



**American College  
of Radiology™  
Radiology Leadership Institute**

**Episode 59: Centennial Perspectives  
Four Rising Radiology Leaders Share Their Most Rewarding Experiences in the Field  
So Far, and Their Goals For Themselves and The Future of Radiology**

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**Geoff:** Hello and welcome to "Taking the Lead," a podcast from the Radiology Leadership Institute that profiles radiologists as leaders, seeking insight and inspiration from a variety of perspectives and experiences. I'm Geoff Rubin. Last month, I discussed the ACR Centennial and the evolution of the field of radiology with a panel of experienced radiology leaders. Today, we continue our celebration of the ACR Centennial with a second panel that includes the perspectives of distinguished radiologists within the first 10 years following the completion of their training, Judy Wawira Gichoya, Matthew Hawkins, Amy Patel, and Kurt Schoppe.

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As a regular listener to the podcast, I know you understand the importance of leadership development, and so I have a very special program to tell you about. The 2023 RLI Summit is an immersive weekend of high-impact education, inspiration, and collaboration with the best and brightest in the specialty.

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You'll learn from radiology thought leaders and business school experts about topics like sharpening your business strategies, understanding private equity, creating value in your organization and health system, and mastering negotiations. You'll also have a chance to put your learnings into practice during an interactive, real-world case study session with your peers. This will be my 12th summit, and I can tell you that it is truly transformative.

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This year's RLI Summit is being held September 29th to October 1st at the Seaport Hotel in Boston, just minutes from Logan Airport on the historic waterfront. To celebrate my 12 years of summit participation, we're offering our Taking the Lead listeners 12% off current rates. Simply register at [acr.org/rlisummit](https://acr.org/rlisummit) and use the code RLITTL12 at checkout. I look forward to seeing you there.

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Let's first meet our panelists. I'd like to ask you each to introduce yourselves, tell us about yourselves, your journey into radiology, and where you are now. Kurt, shall we start with you?

[00:02:41]

**Kurt:** Sure. Howdy. My name's Kurt Schoppe, I'm a body radiologist in private practice in Dallas-Fort Worth metroplex with Radiology Associates of North Texas. I've been doing work in economics and payment policy with the ACR since I did the Moore Fellowship back

in 2010 as a third-year resident. I stumbled into radiology accidentally when I took it as an elective in between surgery and medicine in med school, haven't looked back, and now I just started as the president of my group this past January. We are 270 radiologists and counting and doing a lot of cool stuff.

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**Geoff:** Excellent. Judy.

[00:03:17]

**Judy:** My name is Judy. I'm an assistant professor at Emory University, soon to be associate actually in September. I'm in my fourth year. This is...approximately, four years ago is when I started my first faculty job at Emory University. I work as an interventional radiologist, and also some of my research time is spent on informatics and artificial intelligence. And, wow, I spend a lot of time also in Africa, educating the next generation of interventional radiologists, and I know that I'll get to the why ACR. But I am also, I would say, a success story of the ACR from my time as a resident to my work today.

[00:04:01]

**Geoff:** Excellent. Welcome, Judy. Matt.

[00:04:04]

**Matt:** Hi there. I'm Matt Hawkins. I'm a pediatric interventional radiologist. I'm medical director of our department here at Children's Healthcare of Atlanta and Emory. I've been in that role since July of 2014, when I started fresh outta fellowship. I also serve as medical director of our multidisciplinary vascular anomalies clinic here at Children's and have had a few other roles throughout the system, through the years.

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How'd I get here? When I was in medical school, I was for sure gonna be an orthopedic surgeon and then I was for sure gonna be a general surgeon and then found out about interventional radiology on a couple of away electives at Indiana University and Duke University as a medical student and made the quick pivot. And, of course, everybody always asks why pediatric IR. You know, I noticed that there were a lot of adult interventionalists that didn't wanna have anything to do with kids and a lot of pediatric interventionalists that wanted to do more than what they were able to do. So that was a natural fit.

[00:04:58]

**Geoff:** Excellent. Thank you, Matt. And, Amy?

[00:05:02]

**Amy:** Yes. So my name's Amy Patel. I am a breast radiologist, a medical director of the Breast Care Center at Liberty Hospital, which is in the Kansas City, Missouri area. I'm an assistant professor of radiology, soon to be an associate in September at the University of Missouri, Kansas City School of Medicine. I'll be entering, I believe, my sixth-year practice

this year. And I'm also a managing partner with Alliance Radiology, which is about a mid-sized private practice that serves multiple hospitals, particularly in Missouri and Kansas.

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I got here really because I have a passion for women's health, as many know, and I thought I was going to go back to my hometown of Chillicothe, Missouri, rural roots, and be a primary care doctor with an emphasis on women's health. But a friend from medical school said, you know, why don't you go do an elective with my mom, who's a breast radiologist, because I think you'll really like it, and I fell in love instantly.

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So it had all the elements, women's health, you know, procedures, patient interaction. And then, you know, I've always had a thirst for advocacy, and particularly, I'm a political junkie. And so I found that I could really intermingle the elements of women's health with advocacy, which has now become quite a focus of my career.

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**Geoff:** Marvelous. Excellent. Well, collectively, you have all been in radiology practice between four and nine years. I'd like to ask you to tell us about these early years following the completion of your fellowships. What has been most rewarding, what has been most frustrating, and what has been most surprising to you? Amy, why don't we start with you?

[00:06:44]

**Amy:** Well, I'll say that I kind of went on a different route in the sense that I... It's a little bit similar to, I think, some of, you know, like Matt and Judy and Kurt, but, you know, I was in a position where, out of training, particularly fellowship, I ended up basically going out to Boston, Massachusetts, and I practiced on the east coast. But then a really great leadership opportunity popped up to come back to the area in which I was raised, which is where I am now, to really build a comprehensive breast program in a part of the country that really didn't have sub-specialized breast care.

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And so after one year of practice, I took the leap to go back home, and it was quite daunting. But I had encouragement from so many mentors along the way that said that, you know, if you don't go, who's going to go? And so, from, you know, just my few years of experience and all the leadership hats that I now wear, it's definitely a grind. And it's definitely, there are moments where, to be quite candid, it's fake it till you make it. I'm, you know, trying to navigate through certain leadership situations. I mean, thank goodness for organizations like the ACR and all of my dear friends who I've met through the college, particularly like Matt and Kurt, who've really helped guide me along the way. Because, you know, I think that a lot of times with leadership, you just don't know what's going to come, and you really have to learn by the, you know, fly of the seat of your pants or whatever that expression is. It can be really challenging.

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So, you know, I've learned that leadership is a grind is really rewarding, but it requires very long hours that may be beyond your clinical time. But, you know, for me, it's a mission, it's a passion. I feel a calling to come back to this area to serve patients, and I'm seeing, you know, the results of what we're doing with patient care, what we're doing at the Missouri legislative level. So, you know, for me, this is a very rewarding experience, but like I said, it's definitely been difficult, and it's definitely a grind day in and day out.

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**Geoff:** Thank you. Kurt?

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**Kurt:** Now, I embrace the fake it till you make it mantra. I mean, we want a collection of our friends, acquaintances, and others for a network of help. And, yeah, I remember the first few years out as being tough but fun. You're getting to make decisions, you're taking on new responsibilities, really digging into the details and layers of how we actually deliver radiological care in hospitals and imaging centers. And, you know, what was particularly frustrating for me as an inherently impatient person was to learn how slow change can happen sometimes, but it's particularly rewarding when you get some of those projects across the finish line and make real improvements, whether that's for patient care. And particularly, for me, you're making improvements in like the day-to-day lives for the radiologists themselves and their ability to actually get their job done.

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**Geoff:** Excellent. Any particular frustrations?

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**Kurt:** I've gotta try to be polite, but misaligned incentives with client facilities, and, you know, non-physician administration is a particular frustration of mine and an ongoing difficulty. I am working on my diplomacy skills and patience. Matt's laughing, I can see.

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**Matt:** How's that going? How's that?

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**Kurt:** It's a lifelong journey.

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**Matt:** That's right.

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**Amy:** I feel like that's a common theme amongst young leaders that you soon learn that you may want things accomplished within a day or yesterday, but you have to learn patience that, you know, truly, patience is a virtue. So, I am definitely like Kurt, where I came in and realized, okay, so I'm going to have to be patient in order to really enact meaningful change.

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**Kurt:** Yeah. And I think it is a really valuable lesson, and I think a trap that we fall in as highly educated, pretty high-achieving individuals, anyone in medicine fits that description, is you may see things immediately, you may find things that are common sense to you or just straight logical or rational, and that may be your perspective. And one of the important lessons I think I've learned is there's always another perspective, and while somebody's behavior may seem irrational or illogical to you, to them, they're probably behaving perfectly rational for them, and you just haven't done the work to figure out what their perspective is yet.

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**Geoff:** Great insights. Terrific. Judy, what has been your most rewarding, most frustrating, and most surprising elements over the last four years or so?

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**Judy:** Yeah. So rewarding is, you know, really just the opportunity to teach. I didn't think that I would enjoy it. I guess it's also surprising. I didn't think that I would enjoy it as much. And some of my personal mentors and even peer mentors are very, very good teachers. Emory has, you know, a program and big relationship with route to IR in Africa, and so having the opportunity to have graduated this August will be the third class of interventional radiologists in Sub-Saharan Africa to support them, to teach them, to see just the aha moment, I think, is just something that has been irreplaceable for me.

