal cells 24 years after her death. They were never told over the years, even though they went to Johns Hopkins for care. They also couldn't get information from the hospital, according to Ron, who is troubled because Rebecca Skloot was able to get information. He remembers family members including him (at age 16) being interviewed about his grandmother's cells by *Rolling Stone* magazine, but he only understood the significance when he read the article after it was published.

Ron mentions blood samples being taken from family members, but they didn't understand why, and didn't believe it had anything to do with seeing if family members were at risk for the cancer Henrietta had, as they took samples from males and she had cervical cancer. Ron brings up the false portrayal of his mother in Skloot's book and also the movie as a "hateful, bitter woman." He does admit 50 pages into the book that Skloot got something right in her book about some things that happened after Henrietta's death, with her youngest children being sent to live with their cousins where they were abused.

In a chapter entitled "Who's the Real Snake," Ron gets into issues asserting that Skloot is the real villain who made millions while Henrietta Lacks' family got nothing. There are more trust issues, mention of incorrect diagnosis by unlicensed doctors, questions about whether Johns Hopkins made money off the HeLa cells which they have denied.

He thinks there was a coverup of "murder," and that Skloot was part of it while others who were trying to help the family who were Black were distanced. Ron gets into the dynamic between Skloot and the Lacks family including his aunt Dale. He portrays Skloot as caring only about the money, being manipulative, and refusing to remove inaccuracies from her book and excluding other things. He mentions family photos that were taken and published without permission, including the cover of Skloot's book that is "all over the internet."

The family says they never got their photos back as they were promised. And he repeats in several places in the book about how Rebecca Skloot divided his family, taking advantage of some for credibility. HBO offered little money for "consulting" by family members before the movie, and many didn't sign the company's contract.

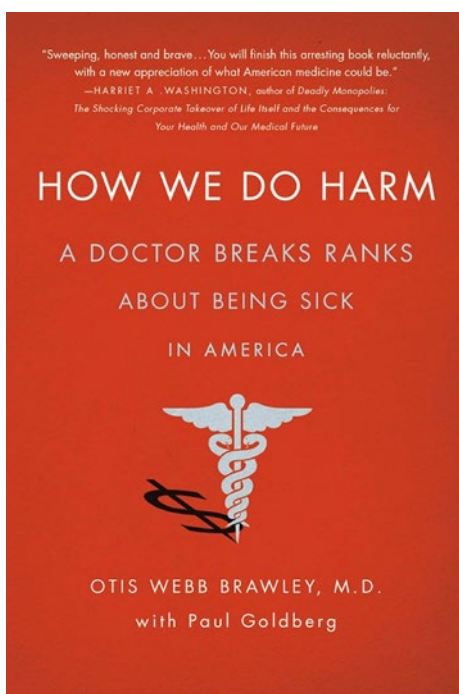
Ron met Oprah, who owned rights to Skloot's book, but says he didn't get the chance to tell her many things that he wrote about in his book. The HBO contract had terms where the family felt they couldn't talk about Henrietta's story and could not speak out against the HBO story, so they refused to sign. Ron says he feels like Oprah "was duped by Rebecca Skloot too," and didn't like how she and Gayle King disrespected his aunt Dale on national television.

Speaking engagements became contentious after Skloot's book and the HBO movie, with further division among family members and resentment for how things were being controlled. Some of that press brought out that the family didn't make money or get royalties from the book or the movie. Henrietta Lacks's genome was also published without consent, something that led to an "NIH deal" at a time when the family was divided and where Ron says his father's wishes as the eldest son of Henrietta were not honored.

The family is also not happy about how Rebecca Skloot controls the Henrietta Lacks Foundation that she started, including that “the process of getting help from the foundation is really degrading.” Ron states, “it was so humiliating and frustrating that I ended up calling the foundation to ask them why we have to beg for help from her when she has profited so much from my family.” The family started its own Henrietta Lacks Foundation but lost control of it, possibly due to Henrietta's son showing signs of dementia.

There is little doubt that Henrietta Lacks's cells have had great impact on the world including contributing to six Nobel Prizes. This book adds the perspectives of those closest to Henrietta in her family, and makes the points it set out to do.

How We Do Harm: A Doctor Breaks Ranks About Being Sick in America



I wanted to get back to reading the book by Dr. Otis Webb Brawley with Paul

Goldberg titled “How We Do Harm: A Doctor Breaks Ranks About Being Sick in America,” published in 2011, as I had started to read it early during the COVID-19 pandemic, but then became distracted.

I particularly recall a graphic description by Dr. Brawley of healthcare disparities with late diagnosis as the book starts with a chapter entitled “Chief Complaint” and starts with: “She walks through the emergency-room doors sometime in the early morning. In a plastic bag, she carries an object wrapped in a moist towel.”

This occurred at Grady Memorial Hospital in Atlanta where the actual “chief complaint” in the medical record read: “My breast has fallen off. Can you reattach it?”

This chapter is available on the [Cancer History Project](#).

Dr. Brawley wrote this book during his tenure as chief medical and scientific officer at the American Cancer Society. He was also the founding director at Grady's cancer center. I had the privilege and honor of interacting with him as an American Cancer Society Research Professor when I served on the ACS Council of Extramural Grants back in 2015-18, and have continued to admire him as a leader in our field and an opinionated original thinker who sticks to his beliefs.

Dr. Brawley describes Grady as “a monument to racism...shaped like a capital letter H,” where “in the 1950s and '60s, white patients were wheeled into the front section, which faces the city. Blacks went to the back of the H.” That building, according to Dr. Brawley, replaced an older, even more segregated situation of two buildings known as “the Grady’s.” The hospital takes care of the sickest, poorest, uninsured, the “cops and firemen,” and the loyal “small con-

tingent... older black folks with insurance” who only go there for their care.

The hospital's ER, built on the first floor in time for the 1996 Atlanta Olympics, was where the injured went after the bombing, according to Dr. Brawley. He reminds the reader that “Tuskegee is about two hours away from here,” as “a huge, flashing CAUTION sign in the consciousness of Southern black folks. It explains why they don't trust doctors much and why good docs such as Tammie have to fight so hard to earn their elementary trust.”

Dr. Brawley describes his encounter with the patient and her “automastectomy,” this one being different, having brought in the detached breast for reattachment. The problem we learn has gone on for years (nine years to be precise). The doctor, who surmises the disease must be widely disseminated and “feels a wave of frustration and anger,” lets his colleagues step up “to awaken... compassion,” as he sees “In the case of Edna Riggs, the abstract, scholarly term *health disparities* acquires a very real smell of a rotting breast.”

We learn about Edna's insurance problems, difficulties with sick leave, and her fear of dying and of “the system.”

“Would the doctors scold her? Would they experiment on her? Would they give her drugs that caused nausea, vomiting, hair loss? Would the hospital kill her?” And she lost her health insurance (and her family's) during those years when her employer required expensive co-pays.

Of course, insurance matters, as Dr. Brawley points out, as far as patient outcomes, especially when disease is detected and treated early. Lack of insurance contributes to cancer mortality each year in the US according to ACS and Dr. Brawley. Equally sad, “uninsured patients cannot afford pain medicines. The social programs that give them

medication heavily ration pain meds,” and “even if you have health insurance that will pay for your treatment, you may still not be able to afford to receive it.”

The injustice is palpable, as some women choose mastectomy over lumpectomy plus radiation to avoid losing their jobs.

The reader, including expert oncologists, will appreciate the depth of analysis of differences in triple negative breast cancer between white and Black women with consideration of many biological and societal factors. I like these quotes from Dr. Brawley: “My friend Samuel Broder, when he was the director of the National Cancer Institute, used to say that poverty is a carcinogen,” and “If you are a caring doctor, you realize she is just fifty-three, with kids and folks who love her, and your motivation is akin to a philosophy of Wayne Gretzky: ‘You miss every shot you don’t take.’”

A chapter on “Brawleyism” gives us a glimpse into Dr. Brawley’s roots, including his great-great-grandfather Edward McKnight Brawley, who was a Baptist minister and president of Selma University, and Edward’s son Benjamin, who “became one of the premier black intellectuals of his generation,” and “was the dean of Morehouse and later the chairman of the English Department at Howard.”

Otis’s form of Brawleyism is grounded in science, and after long observation he concludes, “no incident of failure in American medicine should be dismissed as an aberration. Failure *is* the system, and those of us who are not yet its victims are at high risk of being sucked into its turbines.”

And as far as a healthcare system, with some claiming it’s the best in the world, Dr. Brawley differs in pointing out life expectancy, infant mortality rates, homicides, and accidents that are prevent-

able. Ability to pay is a decisive factor in outcomes, as Dr. Brawley states, “In the back rooms of American medicine, the analysis of the patient’s financial durability has a glib name: *a wallet biopsy*,” resulting in denials of health care to over 50 million Americans at the time of the publication of the book.

But he also points out that “wealth can increase your risk of getting lousy care.”

I have personally seen that repeatedly in my own career.

Dr. Brawley advocates for a “rational system of healthcare” to cut waste, fraud, and abuse and to get away from “instead of using these interventions to benefit patients, we use them to maximize revenues, and often harm patients.”

He is critical of “evidence-based guidelines...that are anything but evidence-based guidelines.”

“Instead, the purpose of many of these documents is to protect the specialties’ financial stake in the system.” He mentions something important perhaps as a solution: “Proponents of science as a foundation for health care have not come together to form a grassroots movement, and until this happens, all of us will have to live with a system built on pseudoscience, greed, myths, lies, fraud, and looking the other way.”

Dr. Brawley asks the question: “Now I wonder, can all of us benefit from a dose of skepticism? Can the healthcare system make itself trustworthy, become accessible and driven by science?”

