

A Decade of Leadership Training

The Faces of Radiology Leadership

For 10 years, the Radiology Leadership Institute® (RLI) has been putting business and leadership skills within reach of radiologists who are leading change at all levels.

Built by radiologists for radiologists, the RLI offers high-impact educational programming and a world-class faculty to level-up your professional development.



Be Part of the Next Decade of Leadership

To survive and thrive, every radiologist needs to fill gaps in non-interpretive skills. Be ready to advance your career and master the challenges ahead. Be a change agent in your organization.

Be a Leader
acr.org/RLI

8 Growing Awareness

Getting the message out to referring physicians and others in healthcare on lung cancer screening is key to its uptake.

INSIDE

12 Promoting a Sustainable Future

A radiology resident discusses her background as an environmental engineer and radiology's role in addressing environmental sustainability to improve population health.

15 An Advocate in Action

The outgoing chair of the ACR State Government Relations Committee shares her views on leadership and her advice to the next generation of radiologists.

18 A New Partnership

Despite the COVID-19 pandemic, the ACR's PIER program was able to adapt and grow in a virtual setting thanks to the help of its collaboration with Case in Point®.

20 Exploring Multitasking AI

AI algorithms can improve workflow and patient care, but the appeal of discrete, one-solution tools has not been enough to spark widespread adaptation.

DEPARTMENTS

4 From the Chair of the Board of Chancellors

The ACR can only survive and thrive in the face of adversity through collaborative innovation and coalition-building.

5 Dispatches

News from the ACR and beyond.

7 From the Chair of the Commission on Economics

A decision to bring forth new codes must be carefully considered in terms of current coding and reimbursement.

11 Research Rounds

A lack of transparency in pricing is a longstanding problem that impedes patients from understanding their costs and using that information in healthcare decisions.

16 RADLAW

ACR Legal weighs in on contractual situations that radiology residents and fellows might face during training and when they begin practicing with a private group or hospital-based department.

21 Final Read

Why is it valuable to attend radiology conferences?



OUR MISSION: The ACR *Bulletin* supports the American College of Radiology's Core Purpose by covering topics relevant to the practice of radiology and by connecting the

College with members, the wider specialty, and others. By empowering members to advance the practice, science, and professions of radiological care, the *Bulletin* aims to support high-quality patient-centered healthcare.

QUESTIONS? COMMENTS? Contact us at bulletin@acr.org.

Digital edition and archives of past issues are available at ACR.ORG/BULLETIN.



Fostering a Virtue-Based Culture

The College can only survive and thrive in the face of adversity through collaborative innovation and coalition-building.

“There is no greater privilege or responsibility than to be entrusted with the care of the human body and mind.”

This is the inscription on the wall that I see each time I enter the Albert Einstein School of Medicine. It is authored by Samuel Belkin, PhD, who established the medical school during his tenure as chancellor of Yeshiva University. It is inspirational, compelling, and a concise reminder of the ethics we all avowed when taking the Hippocratic Oath. I am truly honored by the privilege entrusted to me in leading the ACR as incoming BOC chair — and with that honor, I accept responsibility for the advancement of our profession and practice, while improving both the processes and outcomes of patient care. I also thank our members for their support and service to our patients during the challenging times that have become our daily existence, but hopefully not the norm.

In these divisive times, my hope is that we will remain open minded and receptive to all views.

In this inaugural *Bulletin* column, I refer to an opinion piece published in the March 2022 issue of the *JACR*®, “Reflections on the Value of a Virtue-Based Culture in Imaging.” The authors, Subha Ghosh, MD, MBA, and James K. Stoller, MD, MS, note that, “achieving optimal performance derives from creating an organizational culture that is based on the seven classical virtues: trust, compassion, wisdom, justice, temperance, courage, and hope.”¹ I take it as a given that we have all arrived at our professional calling and standing through compassion and wisdom, and that state and federal legislative processes and ACR organizational governance systems operate within the parameters of due justice. That leaves the issues of trust, temperance, courage,

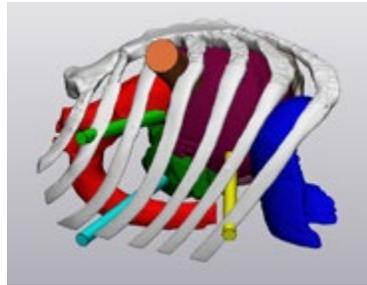
and hope, for consideration here. The authors cite the consequences of the absence of these virtues as laid out by Peter J. Rhea, PhD, James K. Stoller, MD, MS, and Alan Kolp, PhD, in the book *Exception to the Rule: The Surprising Science of Character-Based Culture, Engagement, and Performance*, as follows:

- ▶ **TRUST:** Without trust, relationships with customers, patients, and colleagues deteriorate. Mistrust slows down decisions, decreases quality, and increases costs.
- ▶ **TEMPERANCE:** Without temperance, we take unnecessary risks, rush to judge, fail to gather relevant facts, and lack consistency. Without the discipline to follow our convictions, our credibility suffers.
- ▶ **COURAGE:** Without courage, we will not stand up to poor decisions. We back down in the face of adversity. We choose the easy wrong rather than the hard right. We lack the persistence needed to innovate.
- ▶ **HOPE:** Without hope, we cannot be open minded or consider the views of others. We cannot learn from others or reflect critically on our failures, so we don’t improve.

My leadership perspective as chair of the ACR BOC acknowledges and embraces these virtues of trust, temperance, courage, and hope. When it comes to trust, I fully subscribe to the words of General James N. Mattis, USMC (Ret.), “Operations succeed at the speed of trust.” Given the impact of mistrust at the individual and organizational levels in healthcare, the ACR simply cannot afford a misstep here. In considering temperance, ACR leaders and members alike must not rush to judgement and must base all action and decisions on factual content over emotional persuasion and personal/political agendas.