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I think one of the other...you know, no one is mentioning it now because it may be our usual status, COVID-19 was very challenging to be an interventional radiologist, currently listening to a book about teachers, and it's taking me back to the PTSD of trying to provide care where, you know, other people in sort of like the department were not really cognizant of interventional radiology, right? So most of the changes around COVID precautions became homework stations, but interventional radiologists had to come to work.

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And so this feeling of always being like a lost child or an afterthought, I think to see that for me and to try and justify it, you know, maybe is a little bit of frustration...was a little bit of frustration. I have been in an institution that has undergone a lot of leadership changes, and to be young and to be in a place where there's a lot of change in leadership, I think, can be quite stressful, but also presents a great opportunity for you to redefine yourself. And also, you know, when you get into an organization that is almost resetting, which is not many times in our lives, right, that can also present an opportunity in itself. And so to see that type of change, to see some of the mistakes I think people can make, you know, and when you are sort of seen to be someone's big eye, I think if I have to ever undergo that change again, I know what to expect and how to manage my expectations.

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And lastly, as you know, I'm a researcher and there is overall, not just in radiology, the death of the physician-scientists because it still makes more money and more sense for me to do cases. And so I feel that to navigate, and whether it's research or service, sometimes that time comes out of your personal time. You know, you can get a supportive...a leadership that is supportive of the service duties, but sometimes to do a great job, you do need to deep into your personal time. And I think that balance is always very difficult, especially when you have, you know, young spouses and young families to also take care of.

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**Geoff:** Yeah. A lot of great points. Matt?

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**Matt:** Yeah. You know, what am I most proud of? I guess this is actually just starting my 10th year out as faculty. When I started in 2014, I was, you know, the first pediatric interventionalist in Georgia and took over a practice that had a gross revenue of around \$800,000 and brought that up to about \$94 million in 2020. So I've been able to grow that. We now actually have approval. We actually just yesterday got approval for our sixth full-time pediatric IR physicians. So we've gone from 0.5 when I started to 6 FTEs. So the growth has been tremendous, and admittedly, sometimes a little bit too quick in that sense.

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Things I've learned along the way, your first year outta training, if you ever thought you worked hard as a resident and a fellow, you had no idea until that first year out, your heart's gonna stop multiple times. You're gonna be in situations that you're trained for, but you never really realize what it would be like. And I think that's important for everybody to realize. I think a lot of us, maybe all of us in training think that when you graduate, there's this magical doorway that you walk through, and you're like, I'm now attending, and I don't have to worry about things anymore. So that's definitely not true.

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Other lessons I've learned, you know, and it speaks really to what Amy and Kurt were talking about earlier, that ability, especially if you're gonna be a program builder, to lay out a vision, a roadmap, but then also be able to articulate that very well with your leadership because the things that we all wanna see happen like yesterday are going to take a long time. But if you lay that roadmap out, really develop a strong relationship with administration for your system, not just necessarily in your department, you know, you'll get there, you'll get there. I always say, you know, at Children's, where I work, they always do the right thing, it just always takes a little bit longer than it seems like it should ought to take to get done.

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**Geoff:** What is it about your growth rate, which is remarkable, congratulations, I mean, truly amazing, that makes it feel a little too fast?

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**Matt:** You know, when you... Well, think about diagnostic radiology, for example. You get a radiologist, you get a workstation, as long as there's enough images coming through, you got work for them to do, right? In IR, you can hire physicians, but now that means if you're gonna have more clinic, you gotta get more clinic time. You gotta staff your clinic, now you gotta get clinic nurses, now who's gonna do your scheduling? You're gonna get one scheduler, you're gonna get two schedulers.

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Now on the other side, do you have enough techs to staff the rooms or nurses to prep and recover your patients? So there's so many elements to a practice that if you could grow the volume and the physicians so fast, you gotta make sure you're bringing the rest of the practice up with you. Otherwise, you just burn your folks out, and you're in a constant state of turnover.

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**Geoff:** Yeah, gotcha. So I'm interested in hearing just how you spend your day, you know, kind of break it down, you know, where are your hours going? You know, obviously, there's certain things that you guys do that get you up in the morning and make you happy and give you energy and then there's other things that just have to get done. And, you know, really I think that what we're trying to bring out is just what is life like for a radiologist in their first 10 years of practice here in 2023? Amy, you wanna start us off?

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**Amy:** Honestly, I think it varies significantly. You know, with me and my role, you know, not only am I the medical director, you know, of our breast center and sort of oversee the program in general, you know, with breast surgery and plastics and genetics and all that. But I actually chair all the cancer programs at my hospital too. So this all ends up with being, there's a lot of administrative work and a lot of meetings.

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So, for me, you know, I might have a 7:00 a.m. meeting before I need to start at, you know, 8:00 a.m. clinically, and then throughout the day between clinical and leaving for meetings or people stopping by to talk to me. I mean, there's always some sort of chaos I feel like in some ways. And then, you know, I also teach a class at the UMKC School of Medicine School, so I may have to go teach the class and come back or have a media interview. I do a lot of media in the Kansas City market when it comes to anything breast-related or now even non-breast-related. If it's health policy, political advocacy-related, even if it's not radiology, I'm often called upon for a comment.

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So, for me, you know, I can walk in the door thinking like I know how my day's going to go, but a lot of times, I don't know because, you know, I'll get a text from a reporter saying like, hey, can we stop by the hospital 11:00 a.m.? And then I'm like, okay. And I have to text my point person at the hospital, who's...I have like a person assigned to me for PR and marketing and so I'm like, hey, Michelle, you know, they wanna show up at 11. And so, you know, it is



just always something different. Some people may not like that, you know, there's that sort of lack of structure a lot of days. But for me, I think it keeps it exciting. It keeps it interesting. And I think I'm equipped to do it, but I know it's not everyone's cup of tea.

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**Geoff:** You know, breast imaging is such a patient-facing discipline in radiology, and so, you know, I wonder, you know, in these circumstances where the media wants you all of a sudden or you need to be in a meeting, what about when the technologists are calling you to check a case or to talk to a patient? How do you juggle that?

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**Amy:** It can be challenging. So, specifically, at the end of the day, I'm a breast radiologist, and patient care is going to come first. So, if I do get some inquiry that's very last minute from, for example, the media, they're just gonna have to wait. They're gonna have to work around my clinical schedule. You know, we have patients where we're located who are driving, you know, many hours, three, five hours just to have breast imaging specialists do their biopsies and things like that. So I feel that, you know, we owe them that respect, and they shouldn't have to wait on us.

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So I always put patient care first, we get patient cases out of the way, handoffs, you know, done effectively before any of the other stuff, because at the end of the day, you know, this is what I was tasked is my role as a leader. And for me, you know, I always wanna put the patient first.

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**Geoff:** Excellent. Judy, tell us about your days.

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**Judy:** Yeah. So my days, in a typical week, I probably have two to three clinical days. And Emory is a big, big shop, so it can be in a different hospital, which are very, very different. Usually, the day starts around 7 in terms of starting the daily rounds and we'll go till the last day is done. Around July, obviously, everyone is a little slower. And so those tend to be a little more longer days than usual. So my clinical days just sort of taking care of the schedule and what's there and what's planned.

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And then, when I'm not on the clinical schedule, then I'm doing...running my lab and my research. And that involves sometimes having some meetings. What I do for efficiency is to have this block time for office hours. And so the students know that they can come and ask me a question then, and that has really reduced my stress or trying to have 50 meetings because I actually don't enjoy many meetings. And then increasingly, I may be... especially with the world of virtual talks, I could have been preparing a talk or giving a talk, but what I enjoy also is to just have downtime to just read because my field is changing quite a lot, and I

just wanna read a paper or browse something. And so I just require that silent time, and increasingly, I'm trying to make sure that I get that every day

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**Geoff:** That's fantastic that you're able to get that every day. What kind of cases are you doing when you're on clinical service?

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**Judy:** So, it depends, really. I don't do IO, you can do anything you want. It could start off from a Permacath, to a TIPS, to a GI bleed, to a kyphoplasty in one day. So, you know, sometimes when you hear like the satellite hospitals, most of those tend to be smaller hospitals. That's not the case with Emory. Every hospital is almost like its own institution. I see Mark nodding. And so you could be doing pretty much any case that is inpatient or my outpatient cases, which tend to be, you know, TIPS and UFE patients.

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**Geoff:** Matt, what's your day-to-day like?

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**Matt:** Yeah, kind of to echo off Amy, I can think I know what my day's gonna be like, and then you walk in and things change. So I do think adaptability is certainly a trait for people considering, you know, again, the patient-facing specialties and honestly, any leadership position. If you're gonna be a leader, you never know what you're gonna walk into in your day. I do try and cluster my admin and academic work. I've got a day and a half a week that I do try and cluster a lot of those.

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I really do try not to schedule meetings when I'm on clinical service. Kind of as Amy said, I think you owe it to your kids to make sure your focus is there. So when you're on service, you're on service. Doesn't mean it doesn't happen, but that is certainly something I do try to live by on a daily basis. You know, one thing that has happened with our practice, and I was hired into it at Emory, but now being the leader of a group, you know, we have 660 pediatric beds across two institutions. I did not realize the impact on a practice with multiple institutions, and so that absolutely adds... I mean, I did it as a resident, you did it as a trainee, you don't really think much of it, but leading a practice and resourcing, and scheduling, and coverage, there are a lot of complexities introduced by that that adds to some of that variability and how my days go sometimes.

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**Geoff:** What is your strategy for getting from place to place? Are you mostly managing these different sites by being virtually present, or are you trying to be on site?