In chapters about “Cadillac Care” and “Skepticism,” Dr. Brawley describes experiences in care where the well-off may not be so well-off. This comes through loud and clear with what happened with bone marrow transplantation for breast cancer that was tested and practiced in

the 1990s but not after the 1999 ASCO plenary session.

Dr. Brawley writes about a special patient of his named Helen Williams, who received a bone marrow transplant at a time when it was experimental and had complications that contributed to large medical bills. Helen would later find out and understand that she was not informed about the chances of cure based on available knowledge at the time.

I took care of many patients with auto-BMT as a clinical fellow at Johns Hopkins in the early 90s. I don’t recall if they were all participating in clinical trials, but would assume they were. According to Dr. Brawley, “at least twenty-three thousand women underwent the procedure outside clinical trials. Some estimates are much higher—thirty-five thousand to forty thousand. Meanwhile, only a small number of American women—fewer than fifteen hundred—received this treatment in randomized clinical trials.”

We also learn about Dr. Brawley’s life growing up in Detroit, how his parents tried to make ends meet, how he had understood much by the age of five, his respect for the nuns at his Catholic school, and how at one point he wanted to become a bishop.

And we appreciate his sense of humor when he says, “What do 5-FU and Otis Brawley have in common?” You’ll have to read the book to get that answer, because Otis is not a thymidylate synthase inhibitor.

I particularly enjoyed, as a colorectal cancer oncologist, the case with stage IIIB and Dr. Brawley’s interaction with his patient and his fellow on the results of the MOSAIC trial leading to use of FOLFOX as standard adjuvant therapy in colorectal cancer, the Mayo Clinic and Roswell Park regimens of administering 5-FU, and Forrest Gump. You’ll have to read about that, too.

It is amusing to read Dr. Brawley's analysis of the motivation of a private practice doctor in Atlanta as "a puzzling combination of laziness and greed." One may wish to add ignorance, which he brings in later as "Doctors who don't know what they don't know—and don't care—are dangerous."

One thing I took away from Part I of the book is that Dr. Brawley brought out the best in serving at a charity hospital in the field of oncology and the excellent care provided that helped patients, Black and white alike. It is clear he enjoyed his work as an attending physician at Grady.

"How We Do Harm" is exemplified in a chapter called "Red Juice" that exposes failure in medicine with approval of drugs like Procrit and Aranesp to boost red blood cell counts, how companies marketed drugs to treat "cancer fatigue" through direct-to-consumer ads, and how such practices led to added costs and actual harm.

The chapter mentions Brian Leyland-Jones after writing in *The Lancet Oncology* that he "was urging his colleagues to disregard the evidence and go by his opinion instead."

At the time, FDA was taking notice that erythropoietin may promote tumor growth "largely because the agency's head of oncology, Richard Pazdur, is a natural skeptic who concluded that the studies pointed to overuse of these drugs, and their potential dangers."

Dr. Brawley served on ODAC and shares his experience at the meeting in the chapter on "Tumor Promotion," where he referred to a drug that stimulates cancer growth as a "tumor fertilizer" and asked, "What data do you have to assure me that this is not Miracle-Gro for cancer?" The chapters are interesting and have much more, including how analysts hang out, looking for hints that

can impact stock prices. The FDA added restrictions, thanks to Dr. Brawley, patients, and patient-advocates.

There are several chapters that share stories from Dr. Brawley's residency, a time when he enjoyed the ER and saw much that is wrong with American health care. "The House of God" makes a cameo appearance here, too, and brings back memories that most physicians who trained in the late 80s would relate to.



The reader, including expert oncologists, will appreciate the depth of analysis of differences in triple negative breast cancer between white and Black women with consideration of many biological and societal factors.



The intersection of ER care and hospital medicine care with oncology by someone who went into oncology is also interesting and fun to read, and his mastery and compassion with terminal cancer come through with "death in this case is not a failure of the system."

But he is also human and experiences what many doctors experience in difficult situations. The issues faced in the 1980s are still faced today—only the costs are much higher. The harm he focuses on in the chapter "Saving Mr.

Huzjak" is one from futile treatment all the way through the chapter "God is Calling."

Besides unraveling "how we do harm," Dr. Brawley provides life experiences in medicine, including the wisdom of others, such as his teachers and mentors, how he ended up at the NCI for fellowship training, and his experiences there, including a front row view of "the war on cancer." He reminds the reader about the NCI director's authority to inform the president of what is needed in that war through a "Bypass Budget."

It was interesting to read what Dr. Brawley had to say about what was going on at NCI in the mid-80s, including research on HIV and how NCI influenced how the AIDS-associated lymphoma and Kaposi's sarcoma were treated. He also shared how different training in oncology is at the NCI as far as seeing and treating common cancers versus rare cancers.

In describing practices by Emil "J" Freireich on the leukemia ward at NCI giving platelet transfusions for the first time, he says, "this was 1955. The concept of 'informed consent' did not fully enter medicine until years later." A history of oncology drug development is there for the reader to enjoy along with how prevention was viewed by some, and ethics and safeguards in phase I studies.

One other thing I'll mention is reading this book reminded me of having written about the Gordian Knot (*The Cancer Letter*, [Aug. 5, 2022](#)).

There are numerous other examples in the book of harms inflicted upon patients for the interested reader, along with other experiences Dr. Brawley shares with remarkable lifelong recall with amazing detail to make the point.

There are many lessons, insights, and much wisdom.



GUEST EDITORIAL

Why we need the Museum of Medicine and Biomedical Discovery



Mace Rothenberg, MD

CEO and president, Museum of Medicine and Biomedical Discovery

In this country, we have museums devoted to natural history, culture, space exploration, sports, civil rights, and all manner of creative expression. But surprisingly, one of our nation's most important human endeavors—the quest to translate scientific discoveries into medical advances—lacks a national venue that captures the drama of its story.

It is one of the most important stories that we as a society can tell, and it's one the American public desperately needs to hear.

The United States has made contributions to science and medicine that rank among modern history's finest achievements. But when it comes to scientific literacy, we lag behind many other developed nations (Highlights of U.S. PISA 2022 Results Web Report, NCES [2023-115](#) and [2024-113](#)).

Making matters worse is the fact that the public's distrust in science is growing:

between 2019 and 2023, the proportion of Americans who stated that they had “little or no trust in scientists working in the best interests of the public” more than doubled—from 13 to 27% ([Pew Research Center](#), November 2023). This is a growing crisis, and action is warranted to present the world of medicine and health in a new and more effective way.

There are dozens of medical-themed museums already in existence around the world. The problem is that most focus on a specific topic, such as tropical diseases or military medicine, or are built around a specific collection of artifacts, like ancient anatomical drawings or surgical instruments. For fields as dynamic as biomedical research and modern medicine, it is incredibly ironic that the experience is such a static one: reading descriptions of items presented behind glass.

We envision a new kind of venue—a place that doesn't just recount the

achievements of the past, but uses immersive and interactive displays to animate the past, capture the present, and imagine the future: the Museum of Medicine and Biomedical Discovery.

Here, visitors will be taken on a journey that will help them understand how different their lives are from those of their parents and grandparents thanks to medical advances of the past 100 years. For example, in the “Medical Advances That Change the World” exhibit, visitors will be met by a hologram of a young girl from 1920 who happens to have Type I diabetes. She describes, in her own words, the struggles she faces on a daily basis, the fear she has that she may suddenly fall desperately ill because her blood sugar rises too high or falls too low.

As that hologram slowly fades away guests enter a room where they are virtually transported to the laboratory



Exhibit renderings.

Credit: Museum of Medicine and Biomedical Discovery

of Frederick Banting and Charles Best, where they see them reviewing data with great excitement. After a few seconds, the avatars turn toward the guest and walk them through the data they're so excited about: the discovery of a substance that can normalize elevated blood sugar, insulin.

As they progress through the exhibit, visitors would learn about the extraordinary efforts made to purify and scale up production of insulin to meet the needs of thousands of people with Type I diabetes.

They would move through the exhibit and see how the development of recombinant DNA "gene cloning" technology in the 1980s enabled large-scale production of an exact replica of human insulin. At the end of the exhibit, a second hologram of the same young girl would appear but now in the present day. She is strong and active, able to do all the things of a typical 10-year-old, thanks to the small glucose monitor and insulin pump she is wearing.

But that's not the end of the story. Before visitors leave the exhibit, they will see and hear about the challenges that researchers are currently tackling to better understand the causes of, treatment for, and prevention of Type I diabetes. There are many other great stories that can and will be told in this exhibit using interactive technologies to make the stories compelling and memorable.

This is just one way to introduce visitors to a much larger, more complicated, and wondrous landscape.

Few people outside our profession realize how thrilling biomedical research can be. "The Magical Moments of Discovery" exhibit will enable researchers themselves to describe the moment when they saw the data from an experiment, the results of a clinical trial, or a patient in clinic and realized the field would be forever changed by this result. "How Do You Make That, Fix That, or Do That?" will showcase the impact of technology on science and medicine. This

exhibit will provide a showcase for some of these advances, from the evolution of limb prostheses to robotic arms, to the impact of molecular biology on the creation of new classes of medicines, to how artificial intelligence is being applied to identify new drug targets and completely new classes of medicines, just to name a few.

These are just some of the exhibits and experiences that would be offered at the museum.

The museum will also address the problem of young people who feel that a career in science or medicine is simply unachievable. The "Why I Love What I Do" exhibit will consist of a series of kiosks deployed throughout the museum. Interactive videos will enable individuals drawn from a wide array of backgrounds, ages, races, ethnicities, and accents to speak and interact directly with a visitor.

They will provide a virtual tour of their workplace, describing and showing visi-



tors exactly what they do, how it advances knowledge or helps people heal, why they were drawn to the field in the first place, and why they love what they do.

Our goal is not just to educate and inform but to *inspire* visitors.