In these divisive times, my hope is that we will remain open minded and receptive to all views. As humans, we have two ears and one mouth. As humane caregivers, let us carefully listen to each other, and then speak with one voice. This can be challenging at a time when division multiplies daily, and we have been socially distanced from each other. That same distancing may confer, if not encourage, more aggressive confrontation than would occur in person. Our communication channels and platforms cannot (and will not) tolerate misinformation,

continued on page 22



▲ Printing a model involves segmenting the patient's images to create a digital blueprint of the model.

◀ The 3D printing lab at the UC Medical Center uses advanced imaging to create anatomic models that surgeons and other providers use to plan procedures.

Creating 3D Models From Images

In 2019, the University of Cincinnati Medical Center recruited a radiologist with medical 3D-printing experience to develop a 3D-printing lab with a multidisciplinary team. The lab now produces 3D-printed anatomic models that help guide complex procedures, advance endoscopic surgery opportunities, and educate medical trainees and patients.

In a new Imaging 3.0® case study, Frank J. Rybicki, MD, PhD, radiologist at the center of the 3D-printing lab, and his colleagues discuss how they are advancing this technology and simultaneously enhancing patient care.

Read the case study at bit.ly/ModelsFromImaging.

Register for the 2022 SBI/ACR Breast Imaging Hybrid Symposium



The 2022 Society of Breast Imaging (SBI)/ACR Breast Imaging Hybrid Symposium will take place May 16–19 in Savannah, Georgia. Registrants will have the opportunity to attend either virtually or in person. All attendees will have access to more than 60 live sessions across all breast imaging modalities. In addition, members can access recorded symposium sessions for a year following the event.

Visit bit.ly/SBIACR2022 to secure your spot.

Your Membership, Your Community

Developing a group of leaders that reflects and celebrates the diversity of our membership is the best way we can represent your needs and the needs of the patients and populations you serve. To accomplish that, we need to get to know you better.

According to Johnson B. Lightfoote, MD, MBA, FACR, chair of the ACR Commission for Women and Diversity, “Our College is committed to excellence through diversity, and recognizes inclusiveness as a core component serving that mission. Members sharing their diversity and demographic data when they renew (or by logging on to acr.org/MyACR to update their profile) helps the ACR measure, understand, and improve inclusivity and health equity in service to our patients and populations.”

Take a moment to update your profile, practice, and demographic data at acr.org/MyACR today. The demographic data is de-identified and anonymized before it is analyzed as your privacy is our utmost concern.

Increasing Colorectal Screening in Underserved Populations

In a recent episode of the ACR *Bulletin* podcast, Cecelia C. Brewington, MD, FACR, member of the ACR Colon Cancer Committee, discusses how CT colonography can help increase access to colorectal cancer screening in underserved populations.

“If you want to be screened, you have to have access to screening. We know that access is very important to healthcare and we do not have equivalencies across the United States,” says Brewington.

Listen to the podcast at bit.ly/ACR_Podcast.

You can also ensure that your patients can find your CT Colonography screening facility by listing it in our searchable database at bit.ly/CT_Colonography.



New PFCC Web Hub Launched

The ACR Patient- and Family- Centered Care Commission (PFCC) has released its new PFCC Web Hub to help you improve your patient experience. At the hub, you can find practice-specific resources and patient-friendly info about why a specific test or procedure was ordered. Links are available to case studies, webinars, and podcasts about improving patient-centered care.

Featured content will be updated regularly. Currently featured is Rad Art’s “Beyond the Black & White: An Exposure of Radiologists’ Expression,” which is designed to engage members and patients in meaningful conversations about radiology culture and to promote wellness.

View the new PFCC Web Hub at acr.org/pfcc.

NEWS FROM THE JACR

Only Half of Hospitals in Compliance With CMS Mandate



A new Harvey L. Neiman Health Policy Institute® study found that as of fall 2021, only 50% of hospitals that offered lumbar spine MRI were compliant with the CMS mandate to publish their prices online. The mandate became effective in January 2021. This study, published in the *JACR*®, used website data from 523 hospitals offering lumbar spine MRI and assessed compliance with the price transparency mandate affecting 300 common services, including lumbar spine MRI.

Hospitals were compared using star ratings from the Hospital Consumer Assessment of Healthcare providers and Systems (HCAHPS) 2019 survey and Google reviews. The study found that hospitals with high HCAHPS patient-recommendation star ratings (4–5 stars) were 70% more likely to be compliant with the price transparency mandate than hospitals with low patient star ratings (<4 stars).

“Our results suggest that hospitals that are focused on the patient experience are more likely to comply with price transparency, a patient-centered initiative,” said first author Richard Lin, BS.

Read the full article at bit.ly/ComplianceIssues.

Submit Your Proposal: Call for Papers

The *JACR*® is accepting original content on the strengths, challenges, and opportunities in private practice today. What are the issues impacting your practice and the lives of your staff? Submission could include topics such as:

- Benefits and drawbacks of an open, democratic culture
- Explorations of optimal group size
- Joint ventures with hospitals, multispecialty groups, other specialty practices
- Data safety and cybersecurity
- The state of non-radiologist providers in a state, city, or region
- Initiatives aimed at ditching the disc

More information is available at jacr.org/call-for-papers. And don't forget to check out our new, simplified submission process.

AIRP Awards Are Here

Each year, the ACR's American Institute for Radiologic Pathology (AIRP®) recognizes the program with the most “Best Case” winners for the academic year. For the 2021–2022 academic year, the AIRP had a three-way tie between Montefiore Medical Center, Geisinger Medical Center, and Jacobi Medical Center.

Residents submit hundreds of cases to the AIRP, but only a handful are designated as the AIRP course's best cases.

View a selection of the best cases selected from the radiologic-pathology courses at bit.ly/AIRP_Cases.



David S. Pryluck, MD, radiology program director at Geisinger Medical Center, is presented with the Best of the Best Case award for 2021–2022 by Maria A. Manning, MD, AIRP's associate physician-in-chief, at the Association of Program Directors in Radiology's business meeting at the Association of University Radiologists' annual meeting in March 2022.