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**Matt:** No, it's covered. So it's cases, so we have to be there. So it's a physical presence, and so we have two hospitals that we cover and then a third clinic building. So it's three facilities, and we're not always able to cover 'em all day every day, but, you know, it's always in back of mind of, you know, what are we gonna do if this happens at this hospital and we don't have somebody there physically on site.

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So hard to set a strategy, we've got a few different ways that we go about it managing clinics and closing clinics, and we don't have enough people in town so that we can have people at the hospital. But that multiple facility element was not something that I recognized going through training like I notice now.

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**Geoff:** I mean, is your car close by that you could just like run out the door, get in the car, get over to that other hospital park, and get right inside? Or what...

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**Matt:** I definitely have stories where I was at one hospital across town, had to come back to the hospital seven miles away, which in Atlanta might as well be a hundred miles away, pulled up at the back door, put my blinkers on, went in, put a biliary drain in, got back in the car, and drove back to the other hospital. So, that's not a normal day, but it has definitely happened. Yes.

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**Geoff:** Good. Kurt, how about your day-to-day?

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**Kurt:** I'm gonna double down on the multiple facility and health network difficulties because we cover 73 hospitals across 11 different health systems. It's a challenge, that's a relationship morass for managing and a logistical nightmare for scheduling to the point that we have ended up hiring developers and we write our own software because no vendor will deal with the complexity of our normal work environment.

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In fact, when we've met with them and our IT crew and we start getting into specifics, we've had more than one vendor say, hey, we would love this contract, but we can't do what you want us to do. So, the complexity is real, but it goes to the adaptability requirement for taking on some of those leadership positions. And I've not been the best at being consistent in parsing out my time. Like, if I'm doing administrative work, I'm fine. If I'm doing clinical work, I'm fine. It's when I'm trying to do both that I find immensely stressful because I'm doing both of them poorly.

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I'm not giving the attention I want, I tend to read complex body cases and others. Now, the ER, I can parse out my time, you can't get me, I've turned the phone off. But for clinical days, especially like I have a PACS in my admin office at our building, and there are some days I get more stuff done in between meetings than when I'm actually on the clinical schedule because you never know when something's gonna hit the fan at one of those facilities or where something needs your attention. And I don't have full control over my calendar anymore, I think there's five people that have access to my calendar and can add stuff onto it.

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I have threatened to take that access away from all five of them more than once. I'll say in the last 10 years, the one thing I've done that improved my overall well-being the most was going to bed when I put my kids to bed. And usually, that may be between 8:00 p.m. and 8:30 p.m., and that sounds crazy to people. But sleep is like the only legal performance-enhancing drug. And, you know, we think we're tough by denying ourselves adequate sleep, but it's a real game changer or has been for me.

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So, I used to be a night owl, and I hated mornings, but now my most productive hours are usually before anyone else gets up. If you've seen me write anything in the JCR, it's probably been at 4:00 a.m. It's when I do workout, it's when I get most of my email done and a one-and-a-half-hour blitz in the morning, and then I don't necessarily deal with email through the rest of the day because I'm actually talking to people face-to-face or trying to read cases.

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**Geoff:** Great tip. But, you know, when you were talking about going to bed right after your kids, I couldn't help but flashback to the days when we had little kids, and it was hard for me not to go to bed before my kids. They had to wake me up so I could put 'em in bed.

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**Kurt:** I have been late to more than one CPT or RAC call because I fell asleep reading a book to my daughter in a rocking chair. It's not for the kid, it's for you. It's like, you know, taking straight soporific to the vein.

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**Geoff:** Yeah. I'm just gonna mix up the order a little bit here, and I'd like to ask each of you individually to opine on specific domains of radiology practice. And, Matt, let's start with you. As Director of Pediatric Interventional Radiology, your field is highly specialized, and there's one of three, although you mentioned actually six now or soon to be six pediatric interventionalists, fantastic. In a department of over 300 radiologists and imaging scientists, your team represents a pretty small, about 1% of your department. Within that context, how do you approach your clinical practice? Do you have a growth mindset, or are you struggling to tread water? What resources are most important to the success for you and your team, and how do you define that success?

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**Matt:** Yeah. Obviously, we've been in a growth mindset, as we spoke about earlier, for the last nine years, and really have just now started to plateau, which is good. It needed to happen. As far as keys to success, you know, I think this certainly speaks to interventional radiology, but I think it speaks to any medical profession. The more you can align the efforts of your team and department with the overall institution, the more likely you are to be successful.

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And so it can't just be department focused, it can't just be division focused, but really understanding what is our organization trying to accomplish? Where do we fit in that and how can we help those things? So, then being able to articulate that. So, for example, our Children's recently...about five years ago became a level one trauma center. IR is very critical to that. We have a huge pediatric cancer program. We are critical to that growth. So we align with them as they're trying to grow that out.

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We have a big huge liver transplant and renal transplant center. We do lots of supportive care. So tying yourself to other specialties and, I mean, you have your own identity, but tying yourself to those other programs and growth helps our CEO, our COO, and others realize that IR is we need to have them around, not just for the sake of IR but for the sake of supporting our other programs. So developing that system mindset, I think it's probably made me a little bit more tolerant and patient when we haven't gotten some of the resources that we really wanted because I understood that because we're not doing this, the hospital's able to do that, you know, maybe helps me sleep a little bit more at night.

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You know, how do we define success? There's obviously a lot of ways to do it. One of the biggest ones to me though, is retention and development of our people. And that's everybody. That's our faculty, but also our technologists, our nurses, and our APPs. And we've been very, very fortunate in this practice to have incredibly, incredibly low turnover. In fact, the five charge nurses that I have at one of the hospitals that I get to work at, that's the same five charge nurses that have been there since I started.

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So we haven't lost a nurse. We've only had two technologists since 2014 that left to take other jobs, one left to go to industry, and another one had to move outta state because of her family. And so those are the types of things that I think mean a lot and define success. Certainly, you know, there's economic growth, there's case volume, there's publication, trying to pioneer a new field that didn't really exist, and I think we do that pretty darn well too. But internally, developing and retaining your people.

[00:32:23]

**Geoff:** Nice. That's great. How about for any of the rest of you, are you, you know, actively engaged in program building and expanding the clinical practice? Or is it just a moment in time where the volumes are so high that you're just really trying to tread water and maintain?

[00:32:39]

**Amy:** Yeah. So specifically with my role when I came on as medical director in 2018, we lacked a lot of resources that we needed to have a comprehensive breast program. And at the time, you know, the hospital system, where, you know, I'm the medical director, I don't think they truly understood that we needed more to a breast program than just a fellowship-trained breast radiologist, fellowship-trained breast surgeon, and a nurse navigator. That's literally how we started out in 2018 was the three of us.

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And so soon I had to get to work. You know, if we were going to really deliver comprehensive breast care, we needed more than that. So, I was really fortunate over these last five years spearheading the development of a plastics program, which has just really done well at our hospital system. We needed a genetics program, we now have that up and going, you know, and breast oncology, which...we had general medical, now we have breast oncology, which is really wonderful, and all of that coinciding with our breast imaging center growth.

[00:33:49]

So, over the last five years, we've grown about 40%. So with that, just like Matt talks about, you know, comes with staffing, and our staff is really proliferated. But, you know, I think in terms of with radiology, from the radiologist's perspective, I think it's hard to hire, you know, in certain parts of the country where you might be seen as a flyer or state, like Kansas City, we have hiring issues. And so, you know, how do you balance these rising volumes that the train has left the station, I cannot stop. But at the same time, making sure that we have enough breast imagers to read and to provide services because, in addition to that, with our Practice Alliance Radiology, I also oversee seven critical access care hospitals in an underserved health center as an LIP, so I'm sort of the point person.

[00:34:37]

You know, I do a lot of it remotely because I can only be in, you know, one place at a time. But a lot of them rely on us for advanced testing, and they come to our main breast center. So figuring out all of those pieces, it can be quite challenging. So, like Matt says, you know, there's so many different formulas to success. I do think one of the reasons why we have been so successful so far, and I hope to continue to build on our efforts is retention, particularly with our leadership. You know, our director of radiology at Liberty, she's been there for 30 years, and my breast center manager, she's been there for over 20 years, our nurse navigator, she's been there since day one. We just brought on another nurse navigator less than two years ago.

[00:35:24]

So, I think that when you have people that are really committed to the cause and wanting to grow, and from a multidisciplinary comprehensive standpoint in the subspecialties where you really need to look at the big picture like, you know, pediatrics or breast, I think that can really set you up for success when it's really a team mindset.

[00:35:43]

**Geoff:** So, Amy, as a breast imager, you've been a strong advocate for women's health, as you've already told us a bit about, and for the field of radiology in general. I wonder if you might tell us a bit about your advocacy efforts and what drives you to dedicate so much of your time and energy to these activities. What do you hope to achieve, and do you advise other radiologists who wonder if advocacy is worthy of their time and effort?

[00:36:12]

**Amy:** Yeah. So, as I had previously mentioned, you know, I've kind of always been like a political junkie. My dad and I, you know, always go back and forth and think that's really where I get it from. But specifically, I got involved in political advocacy work through the American College of Radiology as a first-year resident. I attended the annual meeting, I sort of fell in love with the advocacy component in particular. And then I was really fortunate in my senior year to be a Rutherford-Lavanty fellow in government relations, where I really learned the intricate processes of the legislative and regulatory activities of the ACR government relations team staff.