In just two years, with the help of a growing team of dedicated individuals, we have made significant progress toward bringing this museum from concept to reality. Receptions in several potential host cities have been met with tremendous enthusiasm and support for the museum.

We have engaged one of the world's leading museum design firms to help us envision what a physical space would look like. We have begun work on creating a pop-up/traveling exhibit that will allow us to field test exhibits and kiosks and incorporate visitor feedback into designing the museum. Our goal is to have a pop-up museum ready by the

end of 2025 and a bricks-and-mortar museum open before the decade is out.

Gaining the trust of a potentially skeptical audience will be a critical factor in our success and in restoring trust in science and medicine. One way of doing that is for the museum to be supported by individuals and foundations rather than commercial entities, especially those that may be seen as potentially benefiting from what is presented or how it's presented. The Museum of Medicine is committed to being independent of commercial interests.

We realize that this is an ambitious goal. But the approaches currently being taken by industry, academia, and government haven't been effective in stemming the erosion of trust in science and medicine. We cannot and should not let this continue unabated.

A new approach is needed, one that will create a place where every individual

who visits the museum—either online, through a traveling exhibit, or by visiting the museum itself—will come away feeling “I know. I trust. I can imagine myself.”

To learn more about the Museum of Medicine and Biomedical Discovery, please visit our [website](#).

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Mace Rothenberg is CEO and president of the Museum of Medicine and Biomedical Discovery. A clinical and translational researcher in oncology, he had a 20-year career in academia at the NCI, the University of Texas Health Science Center at San Antonio, and Vanderbilt University Medical Center. He then moved to Pfizer where, over a 12-year career, Rothenberg was chief development officer for oncology and subsequently chief medical officer for the company. Rothenberg's medical degree is from NYU Grossman School of Medicine.



BOOK REVIEW

Rod Nordland's “Waiting For the Monsoon” reminds us of what our patients face daily

Cancer does not discriminate. It can affect poor and rich, old and young, ordinary people and celebrities, and people from all walks of life. The diagnosis of cancer is almost always unexpected, sudden, and shocking, independent of social status, education, or profession.



By Leonidas C. Platanias, MD, PhD

Director, Robert H. Lurie Comprehensive Cancer Center,

Associate vice president for Cancer Programs,

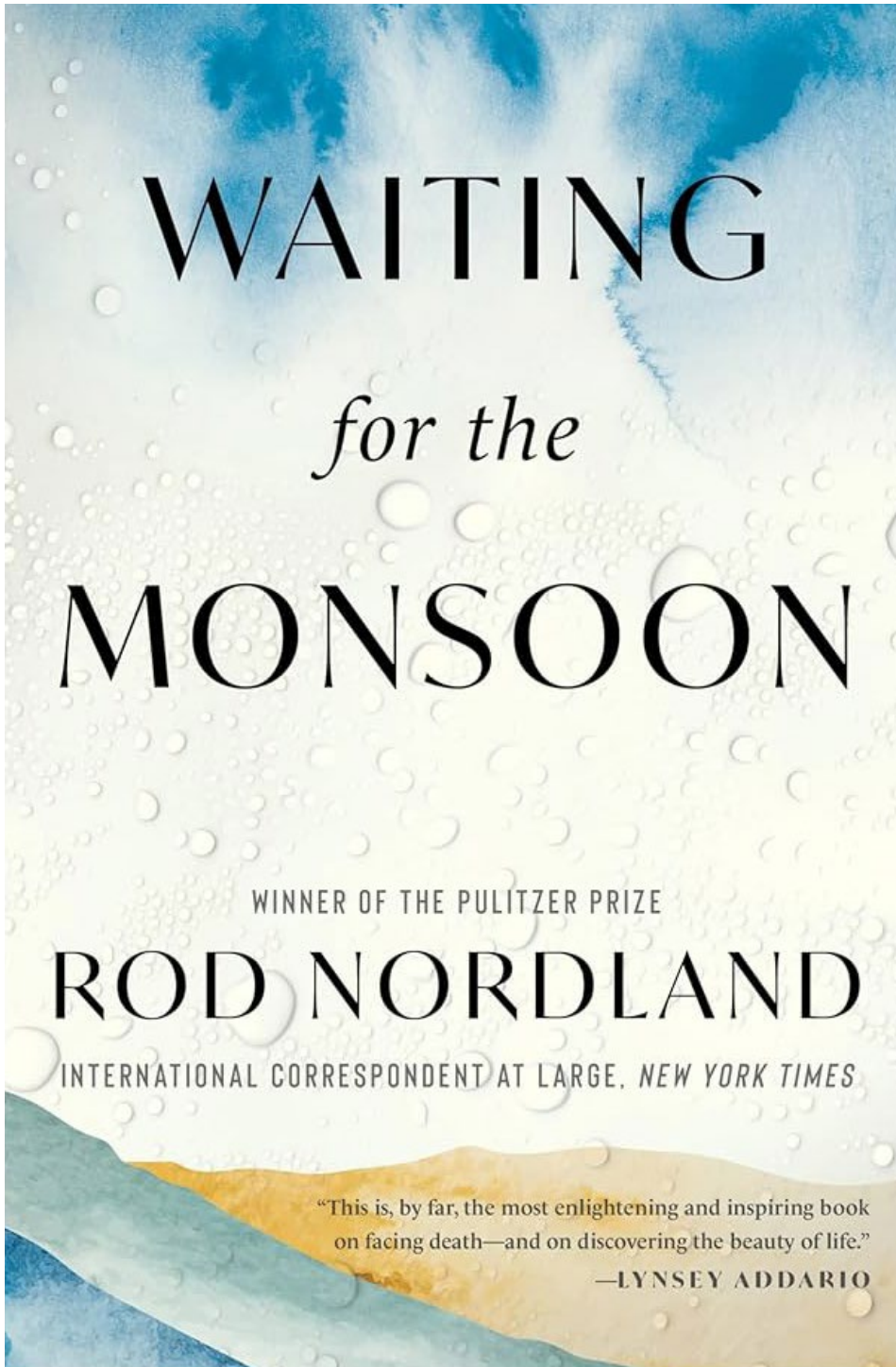
*Jesse, Sara, Andrew, Abigail, Benjamin and Elizabeth Lurie Professor of Oncology,
Northwestern University*

It is important, of course, to overcome the initial shock of the diagnosis and find appropriate medical teams, aiming for cure or control of the disease, when cure is not possible.

The challenge of dealing with the diagnosis of a potentially fatal disease impacts many parts of patients' lives, including social, professional, financial, and personal. The impact of a cancer is

always very personal and can be quite different from person to person.

There is no “good” or “bad” way to react to such a diagnosis. There is a personal way. Although the medical outcome depends on having good doctors and using cutting edge treatments, the ultimate impact of the disease at other levels depends on many factors and can be quite variable.



In the book “*Waiting for the Monsoon*,” Pulitzer Prize-winning journalist, Rod Nordland, describes the spiritual and social evolution he experienced while dealing with glioblastoma.

Nordland is someone who had confronted death repeatedly, but indirect-

ly, during his presence in war zones as part of his job. But after collapsing while exercising and getting diagnosed with a highly fatal tumor, he suddenly directly and personally faced the possibility of dying.

At that point, he realized that he had become himself a prospect of imminent death, a clear reminder of human mortality.

While describing his medical journey in this book, he deftly weaves past and present, darkness and light, rejection and reconciliation, seeking to define life's meaning.

“

Nordland is someone who had confronted death repeatedly, but indirectly, during his presence in war zones as part of his job. But after collapsing while exercising and getting diagnosed with a highly fatal tumor, he suddenly directly and personally faced the possibility of dying.

”

“*Waiting for the Monsoon*” is a powerful memoir. Nordland describes getting a ‘second life’ once faced with GBM. This second life is made rich by the power of gratitude and love. Nordland embraces this new, unfamiliar, war zone with humor and resilience, reminding us of what our patients face daily and giving hope to everyone dealing with this terrible disease.



Innovation Is Teamwork

RESEARCHERS COLLABORATE TO DEVELOP A NEW CAR-T CELL THERAPY

Innovation is not a solo effort. It's born from passionate researchers who know their strengths are amplified by the brilliance around them. It's blurring boundaries between specialties. Breaking down lab walls.

For Ted Kopacko, his life depended on this type of collaboration. When he came to the Medical University of South Carolina, there were no FDA-approved CAR-T cell therapy options available for his marginal zone lymphoma. Living with cancer for 11 years, Kopacko had gone through at least five different treatments, eventually relapsing each time.

Then, he heard about our clinical trial.

Developed from a transdisciplinary meeting among researchers and clinicians focused on cellular therapy for hematologic malignancies, hematologist-oncologist Brian T. Hess, M.D., and scientific director of the Center for Cellular Therapy Shikhar Mehrotra, Ph.D., created a new CAR-T clinical trial. The treatment is predicted to promote **long-term tumor control with much less toxicity** by purifying the engineered CAR-T fraction before infusion and using Mehrotra's unique cytokine "cocktail," which ensures lower exhaustion in T cells.

One month later, he entered remission. Today, Kopacko looks forward to many more years with his 4- and 6-year-old grandchildren.



At the Medical University of South Carolina,
we see the world as it could be.
A place without cancer.

[LEARN MORE](#)



Hollings Cancer Center
An NCI-Designated Cancer Center

CAPITOL HILL

Senate Appropriations Committee slates \$1.77B increase for NIH, \$270M for NCI in FY25

By Matthew Bin Han Ong

The Senate Appropriations Committee voted to provide significant increases to federal health agencies in fiscal year 2025, including raises of nearly \$2 billion for NIH and \$270 million for NCI.



If this iteration of the Labor-HHS bill is enacted, the actual increase to NIH's budget would be closer to \$1.77 billion. The actual funds NIH stands to receive will be lower because funding for NIH Innovation Projects authorized in the 21st Century Cures Act of 2016 is scheduled to drop from about \$407 million in FY24 to \$127 million in FY25.