DOON HARTNEY/ACR

ACR and SPR Advocate for Innovation in Pediatric Radiology AI

The ACR and the Society for Pediatric Radiology (SPR) sent recommendations to the U.S. House of Representatives' Health Future Task Force Treatments Subcommittee on March 11, regarding the need for further innovation in safe and effective pediatric radiology AI. The comments were submitted in response to a public request for information from the Task Force focused on increasing access to medical innovation.

The ACR and the SPR recommended several policies to promote research and development of AI-enabled software suitable for use on pediatric radiology patients, a demographic historically underserved by AI technological advancements. To that end, the organizations called for prioritized regulatory review of AI-enabled software device submissions intended for use on children, enhanced public access to AI product information, new federal funding programs focused on supporting pediatric radiology AI research, and development by the U.S. Department of Health and Human Services of a national strategy to advance safe and effective AI for pediatric uses.

For more information about ACR advocacy related to AI access and government oversight, please contact Michael Peters, ACR's government affairs director, at mpeters@acr.org.

The ACR staff works tirelessly to support and advance our interests in the legislative and policy arenas, but few things have as much impact as direct contact from individual physicians like you and me who are working each and every day to provide maximum access and excellent care to patients throughout our country.

DAVID C. YOUMANS, MD, FACR, CHAIR OF THE ACR RADIOLOGY ADVOCACY NETWORK

There Should Be A CPT Code For That!

Everything we do in creating new codes has a risk/reward ratio.

Not a month goes by without the ACR's economics staff being contacted about establishing new Current Procedural Terminology (CPT®) codes. Some requests are for new ways of doing something (such as ultra-low-dose lung CT or abbreviated breast MRI), while others are for screening codes (such as screening breast MRI or screening liver MRI). Some requests are for more specific forms of existing codes (prostate MRI rather than pelvic MRI), and some requests are for exams that may not currently have great options for coding (such as whole-body CT or MRI). Sometimes, codes are desired for unique clinical circumstances.

What most radiologists are unaware of is that everything we do in creating new codes has a risk/reward ratio. A decision to bring forth new codes must be carefully considered in terms of current coding and reimbursement. The purpose of this two-part series on CPT codes is to detail some of the many considerations that your ACR CPT and Relative Value Scale Update Committee (RUC) volunteers and staff undergo when contemplating new codes.

First, a short discussion of current CPT codes is in order, especially for those members who are new to this topic. Each CPT code descriptor (that you will find in the CPT book or online version at bit.ly/CPT_codes) delineates the service that is performed. It is required that the service you are coding for matches the service described in CPT. That said, there are a few important points regarding coding.

For CT and radiographs, there is no definition of "dose." Folks often want codes for "low-dose" or "ultra-low-dose," but those are not defined, and it would then be necessary to define "high-dose" (and who would want to get a high-dose CT?). So, for example, whatever dose you use (it should be as low as possible, obviously) for a CT of the abdomen and pelvis without contrast, the procedure is coded as 74146. The only exception is CPT code 71271: Computed tomography, thorax, low-dose for lung cancer screening, without contrast material(s). This particular code had the term "low-dose" placed into the descriptor over our objections, to parallel the format of an existing temporary code (also known as G-code) that CMS insisted we follow — even though we argued that we always use the lowest dose possible.

Similarly, there are no separate MRI codes depending on how many sequences you perform. There are no separate codes to differentiate how many post-contrast sequences you perform (just a portal venous phase versus arterial, portal venous, and three sets of delayed sequences coded the same). Finally, there are no separate codes to capture how advanced your equipment is (0.3T versus 3T; 4-slice versus 246-slice CT; big-box US versus laptop US). Many of us, myself included, think there should be a quality differentiator and different codes that would recognize some of these differences, but as of now that is not possible — and trying to create those differentiating factors would require a complete revamp of existing CPT codes, with the associated risks outlined in part two of this series in the June issue.

What most radiologists are unaware of is that everything we do in creating new codes has a risk/reward ratio.

So, what are the CPT rules that we play by? First of all, you can't "fragment" an existing CPT code without also updating the existing code. So, if a code already covers something we do and you want a new code, you will have to redefine the old code. If we wanted to create a new low-dose abdomen CT, we would have to define parameters of what constitutes low-dose and redefine the current codes as higher than that dose. Similarly, if we wanted a code for CT of just the thyroid or liver, we would have to differentiate those from CT neck or CT abdomen, which already include those body parts. If we wanted a new abbreviated MR code, we would first need to define specifically what "full" and "abbreviated" mean (and the literature would have to be consistent).

As you can see, this process is a little more complex than it might seem. Assuming we were able to define a new service as something different than what is covered by existing codes (and redefine the old codes) and we were successful in creating the new desired code(s), what's next? In the June issue of the *Bulletin*, we'll outline the subsequent steps in the lifecycle of a new code. **B**



Mark Alson, MD, FACR, RCC

ACR Advisor to the AMA
CPT® Editorial Panel

Guest Columnist

Growing Awareness



Getting the message out to referring physicians and others in healthcare on lung cancer screening is key to its uptake.

“As a radiologist, I feel obliged to promote lung cancer screening (LCS) — to explain to patients, providers, and colleagues what a radiologist’s role is and how building partnerships can only help to spread the word about a lifesaving procedure,” says Debra S. Dyer, chair of the department of radiology at National Jewish Health in Denver and chair of the ACR’s LCS 2.0 Steering Committee.

Lung cancer remains the leading cause of cancer death in the U.S.¹ It is more critical than ever for radiologists to connect with specialists and referring physicians to dispel misconceptions about LCS — and get patients into screening, and patients who have only had one exam back into screening ([learn more at acr.org/LCS](https://www.acr.org/LCS)).