[00:36:52]

And really, what it means to be able to understand that kind of content when it comes to delivering effective patient care. As I say when I give these advocacy lectures, I do feel that political advocacy on behalf of our patients is arguably just as important as your clinical day-to-day. And the earlier you can really garner these skills, the better off you'll be. I don't know how many mid-career-level radiologists reach out to me now and say, I feel so behind. Like, how do you know about all this stuff?

[00:37:24]

So I always say the earlier you can get involved, the better. And, you know, now, I'm very fortunate that I am now chair of the American College of Radiology, Radiology Advocacy Network, and RADPAC, where I sort of oversee all of grassroots advocacy. And we really can try to take this to the next level and synergize these two factions on behalf of our patients in the profession.

[00:37:47]

But in addition to my, you know, involvement at the federal level, there's a lot of work that we've done at the state level of which I'm very proud. I was fortunate when I started out practicing in Boston where particularly one of my mentors, Dr. Priscilla Slanetz, she really took me under her wing, particularly when it came to legislative efforts in Massachusetts. And that was my first time where I testified in front of the Massachusetts House and really got a taste for how we could potentially introduce legislation and how you could get legislation passed.



[00:38:20]

And so from there, when I came back to Missouri, I've been really fortunate to pass breast imaging legislation in 2018, 2020, and now in 2023 for 3D screening mammography above average risk patients and now for diagnostic breast imaging without copay or deductible. And so I see the change that I'm making now with patients, not just my patients, but patients in the entire state of Missouri, and just an outpouring of support, outpouring of just thank you. So, for me, it's really about the big picture, and I'm just so fortunate that I'm in a position where I can try to advocate for change for so many.

[00:38:58]

**Geoff:** Yeah, that's fantastic. And, you know, on behalf of the field, thank you for all the efforts that you're putting forward, it is making a huge difference. I wonder if any of our other panelists engage in any types of advocacy that you might wanna discuss.

[00:39:13]

**Kurt:** My advocacy tends to be more committee-based within AMA and economics forums like the American Medical Association's Relative Value Update Committee, where we work through RVU values for the CPT codes, the how you actually get paid, and then that advocacy levels up to directly discussing some of those reimbursement rates with the Center for Medicare and Medicaid Services. And so it's indirect government advocacy. I'm not going to our legislatures, unless Amy tells me to, but there's a lot of advocacy and networking, horse trading, negotiating that happens in the background amongst physician specialties, especially organizations and organized medicine in general, before you ever get to the halls of Congress.

[00:39:57]

**Geoff:** That's great. Yeah. Lot of different ways that one can advocate in the field. A great example.

[00:40:03]

**Amy:** And what's really wonderful for us on the advocacy side is we rely heavily on experts in economics like Kurt and the RUC team, and we have to work together. There's no way that we can accomplish what we do at the federal level, at the state level without partnering with our economics experts. So I think, you know, what they do is just as important, and it is a strong form of advocacy because we could never get the pieces of legislation we're getting passed without them.

[00:40:30]

**Matt:** Yeah. I would also add too, so many different ways that young radiologists can advocate for their field. You know, you've talked about, you know, economics and government affairs will go hand in hand, for sure, but I'm sitting here looking at Judy. And, Judy, the work that you've done with artificial intelligence and unconscious bias, you know, like that's defining for an entire emerging field within our specialty, and so I have to believe that there is an advocacy arm to that from that standpoint.

[00:41:00]

**Judy:** Yeah. Matt is trying to steal the moderator role, but yeah. So my type of advocacy is now really sort of front-facing and very active, you know, like as described by Amy. But when I think about policy, which is really where I hope that my work makes a difference and that's not too far off when you think about the challenges of AI is really that I do sort of research and being very forward-thinking to generate the evidence that is necessary to influence a specific area.

[00:41:33]

And so that's been a learning process for me. I just recently joined as one of the early scholars for the National Academy of Medicine, and it's this sort of different training when you have to generate evidence. How do you generate evidence for, think about the pandemic, something that is changing so rapidly? Or how do you generate evidence, or what should be the guardrail set for ChatGPT where we have a new ChatGPT release everywhere?

[00:42:02]

And so I personally don't have that part and oomph for going to the hill and fighting, which is a very important job. And thanks to the ACR and many people on this panel that are able to do it. But what's my superpower is understanding how can we, you know, generate the data or the research that is able to be used to drive this policy. And that also has coupled in to learning how to communicate your science. A lot of people are just driven by, oh, I'm gonna publish another paper, another paper, another paper, and it doesn't matter if no one reads those papers.

[00:42:42]

And so some of the soft skills that I've learned is where you publish matters, and at some point, it doesn't, really people follow who you are as an individual. And so, you know, trying to amplify sort of your work, talk to...like today, one of my meetings was talking to a journalist, and there's no paper that is being published or anything is just to educate them. But they know that they can call on me as a resource when they don't understand something, or how to write about your work and share your work in a way that is understood I think are easily things that I ignore. But I feel and hope that that's going to be my contribution in terms of thinking about AI policy and regulation, which is clearly a big need right now.

[00:43:30]

**Geoff:** Kurt, you recently assumed the role of president of one of the country's largest independent private radiology practices. You have also spent a substantial amount of your professional efforts supporting our field as the ACR's advisor and alternate panelists to the AMA Relative Value Scale Update Committee. What concerns you and what do you find most encouraging for radiology-led, radiology practice, I should say radiologist-led radiology practice, and the economic underpinnings that will continue supporting it?

[00:44:04]

**Kurt:** That's a loaded question. Concerning, actually, right now, I'm probably gonna have to say the radiologist shortage, but it's maybe not for the reasons you think. You know, while it is difficult to cover clinical responsibilities, honestly, what bothers me most about it is the unanticipated outcomes and compensations that will happen. And so an example, the law of unintended consequences is strong and the ground can shift under your feet while you're still trying to figure out what just happened. And so a group in Nevada recently left their hospital, and now that hospital is trying to hire 18 to 20 radiologists to cover that facility. It's hard to hire one right now, so I don't know where they're gonna get them unless they kidnap them or what have you. But I think that's a potential major shift.

[00:44:49]

Radiology in general has either been in academics or kind of independent private practice. There's different versions of independent private practice, but a very small number of radiologists work in multi-specialty groups or in those hospital-employed physician groups. Again, I separate academics from that on the other side. I think hospital-based physician group employment has turned out poorly for many physician specialties and particularly in a multispecialty environment. I don't think in the examples that we have that radiology has done well in those.

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It's tough to be incorporated into that mix because it creates a fair bit of tension, and radiology works a little bit different than other clinical specialties in understanding the workload, the stress levels, the scheduling issues is something that you do very well when you're in a solo specialty practice. But it gets very difficult when everybody else practices a certain way and you are an odd person out, rads, path, anesthesia, etc.

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So the primary benefit of working in a solo specialty or an independent practice is making your own decisions. You're not beholden to other administrators, cultures, norms, and people really underestimate the importance of decision-making authority and the impact it can have on your life. If compromises need to happen, I would rather be the one with my friends and business partners choosing how we're gonna make those compromises, not having to beg, plead, or ask very nicely to some unaccountable bureaucrat who doesn't know what it's like to work our shifts, our call schedules, the complexity of covering neuro IR, PDIR, 24/7 PD, general IR, and all the general call pools and all the satellite facilities that we cover where, yeah, that 50-bed hospital would love to have a mammographer, an IR, and a diagnostic rad, that's not gonna happen. You're lucky to get one, and you're probably not even gonna get one five days a week.

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So, you know, those are things that are very difficult to understand unless you dance the dance. And most of the multi-specialty groups or large physician practices just haven't done that vis-à-vis radiology. Now, economics in this realm are complicated, we deal with an inherently deflationary pay scale, declining Medicare payments. You have increasing pressures on private payers, you know, there's a trend towards increased facility-based

stipends, but that's a pool of money that is not limitless. And when it's handled poorly, it can create tension in that relationship, and I mentioned earlier, when you're working for a lot of different facilities or health systems, that's a relationship management problem.

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And right now, your best bets for good economic outcomes and supporting your radiologists are efficiency and leverage. And I mean, leverage broadly, leverage over your schedule, leverage over your contracts, leverage over how you are choosing to cover a facility because you do have some built-in leverage by having workforce shortage and supply issues, but you better manage it delicately, it's a balance. I think it's important to take a long-term perspective and not necessarily try to maximize your gains in the one-in-two-year timeframe while sowing the seeds of your own replacement or creating a toxic or toxicity in your relationship with your rads, your facilities, or even the payers.

[00:48:05]

You know, sometimes flying under the radar a bit or maybe sharing in the pain is better than absolutely maximizing your short-term gain or your dollar per RVU. And so it can seem crazy, people define winning as getting the most out of a negotiation or a contract. But I think sharing that perspective and sharing that long-term perspective with your facilities in a more collaborative environment, it's probably better, but I don't know if I'm gonna be right for like 10 or 12 years.

[00:48:36]

**Geoff:** It seems that independent private practice radiology has been amongst the relative shrinking or reducing elements of practice models. And, you know, I think you spoke very eloquently about a lot of the benefits of the model to be adaptable and to have agency and control where it can make a difference. How do you advise those in private practice to maintain sufficient competitive advantage that they can persevere and be successful amongst so many potential competitors?

[00:49:13]

**Kurt:** Yeah, and that's tough. You would like to think that there's some consistency in what breeds success in a practice, and I'm not convinced that it is broadly applicable as we would like it to be. I think there's some fundamental tenets, you need to do good quality work, that you're affable, available, and able, that old yarn. There's some truth to that. You have to make people feel like they're getting good service. Those all matter in maintaining those relationships, but everything is local. I mean, if you've seen one hospital contract or one hospital facility or set of physicians, you've seen one.