Under the numbers released by the committee, this would bring NIH's total appropriation to \$50.351 billion.

The bill slates an increase of \$270 million for NCI, which would bring the institute's budget to \$7.49 billion. This would include \$216 million in new funding for

the Cancer Moonshot via an "emergency requirement" through the Balanced Budget and Emergency Deficit Control Act of 1985.

The committee's FY25 [LHHS bill](#) received overwhelming bipartisan support Aug. 1, advancing with a vote of 25-3.

The measure maintains funding for the Advanced Research Projects Agency for Health and commits \$1.5 billion for the agency through FY27. The spending bill also recommends increasing funding for CDC's Division of Cancer Prevention and Control by \$15 million, from \$410 million in FY24 to \$425 million in FY25. This includes an increase to the National

Breast & Cervical Cancer Early Detection Program.

The proposed increase for NIH would give additional \$100 million for a new data initiative at the National Library of Medicine to advance the application of AI in biomedical research—a priority that has been championed by NIH Director Monica Bertagnolli, who has focused on innovation in data sharing and creating federated data systems as NCI director (*The Cancer Letter*, [April 14, 2023](#)).

The corresponding [LHHS bill](#) in the House isn't as generous. After a markup July 10, the House Appropriations Committee voted 31-25 to provide \$48.581

billion for NIH, which would maintain funding at the FY24 level. The committee proposes \$7.87 billion for NCI, an increase of \$651 million over FY24, likely the result of a proposal to slash funding for ARPA-H down to \$500 million.

On June 14, two House Republican leaders—including Rep. Robert Aderholt (R-AL), chair of the House Appropriations Subcommittee on Labor, Health & Human Services, and Education—published a “framework” for reforming NIH. The framework proposes consolidating the agency’s 27 institutes and centers into 15 (*The Cancer Letter*, [June 21, 2024](#)).

Achieving the Senate committee’s nearly \$2 billion increase for NIH in FY25 may be a heavy lift, sources say.

Depending on whether Vice President Kamala Harris or former President Donald Trump wins the White House in November and depending on the president-elect’s demands, the federal government is anticipated to run on continuing resolutions through at least December, or until after the new administration begins work in 2025.

“It becomes especially important for the entire medical research advocacy community to work together and continually ask and remind our nation’s policymakers—over the next many months—to support this particular level of funding for NIH in FY2025 that the Senate is proposing,” Jon Retzlaff, chief policy officer for the American Association for Cancer Research, said to *The Cancer Letter*. “We are indebted to our leaders in the Senate, most specifically Senate Appropriations Committee Chair Patty Murray (D-WA) and Senate Appropriations Committee Ranking Member/Vice Chair Susan Collins (R-ME), as well as Senators Tammy Baldwin (D-WI) and Shelley Moore Capito (R-WV), who serve as the chair and ranking member, respectively, on the Senate Appropriations Subcommittee on Labor, Health and Human Services, Education, and

Related Agencies, for their efforts to prioritize a robust funding increase for NIH in FY2025.

“First, they worked in a bipartisan manner to make available an additional \$13.5 billion in emergency funding for non-defense spending accounts in FY2025, and second, they then allocated a significant amount of that extra funding to NIH to ensure that our nation’s leading researchers will have access to the resources that are necessary to make the scientific discoveries that lead to life-saving cures and improve the health and well-being of people across the nation and around the world.”

Earlier this year, NCI lowered the paylines for RO1 grants for established and new investigators to the 10th percentile, down from the 12th percentile in FY23. The institute’s new paylines for FY 2024 reflect the constraints of a reduced budget.

Also, noncompeting grants, also known as continuing grants, are funded at 95% of the committed level, a 3% drop compared to the FY23 level (*The Cancer Letter*, [June 14](#); [April 5, 2024](#)).

“We are grateful to see the significant increase in funding for NIH and increase for NCI [in the Senate LHHS bill],” Karen Knudsen, CEO of the American Cancer Society and the American Cancer Society Cancer Action Network said in a statement Aug. 2. “We appreciate the committee’s bipartisan commitment to our nation’s critical investment in cancer research. These increases will help bring us closer to our goal of ending cancer as we know it, for everyone.

“We are also thankful for the Senate’s work to provide level funding for ARPA-H, and continued funding for cancer prevention and screening programs at the CDC. The funding for these institutions will help us continue to save lives and protect our nation’s status as a leader in global health research,” Knudsen said.

“We encourage Congress to continue working towards a final bill that will provide sustained, increased investments which are critical to advancing the cancer treatments and cures of the future.”

Appropriators should continue prioritizing funding for federally funded cancer research as the House and Senate begin negotiations on the final FY25 bill, said Eric P. Winer, chair of the board for the Association for Clinical Oncology.

“Cancer research has significantly enhanced patient outcomes and saved countless lives,” Winer said in a statement Aug. 2. “Today, there are a record 18 million cancer survivors in the United States, largely thanks to federal investment in this critical area. Previous funding initiatives have yielded remarkable results, emphasizing the need for continued strong support from Congress.”

Both chambers of Congress need to “unify” on the funding levels included in the Senate LHHS spending bill, said Mary Woolley, president and CEO of Research!America.

“Research!America thanks our champions for this legislation, specifically Senate Appropriations Committee Chair Patty Murray (D-WA), Vice-Chair Susan Collins (R-ME), Labor, Health and Human Services, Education and Related Agencies (LHHS) Appropriations Subcommittee Chair Tammy Baldwin (D-WI), and Ranking Member Shelley Moore Capito (R-WV),” Woolley said in a statement Aug. 1.

“The American people recognize the significance of U.S. research investment, as does the Senate Labor-HHS bill,” Woolley said. “Our nation has an opportunity to re-exert our strategically critical R&D leadership globally and recommit to shattering the boundaries of medical progress. For the sake of the American people today and tomorrow, let’s do it.”

IN BRIEF



Ze'ev Ronai named director of new Translational Research Institute at Cedars-Sinai



Cedars-Sinai named Ze'ev Ronai director of the newly established Translational Research Institute, professor in the Department of Biomedical Sciences and the Jim and Eleanor Randall Department of Surgery, as well as the scientific director of the Surgical Melanoma

Research Program in the Randall Department of Surgery.

Ronai will work to accelerate Cedars-Sinai's translational research program with new initiatives and collaborations serving all departments in identifying opportunities for enriching the medical center's translational research and scholarship, as well as nurturing an environment that emphasizes equity, inclusion, and belonging.

"Dr. Ronai is an internationally recognized cancer investigator whose prolific research has elucidated our understanding of epigenetic mechanisms that underlie tumor development, progression and resistance," Shlomo Melmed, executive vice president of Medicine and Health Sciences and dean of the medical faculty, said in a statement. "We look forward to his many contributions to our scientific enterprise."

As scientific director of the Surgical Melanoma Research Program, Ronai will provide research and strategic direction for Cedars-Sinai's comprehensive melanoma program.

"We are eager for Dr. Ronai to begin his tenure with Cedars-Sinai, where he will participate in programmatic, teaching and research activities that propel our mission in melanoma," Cristina Ferrone, MD, chair of the Jim and Eleanor Randall Department of Surgery, said in a statement.

Ronai joins Cedars-Sinai from Sanford Burnham Prebys Medical Discovery Institute in La Jolla, where he served as director of the NCI-designated basic laboratory cancer center.

He led multiple programs, including the Signal Transduction Program, and was chief scientific advisor to SBP. He was also instrumental in establishing the Technion Integrated Cancer Center in Haifa, Israel.

"Dr. Ronai's lengthy career has garnered international recognition for his studies focused on the rewiring of signal transduction pathways, the role of ubiquitin ligases in controlling fundamental cellular processes, and development and progression of melanoma, including how tumors escape the immune system and resist therapy," Jeffrey A. Golden, executive vice dean of Research and Education and director of the Burns and Allen Research Institute, said in a statement.

Ronai was previously a professor at the Ruttenberg Cancer Center at Mount Sinai School of Medicine in New York City and chaired the Programmatic Vision Committee in Melanoma at the Department of Defense.

"The opportunity to advance the pioneering research and science at Cedars-Sinai is invigorating," Ronai said in a statement "I am excited to grow these programs with the goal of turning research discoveries into meaningful treatments for patients."

AACR CEO Margaret Foti to receive Beacon Award for Women Leaders in Oncology



Margaret Foti, CEO of the American Association for Cancer Research, was selected as the recipient of the 2024 Beacon Award for Women Leaders in Oncology.

The Beacon Award for Women Leaders in Oncology was established in 2022 by the AIM-HI Accelerator Fund and sponsored by the National Foundation for Cancer Research.

Foti has served as CEO of AACR since 1982, driving decades of growth for the organization. During her tenure, AACR's membership has grown from 3,000 to more than 58,000 cancer researchers, physicians, and advocates in 142 countries and territories.

Foti will receive the Beacon Award at a luncheon ceremony at the National Press Club in Washington, DC, on Oct. 18. Past recipients of the Beacon Award include Monica M. Bertagnoli, in 2023, and Anna D. Barker, in 2022.

Cheng-Chia Wu joins Fralin Biomedical Research Institute at Virginia Tech Carilion



Cheng-Chia "Fred" Wu, a physician-scientist who treats brain tumors in chil-

dren, has joined Virginia Tech to bring his expertise in focused ultrasound cancer research to the Fralin Biomedical Research Institute at Virginia Tech Carilion.

Wu will focus on advancing the use of low-intensity, focused ultrasound to treat pediatric brain tumors through his work at the Fralin Biomedical Research Institute in Roanoke and at Children's National Brain Tumor Institute at its Research & Innovation Campus in Washington, DC.

Wu aims to leverage technological advances being made in low-intensity focused ultrasound at Virginia Tech labs with patient clinical trial expertise at Children's National to improve cancer care.