Collaboration is vital to this effort. “I have worked with our state health department and gotten involved with our state’s cancer coalition,” Dyer says. “I got involved in LCS efforts because LCS just seemed like a logical thing that we needed to be able to offer to our patients. We have a partnership with two federally qualified health centers in Denver and have been active in a research study as well.”

Dyer points out that the LCS 2.0 Steering Committee includes clinicians from all over the country, playing different roles. “It is not all radiologists. We have navigators, program coordinators, patient advocates, pulmonary specialists, and primary care physicians (PCPs) contributing,” she points out.

Share Knowledge

“When it comes to LCS, one of the absolute most important things is getting involved — ideally with all healthcare players and patients. It is a [fairly] new science — a shift in thinking,” says Michael R. Gieske, MD, a PCP and director of LCS at St. Elizabeth Medical Center in Edgewood, Ky., and east division physician director of primary care. “I didn’t know what a low-dose CT for LCS was in 2016. We, as providers, need to get the message out to patients who qualify.”

An effective approach, Gieske says, means overcoming the stigma and nihilism associated with lung cancer. “We take the approach that anyone with lungs can get lung cancer. You do not have to have a history of smoking to be diagnosed,” he says.

“We have flyers in the exam rooms on bulletin boards, wherever patients can see them,” Gieske says. “We are working very closely with our marketing department at St. Elizabeth Medical Center and trying to get the message out to the general public.” According to Gieske, there is a tremendous amount of hope now around diagnosing lung cancer early — and, if that doesn’t happen, curing the disease even in its late stages. “These days, radiation treatments, immunotherapy, and different therapeutic drugs are making a tremendous difference,” Gieske adds.

“One of the key components to our success has been getting the message out to our PCPs — getting their buy-in and garnering their confidence,” Gieske says. “As we collaborate closely

“Our clinical colleagues are charged with ordering the most appropriate studies for their patients, including LCS when appropriate. The ACR’s LCS efforts are well-aligned with the Commission on Publications and Lifelong Learning’s core goals of providing educational resources, prioritizing leadership and advocacy, and empowering ACR members to help ensure that patients receive the care they need. In our role as expert consultants, radiologists are the primary source for our colleagues with questions about screening.”

— Lori Deitte, MD, FACP, chair of the ACR Commission on Publications and Lifelong Learning and vice president for continuous professional development at Vanderbilt University Medical Center



LCS CT Incidental Findings Quick Reference Guide

A new ACR Quick Reference Guide supports LCS program coordinators and nurse navigators as they assist in the care coordination of LCS patients in collaboration with referring providers. The Quick Reference Guide lists common incidental findings on LCS CT and the typical management and/or appropriate follow-up recommendations. Access and share the guide at acr.org/LCS.



LCS Podcast Series

The ACR LCS 2.0 Steering Committee has partnered with the National Lung Cancer Roundtable to create a new podcast channel: *Pleural Space: Conversations in Lung Cancer*. Each limited-series episode will highlight collaborations between patients, primary care, pulmonology, radiology, and health equity experts — and how they are taking LCS, diagnosis, and treatment into the future. Listen to the podcast series at acr.org/LCS-Podcast.



New CMS Guidelines to Move LCS Forward

In addition to lowering the initial screening age from 55 to 50, and smoking history requirements from 30 pack years to 20 pack years, CMS expanded coverage to thousands of independent diagnostic testing facilities nationwide and retained a requirement that providers use Lung-RADS® structured reporting. The ACR, the GO₂ Foundation for Lung Cancer, and the Society of Thoracic Surgeons will work with CMS, medical providers, and those seeking care to implement and update screening recommendations. Read more at bit.ly/LCS_Guidelines.

with radiologists and pulmonologists and thoracic surgeons, it has become clear that LCS is a team sport. Everyone needs to work together for better outcomes.”

Gieske and his team have gotten involved in a number of state-based initiatives they think will be pivotal in moving the dial with respect to increasing uptake for LCS. “We are working with the University of Kentucky, for instance. The university has worked with at least 10 different hospital systems to identify best practices and make improvements accordingly,” he explains.

Partner Up

The American Cancer Society National Lung Cancer Roundtable (NLCRT) is a consortium of public, private, and voluntary organizations working together to reduce the incidence and mortality of lung cancer by furthering the mission of its member organizations and taking on challenges that no one organization can take on alone.

“Since 2017, the NLCRT has galvanized more than 170 member organizations and 200 leading experts, as well as patient and caregiver advocate representatives, at the national, state, and local levels to collectively partner to achieve enduring systemic change to reduce deaths from lung cancer,” says Lauren S. Rosenthal, MPH, strategic director of the NLCRT.

“We believe that working collectively and collaboratively will drive progress faster to reduce lung cancer mortality,” Rosenthal says. “The ACR and the American Cancer Society have a long history of collaboration on imaging-based screening and have a mutual interest in identifying, gathering, and sharing data to measure and advance the quality of patient care — a central goal of the NLCRT.”

“The NLCRT engages experts in multidisciplinary, problem-solving collaborations to create innovative solutions and to develop and disseminate evidence-based interventions and best practices,” Rosenthal says. “We want to harness the collective power and expertise of the entire lung cancer community to close gaps in LCS by connecting people, communities, and systems to improve equity and access.”

“LCS can bridge disparities in lung cancer mortality through early detection,” says Efrén J. Flores, MD, officer of radiology community health improvement and equity at Massachusetts General Hospital. “Despite proven benefits and expanded coverage, LCS participation rates remain low, particularly among Latinx and other underserved communities.”² These communities experience disparities in lung cancer survival due to advanced stage at the time of presentation, Flores says.

“Anywhere there’s a gap or a need in your healthcare institution, that’s an opportunity for transdisciplinary collaboration with your colleagues, referral base, patients and community stakeholders to improve access and transform your LCS care delivery,” Flores emphasizes.

Stay Committed

“Implementing LCS programs takes commitment, resources, and time. But radiologists are well-positioned to manage these programs and ensure patients are guided through appropriate care pathways,” Dyer says. “It is one more way we can leverage our expertise to ensure patients receive the care they need — and it gives us an opportunity to interact with patients.”