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And so while tempting to take examples of success from different parts of the country, different parts of your own state, and trying to put 'em in play at a different facility is really easy to have some culture mismatches, some missed expectations, and to mishandle some of those transitions. And, you know, we're big, we've done it right, we've done it wrong, and we've done it all the ways in between, and there's a certain amount of experience that comes

with that and it's great. But when we get together with other private practices, like when we work with strategic radiology groups, you can see that, you know, some of those groups do stuff vastly different than we are and they do it very well and they're very successful in their markets. And that would not fly where we are and vice versa.

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And so there's no one size fits all. I think the important lessons there is, yes, there's some fundamentals, but you gotta read the room and you gotta read where you're at. And I know, you know, Greg Nicola, I've learned a lot from him doing ACR economics. When he talks about the way that his group works with his facility and the way that the administration works with the physician groups there, that's not what Texas is like at all. And if we walked into administrative meeting like that, we would probably walk out because we were convinced we were in the wrong place.

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**Geoff:** Can you be a little bit more specific in that regard and share, you know, deeply...

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**Kurt:** I'm trying not to violate confidences or directly throw anybody under the bus. So we'll just leave it at the generalities.

[00:51:17]

**Geoff:** Okay. All right. Very good.

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**Kurt:** We'll just say, his hospital is more interested in working with the physician groups, our hospitals, it's just a different dynamic. They do more alternative payment models, they do more clinically integrated networks. They do more where they assign billing authority to some of those hospitals, and that just would never happen where we are. Alternative payment models are rare to functionally non-existent in most of Texas. And so those levels of integrations and what have you just don't pan out where we are, and if they do among some of the clinical specialties, they don't really touch radiology. We've basically been written outta all of them.

[00:51:52]

**Geoff:** There you go. That's some great specificity. Thank you. You know, one other question along these lines and that is, is that it seems increasingly, you know, with so many aspects of the practice to attend to and margins going down, you know, as you mentioned the deflationary field, that increasingly there's this feeling that economies of scale must be realized and must be grown over and over. And so are there pathways that you see for private practices to, you know, maintain their primacy in a stabilized environment, or does growth and expansion need to be a necessary component of the strategy?

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**Kurt:** Again, like others, it's balance. And so you do need certain size. Size does bring advantages, but size brings complexity too. So there's no free lunch there, and growing has to be done properly, smart, intelligently, I don't know the best adverb for that. You know, it could easily get too far out over your skis and grow too fast and screw it up. That's easy, people do that all the time, and you can sit back and be too conservative and not take advantage of things. And so there's this medium, and whether that's a broad middle lane or a really narrow middle lane changes with time and your areas.

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And so right now, yes, as we've grown to now just over 270 rads, our clinical enterprise has essentially tripled, you know, in the last 15 or so years, and so our clinical revenues have tripled, our costs have not even doubled for our management arm. And so that's a built-in scale that we're able to take advantage of. Another one is, you know, like I mentioned earlier, we sometimes write our own software because no vendor does what we need. That's a lot less of an investment per rad when you have hundreds, if not 200 plus rads that are putting that in there, we can raise \$2 million really easily internally and not have to go to credit markets to do that just by withholding \$10,000 or so from each rad.

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And so, you know, our ability to make investments in infrastructure matters, and that's where you get to that efficiency piece. You know, we're between our work and the work of some other vendors, you know, we're on the cusp of some reasonable efficiency gains. I've harped a long time on the radiology work environment is what I call it, you can call it wellness, you can call it whatever you want, but it shouldn't take 17 clicks when it could take five.

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The logins, the bad interfaces, the academic departments that you can see the images, but not the report, or the report and not the images from facilities in your own institutional network. That's just inexcusable, and one of the paces that we've been able to use leverage is demanding facilities integrate with us. We essentially become your sandlot radiology enterprise network, where I integrate with a system so I can see those patients even when they're at a hospital that I don't cover.

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And so, like an example at our county hospital, if, you know, level 1 trauma center sees all, it is Tarrant County is Parkland on the Dallas side, it's Grady in Atlanta, Cook, whatever, that's John Peter Smith, is where I was the department chair before I became the group president, just shy of 50% of those patients have priors from another facility. But if you read on the JPS PACS, you would never see those. If you read on rads system, we see those, and now we've started to quantify avoidable imaging by seeing incidentals and other things that we can see that you couldn't see through that institution.

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The thing is, it's not a revenue source for that institution, it's a resource utilization issue because if they have a patient getting an adrenal nodule follow-up that doesn't need to be



followed, that's another patient who needs that study that can't get on that schedule. And so they have a vested interest in working on cool stuff like that with us because it's not gonna cost them money, it enables them to actually fulfill their fundamental mission, which is caring for the population.

[00:55:39]

**Geoff:** Yeah. Fantastic. Terrific. And anybody else care to discuss the economic underpinnings of radiology at the moment and your perspectives on the future? We'll let Kurt have the last word on that one for the moment, then. Judy, you're just four years out of fellowship but have already established an international reputation as an expert in the development and use of artificial intelligence and medical imaging. How fundamental are the technologies of artificial intelligence in all of its iterations of machine learning, natural language processing, large, transformer-based language models to the future of radiology? What do you foresee for the development of these technologies and their impact on radiology practice over the next 10 years?

[00:56:27]

**Judy:** Well, I can start by saying radiologists are not being replaced. I think that's been one of the big concerns over the years about this AI technologies. And so I do wanna sort of discuss two errors, one is before this large language models, and also that what's our superpower is understanding what are the other changes that are happening in the enterprise that could affect how AI is used. So Kurt just, you know, dropped subtle there that he can hire and develop anything for his own efficiency.

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And so as we see quite a lot of... I do think there's... I know some people don't like it when they hear this, but as we see VCs invest more and purchase more practices, they're the same people who are purchasing and supporting the AI companies. And as we still have a gap that exists for, you know, maybe meeting...hiring the right people, then if you can, you know, supercharge some of the people that you have, then there's no reason why people will not deploy. And it's not necessarily development, but it's more of the deployment of AI and the incentives. And I think those are going to align actually, in my opinion, outside academic practices and more in private practice. This is a guess at the future, of course, no one has the crystal ball.

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The second thing that we have to look at is what's been the success of some of the AI systems that are currently in use. And if we think about the stroke algorithm or these triage algorithms, whether it's for PE or any acute element, most of the recent research is not showing that they're better, they improve productivity, they don't. And people are not discussing that a lot. This study came from Europe, and so this human-machine partnership, and so you could ask, well, have we really tackled the problem that radiologists are struggling with versus a hypothetical problem?

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But where there has been gains is the long outpatient lists that don't have anyone to read every day. You don't wanna be embarrassed to miss a GI bleed or a PE on a list that has been waiting for four or five days to be read. And that's where much as we don't discuss it, that's where the value of these AI systems, even if they were not designed to meet that need, are really coming up, right, to make sure that you're not sitting on a critical finding on the queue because you just don't have enough personnel. But not that when you use them in collaboration with the radiologist, actually, it's not just that they don't improve productivity, it is that they make your expert worse.

[00:59:13]

And so the things that you provide to your experts, if you find 20-year-old breast A radiologist experience and you match them with AI, and AI is giving false or not...just some weak suggestions, then their performance actually drops. And so, you can cause an error for your expert radiologist. And so that era of deep learning models, what we are seeing as they mature, and, you know, before ChatGPT, the hype had died, people had really come to see that it's very difficult to deploy these systems in the real-world setting and make them useful.

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Now, what we were seeing also in the marketplace is these platforms, right? Because everyone wants you to be on their platform, and you could think about this as being on, you know, Verizon or AT&T, wherever you are, so that it's very difficult for you to move around. But now with this era of large language models or foundation models, where these are different is because, you know, the way they work, if I use two minutes to go a little more technical, is if you had all of the world's text, right, Wikipedia, anything, anything that you can access, then you played a game of fill-in-the-blank.

[01:00:27]

So you'd start off with your text, and you'd keep randomly dropping words. Then what you could end up is the representation and even coming up with new names, including Matt, Judy, Kurt, you know, all the names, and you start to learn what do those things represent in the world. And that's why you need all the compute in the world that is harmful for environment, but also that you have to have a performance, a network that allows you to train multiple things. And so that's how ChatGPT and, you know, not necessarily the GPT 4 models are trained, and they represent the average representation of that world.

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And so when you are not an expert in an area, then you cannot understand what's required. But what's also interesting is that they do not have limitations of requiring you to label a ton of data. And so if you can get all your radiology images and radiology texts and understand what their representations are, then the question is, does the ER doctor need these long reports rewrite or maybe short with structured reporting, or they're just asking, is there something for me to do?

[01:01:37]

And so that model is very disruptive, if successful, to the work of radiologists in a much faster way than if we would have anticipated before this sort of the GPT models came into being. And then the second angle is that, if you think about how technology comes to be used in the healthcare enterprise, the radiologist never has a role in that, right? We sit in our own small departments, and, you know, even the radiology IT is not even linked to the main IT systems. These systems are sold to people. Every administrator right now wants more radiologists.

[01:02:19]

I mean, show me an administrator who doesn't want more radiologists and they just don't have a serious business. And so if someone comes and says, look, you don't need as much, they're gonna jump on. And so I've always said that these technologies are sold on golf courses where we...maybe some people of us are playing, but we don't have a say in those positions. And so we do have the potential of being blindsided and using a technology already that we had no input on for the development. So whether it's the work for radiology, but it could also be the work that is affected by other clinical specialties as they start to use the systems, and that work affects us.