"I'm excited that Children's National and Virginia Tech have invested in focused ultrasound and both are recognized independently by the Focused Ultrasound Foundation as centers of excellence," Wu, assistant professor of the Fralin Biomedical Research Institute, said in a statement. "Partnering with Children's National connects us to a world-class clinical trial institute that has been a pioneer in treating brain tumors with focused ultrasound technology, and this presents a unique opportunity to help children and families struggling with cancer. I'm also excited by the community health conversations I've been having with physicians at Children's National, the Virginia Tech Carilion School of Medicine, and Carilion Clinic. I can't wait to see where this takes us."

Wu will also work with collaborators with the Fralin Biomedical Research Institute, the College of Engineering, and the Virginia-Maryland College of Veterinary Medicine's Animal Cancer Care and Research Center.

Before joining Virginia Tech, Wu was an assistant professor of radiation oncology at Columbia University Irving Med-

ical Center, where he treated pediatric cancers and central nervous system malignancies in a clinical role alongside leading a research laboratory.

He played a key role in the Initiative for Drug Delivery Innovation for Childhood Brain Tumors at Columbia, developing a bench-to-bedside platform to facilitate the translation of promising technologies for targeted drug delivery in children with brain tumors.

Within three years, the team demonstrated safety and feasibility of using focused ultrasound to treat cancer in the brain stem, as well as adding radiation, in preclinical models. They opened two clinical trials for kids with relapsed diffuse midline glioma, which is a type of aggressive and difficult-to-treat brain tumor that occurs in the brain stem, thalamus, and spinal cord.

"Dr. Wu is a great fit for the team research underway at Virginia Tech and Children's National," Michael Friedlander, executive director of the Fralin Biomedical Research Institute at VTC and Virginia Tech vice president for health sciences and technology, said in a statement. "His experience as a pediatric radiation oncologist, translational physician scientist, and a clinical trialist leading an innovative drug delivery program gives him a unique set of skills to identify promising new technology and implement it in areas of need for treatment of pediatric cancers. In addition, we can actively start thinking about possibilities to integrate focused ultrasound in community health settings with Carilion Clinic and Children's National."

Wu is also a faculty member of the Department of Internal Medicine of the Virginia Tech Carilion School of Medicine with an affiliated appointment in the Department of Biomedical Engineering and Mechanics.

Steven Mitchell Cohen named director of robotic pancreas surgery at Northwell



Steven Mitchell Cohen was named director of robotic pancreas surgery at the Northwell Health Cancer Institute.

Cohen, an expert in robotic Whipple procedures, will report to Matthew J. Weiss, vice president and vice chair of surgical service line, deputy physician-in-chief, and director of surgical oncology at Northwell Cancer Institute.

“The Whipple operation is already performed in high volume both robotically and open at Northwell Health,” Weiss said in a statement. “We’re confident Dr. Cohen will take this program to the next level.”

Prior to joining Northwell, Cohen served in roles at NYU Langone, from its gastrointestinal cancer management group to general surgery, as well as his involvement in Surgical Oncology NYC Health + Hospitals/Bellevue and NY Harbor VA Health Care System.

Over the past five years, he focused extensively on robotic Whipple surgery in the Division of Hepatobiliary and Pan-

creatic Surgery. Cohen is board certified in general surgery and surgical critical care/trauma by the American Board of Surgery.

“The goal is to convert the more complicated pancreas surgeries to robotic procedures,” Cohen said in a statement.

“Robotic pancreas Whipple surgery is preferable because it’s less invasive, there’s less blood loss, and patients will experience less pain post-op. The robot allows for a great deal of suturing and stitching, similar to what I can do during an open surgery. And the visual is very impressive since you can see it in 3D,” Cohen said. “Additionally, the patient’s hospital stay will be shorter, and they’ll experience a slightly shorter healing process.”

Cohen will perform robotic Whipple procedures at Long Island Jewish Medical Center in New Hyde Park, Lenox Hill Hospital in Manhattan, and South Shore University Hospital in Bay Shore.

Gary Deutsch named chief of Division of Surgical Oncology at NYU Langone Hospital—Long Island



Gary B. Deutsch was named chief of NYU Grossman Long Island School of Medicine’s Division of Surgical Oncology. He was also named director of the hospital’s Robotic Surgical Oncology Program and professor in the school’s Department of Surgery.

Deutsch comes to NYU Langone from Northwell Health.

Deutsch has performed more than 500 complex robotic and minimally invasive surgeries in his career, consisting of innovative approaches to liver, pancreas, bile duct, and gastrointestinal malignancies. He was one of the first surgeons to perform a robotic Whipple procedure in New York and part of the first surgical team to perform a robotic prophylactic bilateral mastectomy in the United States.

“NYU Langone Hospital—Long Island is a special place. It has a long history and great local reputation,” Deutsch said in a statement. “I’m honored to join this team, known for its unbelievable quality of care and talent. The backing and funding for research and clinical innovation have elevated healthcare on Long Island to another level.”

Deutsch currently specializes in robotic hepatobiliary and pancreatic surgery, and sees patients at Perlmutter Cancer Center at NYU Langone Long Island Surgical Oncology Associates in Mineola. Some of his most important research activities include grant-funded research in robotic surgery performance assessment and in national cancer clinical trials. He has presented his work at international conferences, including the American College of Surgeons Surgical Forum.

As the chief of surgical oncology at the Perlmutter Cancer Center at NYU Langone Hospital—Long Island, Deutsch will collaborate with leadership across clinical service lines—including hematology and medical oncology, gas-

troenterology, radiology, gynecologic oncology, and radiation oncology—to create a seamless network of care for patients from diagnosis to surgery and recovery. His core mission is to increase cancer patients' quality of life during treatment using innovative therapies with fewer and more manageable side effects and more precise surgeries with shorter recovery times, all while offering the world-class care NYU Langone is known for at convenient locations for Long Island patients.

Irini Yacoub joins New York Proton Center



Irini Yacoub, a radiation oncologist specializing in head-and-neck and central nervous system cancers, will join the New York Proton Center as a physician.

Her arrival comes as the NYPC prepares to mark five years in operation and 5,000 patients treated.

Yacoub joins NYPC following a brachytherapy fellowship at Memorial Sloan Kettering Cancer Center in New York. She completed her residency in radiation oncology at SUNY Downstate Health Sciences University, where she served as chief resident, and she received her medical degree from SUNY Downstate School of Medicine.

“The addition of Dr. Yacoub reinforces our commitment to assembling a world-class team dedicated to advancing proton therapy and improving the lives of patients with cancer.” Charles B. Simone, II, chief medical officer at the New York Proton Center, said in a statement.

Richard Bleicher named chief of new Division of Breast Surgery at Fox Chase



Richard Bleicher, a professor in the Department of Surgical Oncology and clinical director of the Breast Service Line, has been promoted to chief of the new Division of Breast Surgery at Fox Chase Cancer Center.

The newly formed Division of Breast Surgery was created to focus efforts at Fox Chase on increasing access for breast cancer patients, as well as on clinical trials and research. In his new role, Bleicher will oversee the division's programs, research portfolio, and all clinical activities. Additionally, he will provide support for the recruitment of new faculty and the growth of the breast program at all Fox Chase satellite campuses, as well as lead and manage the division.

Bleicher has been instrumental in expanding the breast faculty within the department and growing the breast surgical program in volume, location, and scope. He will continue to serve as the clinical director of the Breast Service Line at Fox Chase, a position he has held since June 2023.

Bleicher specializes in breast cancer with a focus on novel treatment modalities, clinical trials, and cosmetic outcomes, but he is most highly recognized and cited for his research regarding the impact of timeliness and delays on breast cancer treatment. His work is the basis for two current Commission on Cancer national quality measures.

He frequently deals with cases that are not commonly seen by other clinicians, including unusual pathology results, complex cases, and rare clinical situations such as male breast cancer. His research interests include health services research, breast imaging, population studies, sentinel node biopsy in breast cancer, and disparities in breast cancer, among others.

Michael Seidman joins Fox Chase Department of Hematology/Oncology



Michael Seidman has joined Fox Chase Cancer Center as a professor in the Department of Hematology/Oncology.

Seidman is joining Fox Chase after spending over 15 years at Alliance Cancer Specialists in Horsham, PA, where he provided care to patients with hematologic and oncologic disorders, assisted in the development of a radiation oncology center, and participated in clinical trials. He also served as a board member of Alliance Cancer Specialists and managing partner of the Abington Division.

Seidman was on the medical staff of Chestnut Hill Hospital, Holy Redeemer Medical Center, and Jefferson Abington Hospital. Also, he served on the Cancer Committee for Holy Redeemer and Jefferson Abington, where he was a member of the Medical Executive Committee.

Seidman received his medical degree from the Lewis Katz School of Medicine at Temple University. He completed an internal medicine residency at Temple University Hospital, followed by an oncology fellowship at New York University Medical Center. While at NYU, he was named Hematology/Oncology Chief Fellow and Oncology Fellow of the Year.

Seidman has a number of professional publications and presentations to his credit, and some of his presentations were delivered in Barcelona at the First World Meeting of Interdisciplinary Melanoma Centers.

Alex Morozov named chief medical officer at Pi Health

Alex Morozov was named the first chief medical officer of Pi Health, an oncology clinical trial and research technology company.



Morozov has overseen hundreds of oncology trials at companies including Pfizer, Bristol Myers Squibb, and Exelixis, where he contributed to the global approvals of multiple therapies such as Bavencio, Lorbrena, Opdivo/Yervoy, and Cabometyx.

The addition of Morozov follows Pi Health's recent \$30 million Series A financing and the launch of its cancer hospital in Hyderabad, India. The hospital serves as a model for integrating research and care delivery powered by the company's proprietary end-to-end technology platform.