The whole idea behind the LCS 2.0 Steering Committee has been to empower radiologists — to get radiologists involved, Dyer says. “Now, how do you empower radiologists? Give them the information and the resources they need — and make the process easier to adopt,” she says.

Get involved too at the state level, Dyer recommends, with a state cancer coalition, for example. “In Colorado, as a result of a lot of advocacy for LCS, lung cancer will be the state’s cancer priority over the next five years,” Dyer says. “That has never happened — the state has never made lung cancer a priority. Now we are at the top of the list, and it’s amazing. Getting the word out will pay off.”

Radiologists have a role in being able to provide high-quality care and interpretation of these exams and follow structured reporting and guidelines, Dyer says. “We know the uptake of LCS just hasn’t been what it should be,” she says. “So I think, if nothing else, we have learned that we need to get outside of the reading room.” **B**

By Chad Hudnall, senior content specialist, ACR Press

ENDNOTES available in the digital edition at acr.org/bulletin



Price Transparency: Progress or Problems?



Consumer price listings may ultimately give consumers less of what they really want — high quality care.

A lack of transparency in pricing is a longstanding problem that impedes patients from understanding their costs and using that information in healthcare decisions. Approximately two out of three bankruptcies in the United States are related to healthcare, amounting to half a million families bankrupted each year.¹

CMS has been tackling this issue since 2019 after it became a policy priority under President Donald Trump. Jumping forward to 2021, hospitals were required to also disclose their payer-specific negotiated rates, discounted cash for uninsured patients, and provide a consumer-friendly tool to facilitate comparison of prices — including out-of-pocket costs — for 300 “shoppable services” that can be scheduled by healthcare consumers in advance. Penalties for non-compliance with the policy were a nominal \$300 per day.²

While transparent pricing is theoretically ideal for allowing patients to make informed decisions, the complexity of healthcare in the U.S. makes a truly transparent system a challenge and there are numerous caveats that can limit the utility and value of progress made to date. At a high level, these include:

- Patients may have a limited understanding of medical billing and mechanisms to determine prices
- Price disclosure is for individual services, with no option for patients to see the total cost of care
- Cost comparisons do not include variation in quality of a service¹

These issues result in a high likelihood that patients decide on their care based on what they think is a lower price, but then

ultimately find out about other charges, making out-of-pocket costs higher than anticipated. Furthermore, these additional costs may vary by hospital, thus negating the benefit of comparison shopping.

Radiologists and other specialties are particularly concerned about the quality issue. For the consumer, comparison shopping is not only about price — it is about value, which also considers the quality of the good or service, as well as the consumer experience. The focus on price alone frames imaging as a commodity, equivalent at any site and from any provider. Of course, variance in quality occurs in all areas of medicine due to myriad factors, such as physician training, experience, protocols, and technology — which can directly impact quality of care. The factors that can impact patient experience are even broader.

These factors give way to the concern that making prices transparent without clear and accurate quality data could backfire and disincentivize quality care. To remain competitive on price, hospitals are pressured to reduce the higher cost of delivering a higher level of care.

From an economic perspective, price elasticity in healthcare is and should be a function of quality.

From an economic perspective, price elasticity in healthcare is and should be a function of quality.³ Fortunately, patients understand this dynamic interplay between price and quality. Two recent studies explored this issue using lumbar spine MRI — a common exam for low back pain and one of the named shoppable services. The first study looked at how patients weigh the relative importance of quality versus cost for an MRI in the hypothetical scenarios of mild or severe back pain, and specifically whether they are willing to pay more out of pocket for higher quality care.⁴ Across the board, a majority of patients thought the measures of quality (accuracy, doctor recommendation, or online rating) were as or more important than cost. Surveyed patients were willing to pay from \$380 to \$1,400 more for the MRI if they were getting what they perceived as higher quality care. Interestingly, the group weighed online ratings over accuracy in terms of what they were willing to pay more for — raising questions about what aspects of care patients subjectively care most about.

Another study from the Harvey L. Neiman Health Policy Institute® IMPACT and HEAL research teams at Emory University and Georgia Tech, respectively, took a different look into this issue with objective data.⁵ The researchers identified all hospitals

continued on page 22

Promoting a Sustainable Future

A radiologist discusses radiology's role in addressing environmental sustainability to improve population health.

Hospitals account for up to 8% of carbon emissions in the U.S., and radiology departments are significant contributors to these emissions, mainly due to heavy equipment and technology usage.¹ Radiologists can take meaningful steps to increase their environmental sustainability, including working with vendors to develop more energy-efficient scanners and decreasing procedural waste. A radiologist who has a background in environmental engineering, Julia Schoen, MD, MS, is one of the founders of Radiologists for a Sustainable Future (@Rads4SF) — dedicated to increasing radiology's environmental sustainability. In a recent interview with the ACR, Schoen discussed how radiologists interested in sustainability can advocate for environmental causes.



Julia Schoen, MD, MS

In some ways, environmental sustainability goes hand in hand with fulfilling our oath to do no harm because when we pollute, we cause harm.

Can you tell us about the work you've done in the environmental engineering space?

I have both a bachelor's and master's degree in environmental engineering. Between earning my degrees, I was trying to combine my interest in public health and civil engineering through research. The work that I did in environmental engineering mostly focused on water resources. I worked in Brazil on a project related to leptospirosis, water, and sanitation. Then I worked on a project in South Africa focused on water resource management in a lake and how management decisions affected ecosystems. It was very interesting work, but I found that people don't necessarily value the impact our environment has on our health. I think making the link between climate change and health is critical to addressing the climate crisis, and I wanted to learn how I could do that as a physician.

How do you see the fields of radiology and environmental engineering overlapping?