[01:03:01]

**Geoff:** When you mentioned that GPTs have the potential to be much more disruptive to radiology practice, I wonder if you could just explore that a little deeper and talk about how you might foresee that disruption occurring.

[01:03:15]

**Judy:** So in the ideal world, if you had all the text of radiology and understood that, well, this is a normal test X-ray, these GPT models, even if we don't use them that way, can understand, can input text and can input images, then you could see how that you could have a preliminary report generated and maybe it doesn't need to have everything for the ER to be able... If you think about the overages, right, that is a task that hypothetically could be scaled into something like that. But what we see more even is, I mean, myself and Matt have geeked about this, just people even billing understanding the practice of even IR, right? Those are things that a large language model can do.

[01:04:03]

And so in terms of what was possible and in terms of how the technologies are changing and then this arms race that's being put up by all the big tech companies who are eyeing the healthcare pie, I think it's a little naive to think that the progress or the faults that we've seen the previous era of technologies make that those are not going to be overcome in a shorter lifespan. And I'm not just saying that this is disruptive just for radiology, but it's disruptive for every medical specialty.

[01:04:36]

**Geoff:** But it seems that disruption offers as much a possibility of good for us as a specialty and potentially for healthcare if it is synergized with human effort in an effective way as being something that would be a negative consequence. Do you agree with that?

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**Judy:** But we do know some of the faults, right? So today, none...no one can train these large language models. They require a lot of compute, they require a lot of resources that we do not have, right? And so there's no transparency in the data sets that are used. There's no transparency when the models don't work. So they can have a lot of hallucinations, which is one of the criticisms of these models, right? So when they make a mistake, who's responsible? Do we really think that with time, as these models get better, we will be able to tell between the fake, like the generated text versus what the clinician? Yes, the clinician could have made mistakes, but if you are responsible for capturing errors or detecting errors, then that's going to be very, very difficult.

[01:05:44]

**Geoff:** I see. So if I am paraphrasing your concerns correctly, please correct me if I'm doing it wrong, the issue here is, is that of having some kind of a pre-screening tool that would generate preliminary reports. At first glance, it would seem like that would be great for radiologists to just be able to more efficiently work through the cases. But to your point, it's finding the errors in that and having to recheck everything to make sure that something important is not missed.

[01:06:11]

**Judy:** Yes. And it doesn't mean that that's not going to get better with some of the approaches that the developers are using, but the responsibility of catching. So most of this right now is affecting students when they submit results, and then they're told, oh, you used a large language model. And the evaluator can give you a zero, right? And, you know, like the tools that are supposed to catch this are not very good.

[01:06:40]

And so if you have to supervise, right, people have thought that, well, maybe you will now go and read that hard case that Kurt was talking about. But what if you now have to decide like, ah, does this make sense or not? So when you are an expert, then it's easy to pick up the differences because they're very subtle, and you'll be like, no, no, no, this is not how we would've done something like that. But when the differences are...will keep getting better and, you know, the believability of the large language models, then that's really difficult for you to sort out, like, when it's not making an error when it's, you know, something harmless or something like that.

[01:07:19]

**Geoff:** Yeah. So, let me ask you something a little different. And that is, is that we've heard about radiologist shortages and about the complexity of radiology practice, and we know that hospital administrators and clinicians and people that are trying to manage emergency departments are very focused on having, you know, rapid turnaround of imaging studies. And, you know, we're constantly in sort of the balance of trying to devote the effort that we need in order to effectively interpret imaging studies, but also to be able to get results out in a

timely fashion. How do you foresee these AI technologies potentially helping us solve this real-world dilemma?

[01:08:01]

**Judy:** Yeah. And those are sort of some of the areas where people are hopeful that that's going to happen. So, for example, maybe the ER doctor just needs to know is there a PE or not, right? Is there something actionable? They don't need to wait for all of your report, right? And we saw some of this happen with the stroke, you know, large vessel occlusion algorithms, right? They were bypassing the radiologist. And if you check their real-world performance, it's not that they catch all the stroke, but if you need to activate your team, you have to record the time and you have to wake up and now go log in. But now you can just open the application on your phone is that they allow for this redesign workflows that are more efficient for people to interact with our technologies.

[01:08:44]

But it's not unusual or unthinkable, especially for straightforward cases to say, do you see something? Or you are combining, right? So we see this national trend about what's the true role of physician extenders, right? And maybe when you combine them with a GPT model, then you're supercharging them to perform as good or close to or acceptable good.

[01:09:09]

And so this limits and why are we testing some of these things to understand. So if you look at the benchmarks that are being postulated or this ChatGPT passed, USMLE ChatGPT passed, whatever board exam, is that there are multiple-choice questions. They don't really allow us to understand what's the progress that's been made, you know, to allow us to tackle a problem that all of us on this call agree that the turnaround, I think, is almost going to minus zero, you know, by the time the patient is on the scanner, they want a report. And you can see some of these technologies even being able to provide some answer at the edge.

[01:09:48]

So, I don't know the future, but I know that there's quite a lot of investments being made here. But the architectures are changing, I actually do believe that the architectures will get better. It's going to be the trustworthiness, when there is a bad outcome and, you know, who gets sued, that is going to slow the pace of how these technologies are adopted in medicine more than that the technology's not going to get there, in my opinion.

[01:10:17]

**Geoff:** It's interesting that you brought up the potential role of physician extenders in partnership with AI. Do you believe that the pathway toward essentially increasing the workforce that interprets and finalizes radiology reports is gonna be an expansion of a workforce that involves the combination of AI and physician extenders?

[01:10:43]

**Judy:** I think you're trying to get me kicked from this webinar, but I think it's naive to think people are not going to try it. Okay. I'm not saying it's the right thing. I'm not saying the skills are going to be, but let's just be honest about what's happened with radiology. And we know some practices that physician extenders do read ICU reports and finalize them without supervision, without a radiologist signing them.

[01:11:08]

I think it's shortsighted to maybe bypass or try, I think nationally equalize sort of like the experience or just the training that is required because usually someone has to be responsible. But this is really a place where I am not an expert, and all these other three people on this panel are real experts. And you should harass them to answer that question.

[01:11:33]

**Geoff:** I'm going to, I promise.

[01:11:35]

**Kurt:** I think everybody's gonna back slowly away from that one. To Judy's point she made earlier, by the large language models being the average or the output being the average of all of those inputs, I read something, a description of some futures where you have a lot of average skill writers or other people having their work product being replaced by GPT, but it actually puts a premium on somebody who is an expert.

[01:12:02]

And the question I would have for Judy there is, is there a version of the future that you see the training and the expertise of the radiologist actually being more highly valued if you have the average output becoming that standard that others are using? And it may change our workflows in the way that we interact with images in the patients, but is that a possibility or am I just being too optimistic?

[01:12:27]

**Judy:** Yeah, so the making of an expert, right? So this has to be how we think about not only our radiology trainees or our medical student, but even our children, right? How are we going to train them to be navigating this world, right? And so there's this week I saw probably one of the...it's like so simple and it makes sense. I noticed it in my group. I do have both doctors and I have computer scientists in my research team. And then the clinical people are no longer asking the computer scientists for help. Like, they're supercharged with this never-tired assistant that is, yes, makes quite a lot of mistakes still, but they're able to figure it out. And so the amount of dependency and productivity has completely changed.

[01:13:15]

In the past when I would say doctors don't need to program, now with just a little bit of just effort, they can get to dangerous levels, you know, to be able to even do data science. Okay? The other hand is when...how do you make an expert today when our exams are around

cramming, right? We do know that the ABR is moving back to oral boards and not related to AI, but related to competencies that we are observing in the marketplace.

[01:13:45]

And so how you get to a decision structuring if you have assignments for people to really say, how did I come up with this? And not to doubt them or criticize them, but structuring even your child's homework in a way that allows you to see sequential generation is the way you train your mind to be able to understand when there are mistakes in this GPT model, right? Because then you're not just consuming the average. Remember, the average in a few years is going to be using even GPT-generated text because, so far, these models are already exhausting what the world's original text is.

[01:14:23]

And so yesterday, I used GPT to read bedtime stories because you can kind of... I was forcing it to make me Swahili stories for our baby, and my spouse said, I read this one story. I said, oh, give me the prompt that we should give GPT. And I read the story and said, what do you think? And, you know, the response was, well, I think that was a good story. And I said, oh, yeah, I think it's pretty good. And then they said, well, this story sounds very similar to blah, blah, blah, but I did not read these type of books growing up. I would not be able to catch something like that.

[01:15:00]

And so this subtleness can only be acquired by testing, sharing the knowledge, but also rethinking how we educate, especially when it comes to trying to make sure that the tasks you give instead of rote memorization are coming very sequential and also you give rewards for these staged experiments instead of waiting for the final paper to see the evolution of the ideas. That type of soft skill, I still don't know how we're gonna teach it, but it's going to be super important in navigating or making experts in this era of GPT.

[01:15:35]

**Geoff:** You know, a full day for a radiologist is different, of course, depending on what they're doing. But, you know, whether it is reading 80 to 100 CTs or 300 or 350 plane films, that's a lot. I guess one question that people wonder is, is there a scenario where, through some AI-powered technology, radiologists are gonna be reading 1,000 cases in a day? I mean, is that the direction that any of you see this potentially going? Or is there sort of a natural limit that is gonna require us to spend a certain amount of attention on each case, and getting that level of production out of a single radiologist is a pipe dream?