With a network of health system partnerships spanning the U.S., Brazil, Australia, and India, Pi Health aims to accelerate the development of practice-changing therapies while democratizing access to clinical trials globally, the company said.

Before joining Pi Health, Morozov served as SVP and head of clinical development and clinical pharmacology at Exelixis, overseeing a portfolio spanning first-in-human and late-phase programs in oncology. At BMS, he led the clinical team overseeing the Opdivo-Yervoy portfolio, spearheaded several clinical trial innovation pilots, and built the first digital health team at BMS, overseeing a portfolio of digital programs across therapeutic areas le-

veraging technologies like remote monitoring, digital biomarkers, and AI/ML.

Morozov's expertise spans early- and late-phase trials, clinical pharmacology, digital innovation, process optimization, and global execution.

"I am excited to join Pi Health in its mission to integrate clinical research and clinical practice on a global scale," Morozov said in a statement. "Pi Health's collaborations with health systems and commitment to diversity represents a paradigm shift in how we develop and access life-saving treatments. I look forward to partnering with our investigators, academic institutions, and biopharma drug developers to leverage our end-to-end platform and generative AI to improve speed, quality, and efficiency of drug development."

Newly established Xavier Ochsner College of Medicine receives \$5M from Bloomberg Philanthropies

Bloomberg Philanthropies announced a gift of \$5 million in seed funding to support the creation of the Xavier Ochsner College of Medicine, a newly established medical school in New Orleans founded by Xavier University of Louisiana and Ochsner Health.

Earlier this year, Xavier University of Louisiana, a historically Black college and university with a strong track record of sending graduates into the medical field, and Ochsner Health, the Gulf South's leading not-for-profit health system with a long academic record of training physicians, announced their partnership to establish Xavier Ochsner College of Medicine to address health

disparities in diverse communities and helping fulfill the urgent need for more Black and Brown physicians in Louisiana and the nation.

The new medical school will be located in Benson Tower next to Caesars Superdome, in the BioDistrict of downtown New Orleans, and will be the only HBCU medical school in the Gulf South.

Bloomberg Philanthropies' investment in XOCOM's planning is part of its Greenwood Initiative—an effort that seeks to advance racial wealth equity by addressing systemic underinvestment in Black institutions and communities.

Four existing historically Black medical schools—Charles R. Drew University of Medicine & Science, Howard University College of Medicine, Meharry Medical College, and Morehouse School of Medicine—are the recipients of \$600 million to bolster their endowments, strengthening their financial stability and institutional capacity to respond to the rising costs of tuition, innovative research, and operations.

“We have much more to do to build a country where every person, regardless of race, has equal access to quality health care—and where students from all backgrounds can pursue their dreams,” Michael R. Bloomberg, founder, Bloomberg Philanthropies and Bloomberg L.P., said in a statement. “Addressing health disparities and underrepresentation in the medical field are critical challenges, and Bloomberg Philanthropies is dedicated to making a difference. By building on our previous support, this gift will empower new generations of Black doctors to create a healthier and more equitable future for our country.”

Research has shown that Black people have better health outcomes and receive medical care more frequently when they are treated by Black physi-

cians. Further, Black patients are 34% more likely to receive preventative care if seen by Black doctors.

Yet, data show that while the U.S. population is 13% Black, only 7% of medical school graduates and less than 6% of all practicing doctors are Black.

“As the only HBCU medical school in the Gulf South, Xavier Ochsner College of Medicine will train physicians who reflect the diversity of the communities they serve and help address a critical healthcare shortage in the region,” Reynold Verret, president, Xavier University of Louisiana, said in a statement. “We are profoundly grateful to Mike Bloomberg and Bloomberg Philanthropies' Greenwood Initiative for their bold vision and tremendous support which will accelerate our mission to create a healthier, more equitable, more just future for the Gulf South and for the nation.”

Bloomberg Philanthropies has provided funds to the four existing HBCU medical schools in 2020, and helped to reduce the student debt of nearly 1,000 future Black doctors.

The gifts to the historically Black medical schools' endowments are part of Bloomberg Philanthropies' Greenwood Initiative which includes strategic investments such as the Black Wealth Data Center and its Racial Wealth Equity Database—created to provide public and private sector leaders with actionable data to advance racial wealth equity policies and strategies; Cities for Financial Empowerment Funds' CityStart Initiative—focused on working closely with local leaders to create wealth building strategies for the residents they serve; and The Vivien Thomas Scholars Initiative at Johns Hopkins University, which was established to address underrepresentation in STEM by creating a sustained cohort of approximately 100 new slots in JHU's more than 30 STEM

programs for exceptional PhD students from HBCUs and other minority serving institutions, and creating new pathways to the initiative and future leadership in STEM careers through partnership with the HBCUs and MSIs.

Together, these initiatives seek to implement, scale, and advocate for efforts that will help improve local conditions by acquiring resources, expanding community ownership, and increasing influence through economic power.

UNC Lineberger launches Patient-Reported Outcomes Center of Excellence

The UNC Lineberger Patient-Reported Outcomes Center of Excellence recently held its inaugural retreat, which was the center's official launch.

The afternoon meeting brought together more than 30 faculty members, collaborators, and staff to discuss the center's goals and to hear talks on its priorities, including research focused on measuring and managing cancer treatment side-effects and the implementation of patient-reported outcomes in cancer care.

Lynne Wagner, who came to UNC from Wake Forest School of Medicine last year, is the center's director. She said she was drawn to UNC Lineberger by its highly respected and robust patient-reported outcomes research and its Cancer Outcomes Research Program.

Led by Ethan Basch and Stephanie Wheeler, the program has 58 members, including 17 who conduct patient-reported outcomes research.

“Patient-reported outcomes are a methodologically robust way of bringing the

patient voice into clinical trials, and into clinical care, and, so in that regard, this is a powerful way to understand patients' experiences and provide them with better care and optimize outcomes," Wagner said at the event.

In the months ahead, Wagner said the Patient-Reported Outcomes Center of Excellence will focus on creating more opportunities to bring researchers together to discuss their work and opportunities for collaboration, both in research and in clinical implementation.

The Patient-Reported Outcomes Center of Excellence leadership team includes Basch, Antonia Bennett, Mattias Jonsen, and Bill Wood. Pam Raper, program manager, will coordinate the center's activities.

The American Society for Cell Biology names 17 scientists as 2024 fellows

The American Society for Cell Biology is pleased to present its cohort of 17 fellows for 2024.

The list of fellow nominees is reviewed and approved by the ASCB Council. The new cohort of ASCB Fellows will be formally recognized at Cell Bio 2024, the joint meeting of the American Society for Cell Biology and the European Molecular Biology Organization in San Diego.

- Diane Barber, Professor, University of California San Francisco
- Elaine Bearer, Professor, University of New Mexico School of Medicine



- Jonathan Chernoff, Director, Fox Chase Cancer Center, and Stanley P. Reimann Chair in Oncology Research
- John Cooper, Professor, Washington University
- Valentina Greco, Carolyn Walch Slayman Professor of Genetics and Co-chair of Status of Women in Medicine (SWIM), Yale School of Medicine
- M. Luisa Iruela-Arispe, Professor and Chair, Northwestern University – Feinberg School of Medicine
- Alexey Khodjakov, Research Scientist, Wadsworth Center, New York State Department of Health
- Michael Leibowitz, Professor, Medical Microbiology & Immunology, School of Medicine, University of California – Davis
- Daniel Lew, Professor, Biology Department, Massachusetts Institute of Technology
- Mark McNiven, Professor, Mayo Clinic
- Susan Parkhurst, Professor, Basic Sciences Division, Fred Hutchinson Cancer Center
- Rytis Prekeris, Professor, Department of Cell and Developmental Biology, University of Colorado Anschutz Medical Campus
- William Prinz, Professor and Chair, Department of Cell Biology, UT Southwestern Medical Center
- Omar Quintero-Carmona, Associate Professor of Biology (Senior Education Advisor), University of Richmond and The Allen Institute
- Kyle Roux, Scientist and Vice President of Biomedical Research, Sanford Research
- Trina Schroer, Professor, Johns Hopkins University
- Meng Wang, Senior Group Leader, HHMI Janelia Research Campus

THE CLINICAL CANCER LETTER

CLINICAL ROUNDUP



Sarclisa combination improves PFS in newly diagnosed MM in phase III trial

Data from the IMROZ phase III trial demonstrated Sarclisa (isatuximab), in combination with standard-of-care bortezomib, lenalidomide, and dexamethasone (VRd) followed by Sarclisa-Rd (the IMROZ regimen), significantly reduced the risk of disease progression or death by 40%, compared to VRd followed by Rd in patients with newly-diagnosed multiple myeloma not eligible for transplant.

Sarclisa is sponsored by Sanofi.

IMROZ is the first global phase III study of an anti-CD38 monoclonal antibody in combination with standard-of-care VRd to significantly improve PFS and show deep responses in this patient population who often have poor prognoses. The results were shared in an oral presentation at the American Society of Clinical Oncology annual meeting and

simultaneously published in the *New England Journal of Medicine*.

The use of Sarclisa in combination with VRd in transplant-ineligible NDMM is investigational and has not been fully evaluated by any regulatory authority.

“The significant progression-free survival benefit observed with Sarclisa combination therapy compared to VRd is important and encouraging for patients with newly diagnosed multiple myeloma,” Thierry Facon, professor of hematology in the Department of Hematology, Lille University Hospital, member of French Academy of Medicine, and IMROZ principal investigator, said in a statement. “Effective frontline therapy has the potential to modify the course of the disease, which is a key outcome for transplant-ineligible patients who often face high rates of attrition in later lines of therapy. The IMROZ results demonstrate the promise of Sarclisa as a backbone to frontline therapy, which may improve long-term outcomes for this incurable disease.”