The work that I was doing for my master's was in environmental fluid mechanics. Upon starting medical school, I didn't know that I wanted to be a radiologist. I wanted to go into infectious disease, but because of my engineering background, I was interested in technology and its use in medicine. In fact, the lab that I worked in while studying for my master's had previously used MRI to measure flow around a coral reef. That was before I got there, but it was an example of how radiology and engineering could overlap. In medical school, I gravitated toward technology innovations and found that radiology was one of the most technology-heavy areas of medicine. So that's how I ended up in the specialty.

You're one of the founders of @Rads4SF. How did it get started?

We started @Rads4SF after Geraldine B. McGinty, MD, MBA, FACR, tweeted that she was interested in writing a paper on climate change in radiology.² That led to the creation of the group, which has met every two to three months since its formation. The initial members were the radiologists who responded to Geraldine's tweet, saying that we were interested in writing that paper and learning more about the topic. As we worked on the paper, we decided to keep meeting and thinking about ways that we could contribute to sustainability in radiology beyond that paper. The group has since grown, and now we have close to 60 members.

Why should radiologists care about environmental sustainability and climate change?

Climate change and environmental issues affect public health and our patients. In some ways, environmental sustainability goes hand in hand with fulfilling our oath to do no harm because when we pollute, we cause harm. Some of the changes in human health and the burden of disease that we're seeing may be related to climate change. On top of that, climate change is also increasing the frequency of natural disasters that disrupt healthcare services with negative consequences for radiology practices and our patients. We know that global temperatures are rising, and we know that there are steps we can take to mitigate the impact of climate change. We have a responsibility to act to improve everyone's health because this is something that affects us all.

How does climate change relate to public health and population health?

It relates in various ways. For example, there has been a 50% increase in heat-related mortality in older populations in the past 20 years as the climate has warmed and heat waves have become more intense and frequent.³ We're also seeing impacts on population health related to air and water quality as well as natural

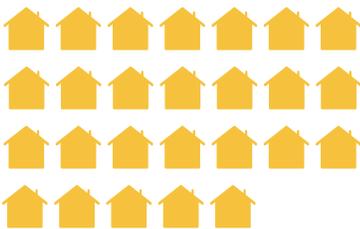
continued on page 14

The U.S. healthcare system produces nearly 10% of America's greenhouse gas emissions, and radiology departments are likely a significant contributor.

Recent Radiology Energy Studies Show ...

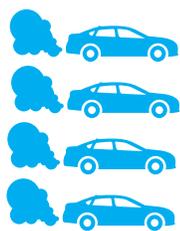


Over a year, **one CT scanner** uses as much energy as **five four-person households**.



One MR scanner uses nearly as much as **26 four-person households**.

At one Swiss hospital, **three CT and four MR scanners** account for **4% of the hospital's energy use**.



Computers and PACS left on overnight in one department produce nearly the **same annual carbon dioxide emissions as four passenger cars**.

92% of patients in the UK want healthcare systems to **operate more sustainably**.



Infographic Data Source: Schoen J, McGinty GB, Quirk C. Radiology in our changing climate: a call to action. *J Am Coll Radiol*. 2021;18(7):1041-1043.

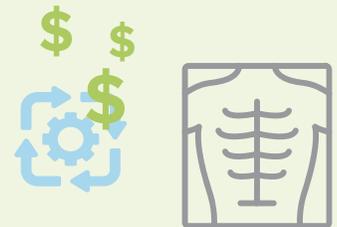
INFOGRAPHIC: SUE IRISH

To Reduce Radiology's Energy Consumption ...

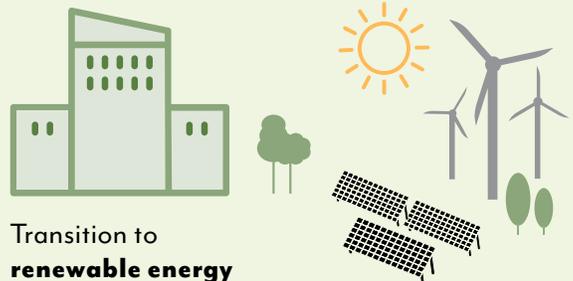


Institute a **24-hour operating model** to **reduce carbon emissions per exam**

Work with industry to **improve efficiency of scanners and HVAC systems**

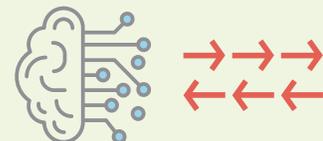


Regularly **power down workstations**



Transition to **renewable energy**

Use AI to shorten MR protocols



disasters, like hurricanes and wildfires. Likewise, the amount of waste we produce has a negative impact on population health. Not only does it take energy to transport and dispose of waste, but it can also affect things like air and water quality.

In radiology, in particular, we give contrast media like gadolinium to patients. When they excrete these agents, they end up in the water supply. That's just one example. We don't know how our waste impacts ecosystems. When you dispose of a CT scanner, for example, what happens to it? Where does it go, and what are the environmental repercussions? Are they impacting populations near those landfills? These are important questions, and we don't have great answers to them because the information is not readily available. Plus, when you think about these impacts, it's likely that they disproportionately affect people with preexisting conditions and vulnerable populations. This includes people of color and people of low socioeconomic status because these populations are more likely to live next to a landfill or incinerator. Ultimately, we must consider the environmental justice piece to this problem as it pertains to population health.

You're going to see more and more physicians who care about this issue, particularly younger physicians, because we will be more directly affected by the devastating effects climate change will bring in our lifetimes.

What role does radiology play in contributing to climate change?

We haven't really studied that question, so we don't have a great answer. But we know that hospitals are energy intensive. The healthcare sector emits up to 8% of the total carbon emissions produced in the U.S. We know that our radiology scanners are energy intensive. Any devices we use, including our scanners and procedural devices, take energy to produce and to dispose. Anywhere we can push for more sustainability, even if it's something small, is a good thing. For example, you might have a single-use device, and you want to push for a product that is reusable or produced with less energy. You could work with a vendor and show them that if a product were made differently, it could be applied broadly across healthcare to improve sustainability.