[01:16:16]

**Judy:** And one more couple to that, or who wants to read only abnormal cases, right? So, like Amy, who wants to read only breast cancer cases because all the normal cases are read by AI?

[01:16:29]



**Geoff:** Yeah. Enriching the prevalence of disease and complexity. So, I mean, what do you guys think? I mean, is this where the future is potentially gonna go?

[01:16:39]

**Kurt:** To your natural limits point, you know, we have an industrial engineer internally, and we've worked on some efficiency analysis with generation of reports, with the evaluation of images, and others. Eyes on the images time doesn't vary much across highly productive and highly unproductive radiologists. The report generation piece reference to guidelines and standards, problem-solving or answering difficult questions. That's highly variable amongst both...across that spectrum of physicians for, you know, your highly productive physicians tend to be succinct, straightforward, they remember what they need to say, they say it very succinctly and they get the report out and are efficient. They use templates, they use the shortcuts.

[01:17:25]

And in general, by the way, and we survey our referring physicians, they tend to like their reports better than your exhaustive Faulknerian radiologist who describes how the spleen is feeling that day on that exam, which is an excellent report, and it covers everything you would want to care. But even the person reading the follow-up, this guy doesn't even want to read the impression, it's so long. It may have all the elements in there, but it doesn't really move forward with the decision-making. And so I think there's an A natural limit for your ability to process the imaging.

[01:18:01]

Now, if you take that step out and you're dealing with the output from computers or analytics and you're looking at a single part of the exam or troubleshooting something, then, yeah, you're gonna move your limit up. But there's literally a visual processing limit for your ability to evaluate these things no matter how wonderful your graphical user interface is and how you can sort through it. And so there is a limit, and that's probably a staged limit for how much you're giving 'em or what questions you're asking them, so it's not a shoot to the moon kind of equation.

[01:18:33]

We have a lot of room for improvement, some of that's training, some of that's software tools. But I think, like evolution, we like to think of it as a smooth line. I don't think it's there. I think you're gonna have steps here and there where you're gonna take off these chunks of inefficiency for people. And you see, to Judy's point earlier, like we don't deploy a lot of image or almost any image-based AI, everything we're deploying is non-interpretive for the most part.

[01:18:57]

Honestly, the next voice recognition is begging for disruption and your workload balancing and capacity assessments in real time is our next step because it's not just about reading faster, it may be about getting the case to the person who reads it with the highest quality or



most efficiency and not having stagnant resources. This is your airline staffing problem, how do you most efficiently get people to where they need to be?

[01:19:26]

We have that problem when you start talking about multiple institutions, like Matt was earlier, where it's either getting your people to the place where they're needed and is most efficient to use them knowing what's on the schedule, or even better prospectively, what you can expect from that facility on this day of the week and this month of the year in this season. Those things matter when you're trying to carve out just a little more efficiency or decrease the number of times you have to drive somewhere or leave your car on the ambulance bay and go put a biliary drain in.

[01:19:54]

**Geoff:** Yeah. Great insights. Matt, Amy, any thoughts on the AI topic?

[01:19:58]

**Matt:** Yeah. Two things I've always wondered about AI, and number one is a few of us have talked about how you want to get, you know, the complex cases to an expert, weed through the inaccuracies in the AI reports. And I get that now in, you know, 2023 for Schoppe as an expert, he is read however many complex abdominal imaging studies.

[01:20:23]

**Kurt:** Way too many.

[01:20:24]

**Matt:** I just don't understand how we train the expert in a setting of AI. How do you become an expert if you don't ever look at the simple ones like Judy said, or see the million different variations of normal, what normal is? And I just can't formulate what that looks like. And I know it means training has to change, but if we think of who are experts now in our minds, you know, in our luminaries that we would call for all of our complex cases, how does that person become that person in the setting of AI? So that's one.

[01:20:57]

The second point, and, Judy, you were very politically sound with your answer. Yes, to answer with the physician extenders APPs, I think we're going to have to utilize them more effectively than we do right now. And whether that's with whatever type of guidance that is, whatever oversight, whatever licensure or special training programs we may have, radiologists are very, very expensive resources. And so, you know, you put my hospital hat on right now. So we really need to look hard at some of the work that we're doing and decide whether that requires the level of training that we do have.

[01:21:34]

You know, you look at pathology, for example, in the setting of AI, you know, pap smear was the most common exam, that was the most common service provided by pathologists a

decade ago. And now it's gone. It's all done automatically with the help of many times pathology PAs, or APPs. And that's just one example. I'm not saying that, you know, we could look at ICU portable chest X-rays. You know, I do think some of our screening tests, you look at screening chest CTs for lung nodules, I think there's some possibilities for exams that, with the help of AI and a very well-trained APP, that could be done at least adequately. Maybe not as stellarly as some radiologists, but certainly adequately. I think we have to more aggressively move in that direction.

[01:22:20]

**Geoff:** That's great. Fantastic. This was really nice sort of far-ranging perspectives on the field and our direction. I wanna turn inwards a little bit once again and ask you to look ahead to the next 10 years for yourselves, for your professional side, for your careers. What do you seek to accomplish, and do you have aspirations for yourselves that extend even beyond those 10 years? Let's see. Amy, would you like to start us off?

[01:22:50]

**Amy:** Oh, wow. That's the million-dollar question. I think for me, it's just a matter of keeping my options open. I think that, you know, anyone who knows me knows I wear a lot of hats. I'm involved in many things. I have an interest in so many things. In addition to, you know, of course, the advocacy part of it, the clinical part of it, I do have an interest in breast radiology AI and, you know, the implications of that. I think all three really captured a lot of the sentiments I have in regards to that subject as well that, you know, this is definitely going to take some time. And the questions they have posed, I have most certainly posed myself since this whole AI arms race, I guess arguably you could call it, has taken off.

[01:23:41]

But I think for me, looking ahead, I'm just going to continue to do what I'm doing, keeping, you know, all doors open to see, you know, where I can be the most effective. Because at the end of the day, as much as I want to make a difference in the lives of our patients in the field of radiology, I sometimes wonder, you know, do I have a calling that is greater to affect not just, you know, the house of radiology, but possibly the house of medicine and beyond?

[01:24:10]

And I think if there are those of us who think big picture like that, that perhaps, you know, if we're put in a position where we can really invoke this change that's a lot larger than we initially anticipated, we should try to run with that challenge. So I don't have a crystal ball of exactly what I'm going to do going forward, but I do think that it will most certainly refine over time.

[01:24:36]

**Geoff:** Judy, what do the next 10 years look like for you?

[01:24:39]

**Judy:** So, one of the best leadership things I had from Dr. Geraldine McGinty is when you think ahead, sometimes imagine yourself in a room and look at the people in that room and see yourself in that room. And you know, I give this advice to my friends and my students because sometimes maybe in the next two years, you just see yourself having dinner with your spouse and your children. And that's okay because it gives you clarity about what to do, yes. And what to do, no. I think for me, it's an exciting time to live in these two worlds of interventional radiology that is also changing especially from a global health perspective, and informatics and artificial intelligence.

[01:25:28]

In 10 years, if I was leading the organization that will most likely be formed by some future governments to be away from the big tech and help navigate safe AI for medicine, that will be a dream come true to make that type of impact. But for now, I'm trying to make an impact on my students and also in doing research that can inform that future person, if most likely not going to be Judy. I would like to say, as someone who's sort of like on the fourth-year mark, that the other thing you have to do is sort of like build your network before you need it. And it's this showing your best self every time you're there.

[01:26:12]

I can tell you that if it wasn't for Indiana Radiology Society that really believed in the residents and would have these elected positions, I would never, ever, ever have been aware of the American College of Radiology. And they made this investment every year, the membership of Indiana, and they would send the leaders to D.C., you know, and it was funded. And if you got it, then you got the time. And this was very life-changing for me to understand, even as someone who's a foreign medical doctor, even how laws were made and all this foundation that I use now and later on to get the Goldberg-Reeder Award still from the ACR to spend time in Africa for my radiology residency.

[01:26:57]

And then to be around when Geoff Hinton, who's one of the godfathers of AI, was saying, look, we should stop training radiologists. And again, to come back to the ACR and start the ACR RFS AI Journal Club, those things I never did them for a specific reason, I did them because I enjoy the work. And those have turned out to be tremendously, and so being your best self. And if you are able to, enjoying the work that you do, can be very transformational and change your life.

[01:27:30]

**Geoff:** Matt, what are your aspirations for the future?

[01:27:33]

**Matt:** You know, thing about pediatrics that I've learned is a little different than adults is you try and set your kids up to be their best adult selves. So rather than necessarily prolonging life or preserving, you wanna set them up to be the most successful, healthy adults they can be. And so, certainly, I see myself staying in pediatrics. Currently, I'm completing an executive MBA program. I do think, you know, leading and running a big pediatric

healthcare organization, you know, that would be the dream. And when people pin me down and say, what is the one thing, that's pretty much...that's where I've landed. So I wanna keep giving back to pediatrics as much as I can.

[01:28:12]

**Geoff:** Marvelous. And, Kurt?

[01:28:14]

**Kurt:** My goals have changed over time in how I've looked at them. There was a time in my life that I thought like leading a large healthcare organization or hospital, hospital network was something. It is absolutely not in the cards for me. I can't say all the things I did about hospital administration and then want to go join the team. I would say my, you know, more audacious goal for the next 10 years is to help set up radiologists for success with better work environments, a better technology stack to help their quality of life, maybe extend career longevity or provide the flexibility they need to live their best lives.