IMROZ is a global, randomized, multi-center, open-label study. At the data cut-off of Sept. 26, 2023, through the median follow-up of 59.7 months, the following were observed for Sarclisa-VRd compared to VRd:

Primary endpoint:

- 40% reduction in the risk of disease progression or death for patients treated with Sarclisa-VRd versus VRd (HR 0.596; 98.5% CI: 0.406 to 0.876; $p=0.0005$). At the median follow-up of 59.7 months, the median PFS with the Sarclisa-VRd combination was not reached versus 54.3 months with VRd.

- The estimated PFS at 60 months was 63.2% for patients treated with Sarclisa-VRd versus 45.2% for VRd.

Secondary endpoints:

- Approximately three-quarters (74.7%) of patients treated with Sarclisa-VRd achieved a complete response compared to 64.1% of patients taking VRd (OR 1.7; 95% CI: 1.097-2.5; $p=0.008$).
- More than half (55.5%) of patients treated with Sarclisa-VRd achieved MRD negative CR compared to 40.9% of patients taking VRd (OR 1.8; 95% CI: 1.229-2.646; $p=0.0013$).
- MRD was sustained for at least 12 months among nearly half (46.8%) of patients in the Sarclisa-VRd arm compared to less than one-quarter (24.3%) of patients taking VRd (OR 2.7; 95% CI: 1.799-4.141).

At the date of data cut-off, 47.2% of patients (125/263) treated with Sarclisa-VRd and 24.3% of patients (44/181) treated with VRd were still on treatment. The median treatment duration for the Sarclisa-VRd combination was 53.2 months vs. 31.3 months for VRd.

The safety and tolerability of Sarclisa observed in this study was consistent with the established safety profile of Sarclisa-VRd with no new safety signals observed. Grade ≥ 3 treatment-emergent adverse events occurred in 91.6% of patients taking Sarclisa-VRd and 84% of patients taking VRd. Treatment-emergent events of any grade led to treatment discontinuation in 22.8% of patients taking Sarclisa-VRd and 26% of patients taking VRd.

Five-year study identifies long-term effects of axi-cel CAR T treatment

Axicabtagene ciloleucel, commonly known as axi-cel, is an immunotherapy that uses modified T cells to target and destroy cancer cells. Approved for patients who have not responded to at least two prior lines of therapy, axicabtagene ciloleucel has been a game-changer in treating large B-cell lymphoma.

While initial studies demonstrated promising short-term results, long-term survivorship data has been scarce. However, a study published in the *Journal of Clinical Oncology* provides that crucial long-term perspective.

The study, led by Moffitt Cancer Center in conjunction with a consortium of 16 other U.S. academic cancer centers, followed 275 patients who received axicabtagene ciloleucel therapy, tracking their progress over a median period of 58 months. The results demonstrated that 29% of patients experienced progression-free survival at five years, and 40% achieved overall survival at the same milestone. The five-year lymphoma-specific survival rate was 53%, indicating that many patients remained cancer free. These findings align with earlier clinical trials, highlighting the real-world effectiveness of axi-cel.

“Our research shows that axi-cel can provide durable, long-lasting responses in a substantial portion of patients with relapsed or refractory large B-cell lymphoma,” first author Michael Jain, associate member of the Blood and Marrow Transplant and Cellular Immunotherapy Department at Moffitt, said in a statement. “This is noteworthy given the limited options available for these patients previously.”

However, the study also identified important survivorship issues. The five-year non-relapse mortality rate was 16.2%, with over half of these deaths occurring beyond two years post-treatment. The primary causes of late non-relapse mortality were infections and subsequent malignant neoplasms, such as therapy-related myeloid neoplasms and solid tumors. Notably, patients over 60 had a higher risk of non-relapse mortality compared to their younger counterparts.

“While axi-cel is a powerful therapy, our findings underscore the need for ongoing monitoring and supportive care, particularly for older patients,” Jain said. “Infections and secondary cancers are significant challenges that must be addressed to improve overall patient outcomes.”

The study's comprehensive analysis of immune reconstitution and infection rates provides valuable insights for future patient care strategies. Between six months and two years post-treatment, nearly a quarter of patients experienced infections, with severe cases requiring hospitalization or intravenous antibiotics. Additionally, prolonged neutropenia and other cytopenias were common, further contributing to the risk of infections.

“This study highlights the importance of personalized follow-up care and proactive management of potential complications. Our goal is to enhance patients' long-term quality of life receiving CAR T-cell therapies,” Jain said.

Distinct pattern in protein production can predict severe side effects from skin cancer treatment

An activity pattern in certain genes responsible for building proteins known as spleen tyrosine kinases can predict which melanoma patients are likely to have severe side effects from immunotherapy designed to treat the most deadly skin cancer, a study shows.

The work was published in the journal *Clinical Cancer Research*.

Led by researchers at NYU Langone Health and its Perlmutter Cancer Center, the latest experiments focused on checkpoint inhibitors, drugs that have in the last decade become a mainstay of treating melanoma. This form of skin cancer kills nearly 10,000 Americans annually.

The drugs work by blocking molecules (checkpoints) that sit on the surface of immune T cells and stop them from attacking cancer cells like they would invading viruses or bacteria. While the immune system normally uses checkpoints to recognize and protect healthy cells, cancer cells are able to hijack and turn off immune cell surveillance, evading detection. Immunotherapy drugs like nivolumab and ipilimumab are designed to block checkpoints, making cancer cells more “visible” again to T cells.

However, more than a third of melanoma patients given checkpoint inhibitors develop side effects so severe that they compromise their quality of life and ability to continue therapy. Side effects most often involve some form of inflammation, a sign of an overactive immune response. Patients can experience severe skin rashes, diarrhea, or hyperthyroidism. More severe side effects can include liver toxicity, colitis, and rheumatoid arthritis.

In the study, researchers found that even before treatment began in their test subjects, the activity of genes controlling the production of spleen tyrosine kinases predicted 83% of melano-

ma patients who eventually developed severe side effects from combined immunotherapy with nivolumab and ipilimumab.

Moreover, the researchers found that this heightened gene signature, as evidenced by the production of spleen tyrosine kinases, or the SYK pathway, did not interfere with the effectiveness of therapies in preventing recurrence of melanoma.

The impact was connected only to side effects.

“Our study results show that increased gene activity in the spleen tyrosine kinase pathway could be the basis of a possible blood test that identifies melanoma patients most susceptible to having severe side effects from immunotherapy, and well before they start treatment,” study co-senior investigator Tomas Kirchhoff, associate professor in the Department of Population Health at NYU Grossman School of Medicine and a member of Perlmutter Cancer Center, said in a statement.

“Predictive information of this kind is critically important to oncologists and patients to help guide their immunotherapy decisions, to either minimize these side effects by taking additional precautions or choose alternative immunotherapies,” study co-lead investigator Kelsey Monson, who was a PhD student in Kirchhoff’s lab, said in a statement.

For the study, researchers analyzed immune system cell samples from 212 men and women with melanoma participating in a national multi-center trial called CheckMate-915. The trial was designed to test whether combined therapy with nivolumab and ipilimumab worked better than single therapy with nivolumab in preventing postsurgical recurrence of melanoma. All immune cell samples were taken prior to the start of immunotherapy.

Both drugs are manufactured by the pharmaceutical company Bristol Myers Squibb, which sponsored the CheckMate-915 trial and provided the patient specimens and data used in the analysis.

When researchers looked at what genes were more active than others in patients who experienced side effects from their immunotherapy, they found a specific pattern among 24 genes tied to the production of spleen tyrosine kinases. Further statistical analyses showed that increased or decreased transcription of only five of these genes—CD22, PAG1, CD33, HNRNPU, and FCGR2C—along with age and stage severity of their melanoma served as the best predictors of who would experience immunotherapy side effects.

Study co-senior investigator Jeffrey Weber, said that the SYK pathway has previously been linked to other autoimmune diseases, including lupus, rheumatoid arthritis, and colitis, disorders marked by immune system attack on healthy cells. He also said that immunotherapy side effects were also most common in areas affected by these autoimmune diseases, including the skin, colon, and liver.

Weber, the Laura and Isaac Perlmutter Professor of Oncology in the Department of Medicine at NYU Grossman School of Medicine, said the team next plans to investigate if an activated SYK pathway is predictive of side effects in patients treated with ipilimumab alone or with other combination immunotherapies. Weber also serves as deputy director of NYU Langone’s Perlmutter Cancer Center.

“If our future research can explain how an activated spleen tyrosine kinase pathway leads to increased risk of side effects from immunotherapy, then it could also potentially help us to design better cancer immunotherapies and potentially other treatments for autoimmune diseases,” said Kirchhoff.

Updated ArteraAI Prostate Test informs active surveillance decisions for lower-risk prostate cancer

Artera, the developer of multimodal artificial intelligence-based prognostic and predictive cancer tests, announced an update to the ArteraAI Prostate Test, enabling clinicians to make more informed decisions about active surveillance when delivering care to prostate cancer patients.

The ArteraAI Prostate Test, powered by Artera’s MMAI platform, is the first of its kind to both estimate how a patient’s cancer may progress and predict therapy benefit in localized prostate cancer, the company said.

According to the company, the prognostic performance of the test has now been validated in a diverse cohort of patients, including those who have undergone active surveillance, radiation therapy, or had a radical prostatectomy. The prognostic risk result reflects the patient’s prognosis regardless of the treatment path chosen.

Recently, PathNet, a digital pathology lab offering innovative solutions and advanced diagnostic technology, integrated the ArteraAI Prostate Test as a part of their test offerings. This partnership extends the distribution of the ArteraAI Prostate Test to PathNet’s extensive network of 200+ clinics across 27 states. This collaboration empowers clinicians with additional insights through comprehensive test reports, enhancing decision making and patient care.