Environmental sustainability should be taken into consideration for any supplies that we're ordering. We should look for ways we can switch to reusable materials or decrease certain kinds of packaging or unnecessary items that we acquire. This can help decrease our carbon footprint and the downstream pollution related to disposing and incinerating medical waste. Some of this is unavoidable because there are a lot of regulations for infection control. But to reduce our environmental impact, we need to find ways we can more creatively recycle or dispose of these items.

What are some other ways that radiologists could reduce their environmental impact?

Working with vendors to decrease the energy use of our scanners is a big one. Our scanners might have a 10-year lifespan, so if we want to decrease the energy use, we need to start early so that in 10 to 20 years when we are replacing our scanners, we have more sustainable options. We currently have scanners that have an energy-efficiency mode, but our engineers worry about that function decreasing the scanners' overall lifespan, so we don't use it. We need to be having conversations with vendors about what we want in our scanners and how the technology is — and is not — working in our hospitals and our departments. We need better solutions.

There are also practical things we can do in our radiology departments and throughout our hospitals. For instance, if you drive by a hospital at night, you see all the lights on even in rooms that are not occupied. We can be more sustainable just by turning off lights when they're not needed. We can also turn off our picture archiving and communications systems to conserve energy. We could automate all that stuff so that you wouldn't even have to think about it. And it would save money to boot.

Radiology departments can also look at their heating and cooling needs. HVAC systems are large contributors to energy use in our departments, and there can be creative ways to decrease their energy consumption. I saw a case study from Cleveland Clinic, where they reduced the number of times air is exchanged in the operating room when it was not in use, which saved them a significant amount of money and energy.⁴

Where do you foresee healthcare headed in addressing these issues?

It seems like there is a lot of momentum towards healthcare becoming more sustainable. Large healthcare systems like Kaiser Permanente are carbon neutral now, and they have pretty ambitious targets in terms of their sustainability. The Cleveland Clinic is another one that has ambitious targets. There is a hospital in Wisconsin that actually produces more renewable energy than it uses.⁴ You're going to see more and more physicians who care about this issue, particularly younger physicians, because we will be more directly affected by the devastating effects climate change will bring in our lifetimes.

Beyond changes within individual practices and departments, how can radiologists get involved in promoting environmental sustainability?

At an institutional level, some hospitals have sustainability committees that they can join. Outside of our institutions, we have physicians in our group who have been involved in local or national non-governmental organizations. Being involved in local groups gives you the power to talk about climate change and health while supporting your community. All of these advocacy efforts are important, as is working with industry on more sustainable solutions. **B**

Interview by Jenny Jones, Imaging 3.0® managing editor, ACR Press

ENDNOTES available in the digital edition at acr.org/bulletin

An Advocate in Action

The outgoing chair of the ACR State Government Relations Committee reflects on the group's successes and looks to the future of the College's state legislative program.

During her tenure as chair of the ACR State Government Relations Committee, Loralie D. Ma, MD, PhD, FACR, has been a key resource to ACR members across the country. Ma, who serves as president of the Maryland State Medical Society, has led the ACR State Government Relations Committee's efforts to advocate for patient access to safe, high-quality, radiologist-led medical imaging care. The *Bulletin* spoke with Ma, whose term as chair of the State Government Relations Committee ends this month, to hear about the highlights of her tenure, her views on leadership, and her advice to the next generation of radiologists.



Loralie D. Ma, MD, PhD, FACR, is pictured in the Maryland Senate chamber

What are some of the most important lessons you've learned while working on state and federal advocacy efforts?

The ACR is very good at working with states at the grassroots level and providing information to state chapters on the hot button issues in radiology across the country. I've learned that ongoing close relationships with legislators are very important because legislators will be less receptive to your issue if you have not established a level of familiarity and trust. As physicians, we can provide valuable information to our legislators, and we need to take the time to build and strengthen these bonds.

What have you found to be the most rewarding aspect of being involved with the ACR?

I've enjoyed the opportunity to learn about all the various legislative issues happening across the country and the chance to interact with chapter leaders throughout the years. The connections and friendships are invaluable, and it makes advocating a lot less intimidating when you meet other dedicated, like-minded, and passionate people. I've also enjoyed engaging with younger physicians and reinforcing the importance of advocacy. It brings a fresh perspective

to issues, and elected officials always love to hear from a diverse array of their constituents. I've always brought young physicians and residents to the ACR's annual Hill Day in Washington D.C., and it's invigorating to have them accompany me.

What do you consider to be the biggest successes of your tenure as chair?

Over the past few years, the Committee has seen an increase in state-level legislation, and this has placed a much larger spotlight on ACR's state government relations activities. I'm thankful for all the additional resources that immediate past chair of the BOC, Howard B. Fleishon, MD, MMM, FACR, and other senior leaders have secured for the ACR's state government relations program. These additional resources have allowed the ACR Association® (ACRA) to establish a Scope of Practice grant, to hire additional staff, and to begin streamlined development of educational content.

What do you believe is the most useful skill for an advocacy leader?

I firmly believe that good leaders don't always lead the charge; they also build the foundation and the ground game. It's important for leaders to think about other peoples' points of view, as there may be perspectives that you are not considering when formulating your arguments. The ability to sit and listen to the thoughts of the opposing side is vital in the realm of political discourse. As a leader, it is also important to know what you don't know and be able to find the information you need. With the hundreds of legislative issues going on across the country, it is vital to know where to go for more information. The ACR and its government relations staff are a great source of knowledge, and I encourage any ACR member to reach out to them with any questions (see sidebar).

What advice would you give to young radiologists who want to advocate for their profession?