[01:28:50]

It takes resources, time, research, and, you know, we're doing a lot of that hard work in the background here locally, including, like we mentioned, writing a lot of our own software. But it also takes thinking differently, like Matt mentioned earlier, about workflow, about quality standards, about what compromises we may be willing to make because there's still a service component to our specialty and why we focus on, you know, hospitals and the patients and the communities we have to serve ourselves as well.

[01:29:19]

And so, while we usually have an externally focused efforts on making things better, I think it is a reasonable time to turn that lens inward and try to take care of ourselves as well. So beyond 10 years, I doubt I'll be in a practice leadership role. I don't have any specific goals or positions beyond that. To Judy's point, when I look at that room in 10 years, I'd rather it just be me or my family or my friends right now, that can change. But right now, I see it as a time that I would slow down and do less. Maybe just going back to doing some old-school radiology and a lot less of the dynamic specialty-level work and shaping of the future. And I'll just sit back and let somebody else do it, maybe I'll be Amy's bodyguard or Judy's when they're doing their government positions, I'll sign up for that.

[01:30:04]

**Geoff:** Before we bring this conversation to a close, I wanna turn our attention to the American College of Radiology. And all of you have described a bit about how the ACR has impacted your careers. And I'd like to ask you each to maybe just recount that once again how the ACR has contributed to your career, but also to maybe speak to what you see as some of the key priorities for the ACR in the coming years and how you would advise the ACR to invest its efforts and its capabilities. Let's see. Matt, would you like to start us off?

[01:30:42]

**Matt:** Yeah. As far as recounting what the ACR has done for my career, considering I'm starting my 10th year, that would take me about nine years to give you the full story because my entire career is courtesy of the American College of Radiology. I went to my first meeting as a first-year resident in 2009, I didn't know a soul. I met Kurt at that first meeting. Obviously, I've met Amy through there and Judy through there. And so some of my best friends in the world and some of the most important, that network that Judy talked about, building that network before you need it, it all came from the college. So eternally grateful.

[01:31:14]

I often said if I ever wrote an autobiography, it would be called My Night at McClellan's because that's where I've met pretty much everybody that's critical to my network. So, as far as ACR target priorities and everything, this is loaded with bias because I was born and raised by Econ and Government Affairs, but my advice would be never, ever lose sight of those two things because the other big topic is AI. And the biggest issues to overcome with AI are probably not gonna be the technology, but it's how is it gonna be regulated and how are we gonna get paid for it? And if we do not figure those two things out, we are not gonna be okay if we focus on other things within the college. So, maybe very strongly biased advice, but that's the best I can do.

[01:32:00]

**Geoff:** Terrific. Judy?

[01:32:02]

**Judy:** What Matt said.

[01:32:05]

**Geoff:** Your journey is Matt's journey?

[01:32:06]

**Judy:** Yes.

[01:32:07]

**Geoff:** Or vice versa?

[01:32:08.]

**Judy:** No. I would just like to say thanks to the ACR membership that keep contributing their ideas, and really I think a special shout to the Indiana Radiology Society, who really put me on that path where it would really have been impossible. And so I'm grateful, and I made the best out of it, I guess.

[01:32:31]

**Geoff:** And what do you see as key priorities for the ACR in the coming...?

[01:32:34]

**Judy:** I mean, the ACR already has the Data Science Institute, so they are already in this space, and doing a fantastic job. They're doing a lot of outreach to the people, traditional people who would not be involved in this, right? So these changes are not going to come from high-tower academic centers. They're going to come from last-mile users that are just concerned about doing a good job and enjoying their radiology practice. And those are the ACR members, quite a lot of that is membership. And so I hope that we can continue to amplify the voices and participation of people who are traditionally not included in some of these fancy programs when they come up like AI.

[01:33:19]

**Geoff:** Excellent. Kurt?

[01:33:21]

**Kurt:** Three cheers for the blue-collar contribution, the blue-collar radiologist contribution as it were. Now, to Matt's point, the ACR, my career, I have no idea what it would look like, but it wouldn't look anything like it does right now without the ACR. And a shout-out to the North Carolina Radiological Society. When I was a resident at Wake Forest, they sent a resident from each institution to the ACR, and that email came out. And I was like, I'm not gonna be an academic, a PI. I am not gonna get grants, you know, so this might be my chance to go to a conference. Fine, I'll go to that one.

[01:33:52]

And it's how the sausage was made, it was the economics, it was the advocacy and the other piece. And it was the first time in medical training that I went to any large gathering of healthcare people. I was like, these are my people. This is my stuff. So, for the ACR in a more concrete sense, it was access to sponsors, mentors, excellent training, leadership training, and just practical experience doing the reimbursement and the payment policy dance. You know, I was given opportunities to learn, push myself, do really uncomfortable things, and take on challenges like Zeke's Ted-style talks at the annual meeting.

[01:34:29]

I still have adrenal fatigue from that first one. I think some key priorities though for the ACR in the coming years are helping everyone, not just leadership, see the value of the ACR can provide. You know, those dues fund the ACR mission, and it typically takes the form of economics and advocacy. But the ACR's positioned in really unique ways to help us with AI, assessing the workforce, finding balance with scope of practice, and private payer issues given our access to practices and staff across the country.

[01:34:59]

So, we need to be transparent about our work, maybe financially or fiscally responsible about how we do it, and really prioritize the needs of the membership in addressing some of, you know, our...the members' biggest pain points. And I think it's easy to get distracted in our positions within the ACR or leadership within the ACR and lose sight of the most important practice level in the trenches problems that people are facing and how those issues sap the general membership's bandwidth, and it really strains their ability to consider the value of

other projects in the college. And I think that navigating that balance is gonna be really important for the ACR going ahead.

[01:35:42]

**Geoff:** Marvelous. Amy, tell us a little bit about your experience with the ACR, how it's contributed to your career and what are the key priorities you see for the college in the future.

[01:35:51]

**Amy:** Sure. So, like I previously said, I got involved in the ACR as a first-year resident, and thanks to the Kansas Radiological Society, they send all of their first-year residents to the ACR meeting for free if you are interested in going. And luckily, our residency program was very supportive of all the first years going and just really getting exposed and seeing if that was something that we were all interested in.

[01:36:20]

So, I really have to tip my hat off to state societies that are willing to send their trainees so that they can get exposed early. A lot of how I feel about the college is kind of what Kurt really delivered well, I really think that going forward, the ACR really needs to think about, you know, all of its members and certainly the ones that are coming up the ranks, making sure that our young and early career, our mid-career radiologists have a voice, that the decisions that are being made are reflective of everyone, not just academics, private practice, teleradiology, but all.

[01:36:58]

But at the same time, you know, I am biased towards what Matt said in terms of, I think it is wonderful that the college is taking on so many women in diversity and AI. Our Data Science Institute is very, very strong, but I do think we need to continue to focus on our main pillars and particularly economics and advocacy.

[01:37:22]

I think that those two are so important, and like what Kurt said, the membership understanding that the majority of your dues actually do go towards the economics and advocacy part and that understanding that healthcare is becoming increasingly competitive. And we are becoming more competitive with other specialties when it comes to reimbursement cuts and things that we are continuously seeing, you know, particularly with our fight with Medicare reform. And so we really have to ensure that all of our membership truly understands the challenges we face ahead, and at the same time, our ACR leadership understanding the needs of our members so that we can work together so that we continue to have a very prosperous specialty.

[01:38:06]

**Geoff:** Fantastic. Well, Matt Hawkins, Judy Gichoya, Amy Patel, Kurt Schoppe, what a privilege this has been for me to hear your perspectives and to learn from you today. I just can't help having this overwhelming feeling of appreciation for all of the work and effort that



you have done thus far and clearly how much you have yet to contribute to our field. I think our field is in such incredibly strong hands and has such a bright future with such thoughtful leaders as yourselves. I can't thank you enough for joining us today on the Centennial Panel.

[01:38:57]

Before closing this episode, I want to remind you about the RLI Summit. This will be my 12th summit, and I have thoroughly enjoyed each one. Spending a few days away from the practice to focus on leadership insights provided by top business school professors and radiology luminaries is a truly transformative experience. This year's RLI Summit is being held September 29th to October 1st at the Seaport Hotel in Boston, Massachusetts, just minutes from Logan Airport on the historic waterfront.

[01:39:29]

To celebrate my 12 years of summit participation, we are offering our "Taking the Lead" listeners 12% off current rates. Simply register at [acr.org/rlisummit](http://acr.org/rlisummit) and use the code RLITTL12 at checkout. I look forward to seeing you there. "Taking The Lead" is a production of the Radiology Leadership Institute and the American College of Radiology.

[01:39:56]

Special thanks go to Anne Marie Pascoe, Senior Director of the RLI and co-producer of this podcast. To Port City Films for production support, Linda Sauers, Meghan Swope, and Debbie Kakol for our marketing and social media. Bryan Russell, Jenn Pendo, and Crystal McIntosh for technical and web support, and Shane Yoder for our theme music.

[01:40:17]

Finally, thank you, our audience, for listening and for your interest in radiology leadership. I'm your host, Geoff Rubin, from the University of Arizona College of Medicine in Tucson. We welcome your feedback, questions, and ideas for future conversations. You can reach me on Twitter @geoffrubin or using the #rlitakingthelead. Alternatively, send us an email at [rli@acr.org](mailto:rli@acr.org). I look forward to you joining me next time on "Taking the Lead."