The PathNet partnership is timely, since Artera’s updated test report now provides additional information to facilitate informed discussions around active surveillance with patients. This

enhancement is crucial in supporting cancer management decisions for many of PathNet's clients, as well as the broader prostate cancer community.

Clinicians and patients consider several factors when determining the suitability of active surveillance for prostate cancer. The updated ArteraAI Prostate Test report now provides information on a patient's relative risk of their cancer showing more aggressive features, helping to guide decisions on the use of active surveillance. By showing where a patient's risk falls relative to those managed on active surveillance, the report can offer clearer guidance on whether active surveillance may be considered appropriate.

Artera plans to continue further validation of its MMAI platform and inclusion of insights to the test report in order to provide greater confidence in treatment decision-making to those facing cancer. The addition of specific guidance regarding active surveillance decisions represents the next step in Artera's ongoing commitment to continually improving the clinical utility of its tests for patients with cancer.

DRUGS & TARGETS



FDA approves Voranigo for grade 2 IDH-mutant glioma

FDA approved Voranigo (vorasidenib), an isocitrate dehydrogenase-1 and isocitrate dehydrogenase-2 inhibitor, for the treatment of adult and pediatric patients 12 years and older with grade 2 astrocytoma or oligodendroglioma with a susceptible IDH1 or IDH2 mutation following surgery including biopsy, sub-total resection, or gross total resection.

This is the first FDA approval of a systemic therapy for patients with grade 2 astrocytoma or oligodendroglioma with a susceptible IDH1 or IDH2 mutation. Voranigo is available and offers glioma patients the ability to actively manage their disease with a once-daily pill.

The agent is sponsored by Servier Pharmaceuticals.

Diffuse gliomas with IDH mutations represent the most common malignant primary brain tumors diagnosed in adults younger than 50 years of age. They are not curable with current therapies and without treatment they continue to grow and infiltrate normal brain tissue.

In IDH-mutant gliomas, Voranigo works by reducing the activity of the mutant IDH1 and IDH2 enzymes, to help control the disease.

“Patients living with grade 2 IDH-mutant gliomas have long faced the harsh reality of an incurable disease with very limited post-surgery treatment options,” Ralph DeVitto, president and CEO of the American Brain Tumor Association, said in a statement. “The FDA approval of Voranigo marks a monumental breakthrough in glioma treatment, offering renewed hope for

patients and their families living with this relentless disease.”

The approval of Voranigo is supported by results from INDIGO (NCT04164901), a randomized, multicenter, double-blind, placebo-controlled trial.

The results of INDIGO were published in *The New England Journal of Medicine* and presented during the plenary session at the 2023 annual meeting of the American Society of Clinical Oncology. The trial showed that Voranigo significantly extended progression-free survival and time to next intervention, when compared to placebo.

The INDIGO trial showed that Voranigo was well tolerated, and its safety profile was consistent with results from the phase I studies. The most common ($\geq 15\%$) adverse reactions were fatigue, COVID-19, musculoskeletal pain, diarrhea and seizure, the company said.

Efficacy was evaluated in 331 patients with grade 2 astrocytoma or oligodendroglioma with a susceptible IDH1 or IDH2 mutation following surgery enrolled in INDIGO.

Patients were randomized 1:1 to receive vorasidenib 40 mg orally once daily or placebo orally once daily until disease progression or unacceptable toxicity. IDH1 or IDH2 mutation status was prospectively determined by the Life Technologies Corporation OncoPrint Dx Target Test.

Patients randomized to placebo were allowed to cross over to vorasidenib after documented radiographic disease progression. Patients who received prior anti-cancer treatment, including chemotherapy or radiation therapy, were excluded.

The major efficacy outcome measure was PFS using a blinded independent review committee per modified Response Assessment in Neuro-Oncology for Low

Grade Glioma (RANO-LGG) criteria. An additional efficacy outcome measure was time to next intervention. The hazard ratio for PFS was 0.39 (95% CI: 0.27, 0.56), p -value <0.0001 . The median time to next intervention was not reached for the vorasidenib arm and was 17.8 months for the placebo arm (HR=0.26; 95% CI: [0.15, 0.43], $p <0.0001$).

The most common ($\geq 15\%$) adverse reactions were fatigue, headache, COVID-19 infection, musculoskeletal pain, diarrhea, nausea, and seizure. The most common grade 3 or 4 laboratory abnormalities ($>2\%$) were increased alanine aminotransferase, increased aspartate aminotransferase, GGT increased, and decreased neutrophils.

FDA approves Lymphir immunotherapy for r/r CTCL

FDA approved Lymphir (denileukin diftitox-cxdl), a novel immunotherapy for the treatment of relapsed or refractory cutaneous T-cell lymphoma after at least one prior systemic therapy.

Lymphir is sponsored by Citius Pharmaceuticals Inc.

Lymphir is the only CTCL therapy that targets the interleukin-2 receptor found on malignant T-cells and Tregs. This is the first indication for Lymphir and the first FDA-approved product for Citius Pharma.

CTCL is a rare and often debilitating chronic non-Hodgkin lymphoma that primarily affects the skin. Approximately 2,500-3,000 patients are diagnosed each year with an estimated 40,000 living with the disease. Patients with r/r CTCL have limited treatment options. No universally defined single treatment is used to treat these patients with incurable cancer. Patients typically cycle through several skin-directed thera-

pies before the cancer becomes resistant and/or progressive, at which point systemic agents are needed to achieve effective disease control.

Reducing and controlling skin plaques and itching without cumulative toxicity is a primary goal of CTCL treatment. Systemic medicines are prescribed until the disease progresses again or when dose-limiting toxicity occurs, after which HCPs prescribe a different systemic medicine.

Lymphir provides another viable option in the treatment landscape with unique benefits to patients. It offers a novel mechanism of action designed to target and eradicate malignant T-cells while preserving healthy tissue. It is the only treatment option that targets the IL-2 receptors found in T-cell lymphomas and Tregs.

“As a treating oncologist, I have seen the profound negative effect on the quality of life in patients with r/r CTCL. Given the long-term nature of the disease, pruritus, ulceration of the tumors, and secondary pyogenic skin infection, it is vital to get this skin involvement under control,” Francine Foss, professor of hematology and director of the Multidisciplinary T-cell Lymphoma Program at Yale Cancer Center, said in a statement. “Lymphir is the first therapeutic option in many years to offer hope of reducing skin disease, bringing us one step closer to filling the need for CTCL patients, particularly those that are not able to complete or continue prior therapies.”

The approval of Lymphir is based on results from the phase III Pivotal Study 302 (NCT01871727) of CTCL patients who had previously received at least one systemic treatment. Actual study patients received a median of 4 (min, max: 1, 18) prior anticancer therapies. The primary efficacy population includes 69 patients with stage I-III CTCL who were treated with denileukin diftitox-cxdl (9 μg /kg/day). The primary efficacy outcome measure was objective response rate,

as assessed by an Independent Review Committee. The ORR was 36.2%, (95% CI: 25.0-48.7), with 8.7% achieving a Complete Response.

The median time to response was rapid at 1.41 months, with the majority of responders (~70%) seeing results after 1–2 cycles of treatment. Duration of response was at least 6 months for 52.0% of the patients. 84.4% (54/64) of skin evaluable subjects had a decrease in skin tumor burden and 12.5% (8/64) saw complete clearing of skin disease. Pruritus was evaluated as an exploratory endpoint with 31.7% of patients demonstrating clinically significant pruritus improvement. Importantly, no cumulative toxicity was observed in patients receiving Lymphir.

Lymphir’s safety profile is consistent with the known safety profile for denileukin diftitox. Across three studies of 119 CTCL patients receiving 9 μg dose of denileukin diftitox, the most common ($\geq 20\%$) adverse reactions, including laboratory abnormalities, were increased transaminases, albumin decreased, nausea, edema, hemoglobin decreased, fatigue, musculoskeletal pain, rash, chills, constipation, pyrexia, and capillary leak syndrome.

FDA grants de novo authorization for kitted, pan-solid tumor liquid biopsy test

Labcorp announced it has received de novo marketing authorization from FDA for PGDx elio plasma focus Dx—the industry’s first and only kitted, pan-solid tumor liquid biopsy test.

PGDx elio plasma focus Dx builds on the success of PGDx elio tissue complete and enables laboratories to perform genomic profiling when tissue is limited or unavailable.

PGDx elio plasma focus Dx is a qualitative next-generation sequencing-based in vitro diagnostic device that uses targeted high throughput hybridization-based capture technology for the detection of single nucleotide variants, insertions and deletions in 33 genes, copy number amplifications in five genes, and translocations in three genes.

The assay targets guideline-recommended biomarkers to enable more accurate clinical assessments and is coupled with automated bioinformatics to deliver accelerated results. This solution enhances oncologists' ability to make timely treatment decisions in conjunction with other laboratory and clinical findings while also promoting sample and data ownership.

Daiichi Sankyo, Merck collaborate to develop and commercialize MK-6070, an investigational delta-like ligand 3 targeting T-cell engager

Daiichi Sankyo and Merck expanded their existing global co-development and co-commercialization agreement for three investigational DXd antibody-drug conjugates to include Merck's MK-6070, an investigational delta-like ligand 3 targeting T-cell engager.

The companies will jointly develop and commercialize MK-6070 worldwide, except in Japan, where Merck will maintain exclusive rights. Merck will be solely responsible for manufacturing and supply for MK-6070.

MK-6070 is a T-cell engager targeting DLL3, an inhibitory canonical Notch ligand that is expressed at high levels in small cell lung cancer and neuroendocrine tumors, currently being evaluated in a phase I/II clinical trial (NCT04471727). The companies are planning to evaluate MK-6070 in combination with ifinatamab deruxtecan in certain patients with SCLC, as well as other potential combinations. Merck obtained MK-6070 through its acquisition of Harpoon Therapeutics.

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