Get involved! One of the first and easiest things a young radiologist can do is to join their state radiological society. This will allow them to learn about issues impacting their profession and to meet other like-minded radiologists. I'd also encourage young radiologists to take advantage of the wide range of informational and practical resources that the ACR offers its members around advocacy and legislative issues on both the federal and state levels. The future landscape of healthcare is forever changing, and by getting involved you can dictate the future of radiology. **B**

Interview by Dillon Harp MPA, ACR senior state government relations specialist

If you have any questions or would like to get involved in ACR's advocacy efforts, reach out to Eugenia Brandt at ebrandt@acr.org or Dillon Harp at dharp@acr.org.

Negotiating Employment Contracts

Nervous about practicing with a private group or hospital-based department? ACR Legal has the answers to your burning questions.



The ACR Legal department periodically receives questions from ACR members-in-training about negotiating employment contracts. In this month's *Bulletin* column, we will weigh in on contractual situations that radiology residents and fellows might face during training and when they begin practicing with a private group or hospital-based department.

Dealing With Call Coverage

Q: My group/department requires that all practice members agree to be available for call coverage one weekend a month. I realize that each member must be prepared to do their fair share of call. However, being on call takes a toll after I've worked a very busy week. Can I receive compensation for being on call?

A: Yes. If physicians in other practices at a hospital also receive compensation under a uniformly applied structure. But ACR members must work with senior practice or department leaders to ensure that payment for call meets key federal guidelines. For instance, members must seek and obtain compensation that is fair market value for actual and necessary services. Call compensation may not consider the "volume or value" of referrals or other business that the member may generate with their practice or department.¹ Healthcare systems have

had to settle allegations with the federal government that they violated the federal fraud and abuse laws by paying excessive compensation to physicians to cover call at their facilities. These arrangements involved paying specialist physicians who are on a medical staff, which likely included employed and independent contractor physicians.²

Acceptable payment structures include "hourly or 'per diem' compensation to be available for on call or payment for time or services" that the member actually provides in return for assigning the right to receive professional fees.³ Proceed carefully and communicate regularly with your practice or department leaders about their expectations for call coverage.

Understanding Liability Insurance

Q: As a resident or fellow, am I covered under my academic medical center's professional liability insurance if I make a mistake that leads to a potential legal claim? What happens if I "moonlight" at an outside practice during my off hours?

A: Yes, your medical center/health system should include you as an employee under its policy for any acts or omissions related to patient care for which you are responsible. Confirm before signing your contract that you will have the benefit of this professional liability insurance during training. However,

if you engage in moonlighting outside the scope of your employment as a resident or fellow at another site, you will need to obtain and maintain a separate insurance policy to cover you for any acts or omissions in that position. You still may be liable as the “physician of record” because you would not be under any attending’s supervision at your institution.⁴

Confirm that your institution will provide professional liability coverage to cover any claims that occur after you completed training but that related to your duties as a resident or fellow. The institution might have a “claims-made” policy that offers coverage if the policy was effective both when the incident occurred and a claim was made.⁵ The policy might have “tail” coverage to extend to claims that arise after you left the institution. If the institution’s policy lacks tail coverage, you should purchase it. The cost would be approximately 1.5 to 2 times the amount of an annual malpractice insurance premium. You could negotiate tail coverage with a prospective new practice.⁶

If the practice or hospital terminates you, either with or without cause, you must negotiate who pays for your insurance coverage thereafter. Ask about obtaining a monetary credit for your employment tenure.⁷

Protecting Intellectual Property

Q: Several of us residents have conducted exciting research in AI. Our program director has supported us and believes we should publish and present on our findings and conclusions. However, I’ve heard that our healthcare system might assert ownership over our work. Is that true?

A: Yes, possibly. Your health system likely would claim intellectual property rights to your work if you used the system’s resources. Whether you used the system’s laboratory or personnel or conducted research during work hours, the system would assert intellectual property over any copyright, trademark, or patent.⁸

Many institutions have formal policies addressing intellectual policy rights, and some provide for joint ownership or splitting of royalties or other payments. You could negotiate with your institution and program to obtain a non-exclusive, royalty-free license to present your work at conferences and submit to scientific publications. If you succeed, you should attribute your work as being performed with the support of the institution.

Reviewing Termination Policies

Q: What if I have conflicts with my program that might affect my employment status? Can my program let me go for any or no reason?

A: Yes, your program typically may discharge you, either with or without cause. Closely review the termination provision of your contract, including any language that allows the program to terminate if you violate the institution’s policies. Request

and review those policies. You should have a notice of any performance issues and an opportunity to resolve them before your program terminates your employment.⁷

Obtaining Legal Review of Contracts

Q: Do I need a lawyer to review my contract? If I do, would a family member or friend who is a lawyer suffice?

A: Unless that family member or friend practices health law and has negotiated physician employment contracts, we strongly recommend finding a lawyer with this experience. We appreciate that as a resident or fellow, you wish to obtain cost-effective legal review of your initial employment contract. Ultimately though, that review is a key investment in your future. A lawyer in most firms, even at a senior associate level, may charge \$300–500 per hour to review a contract, flag certain provisions, and discuss it with you. Partners, at least those who practice in metropolitan areas, may charge \$600–800 an hour. A fee of \$2,000 or more for a contract review may seem excessive to someone unfamiliar with legal billing rates. But contract reviews, no matter how similar the contract framework, require attorneys to evaluate provisions such as non-compete clauses based on the law of the jurisdiction where the department or practice is located. ACR Legal can assist you in finding a qualified healthcare lawyer in the jurisdiction where you would practice. Please contact us at legal@acr.org. **B**

By Bill Shields, JD, LL.M., CAE, general counsel, and Tom Hoffman, JD, CAE, vice president, legal, ACR Legal

ENDNOTES

1. U.S. Department of Health and Human Services, Office of Inspector General. Amended OIG Advisory Opinion No. 12-15, Updated Mar. 8, 2013.
2. U.S. Department of Health and Human Services, Office of Inspector General. “Three Ascension Texas Hospitals Agreed to Pay \$20.9 Million for Allegedly Violating the Civil Monetary Penalties Law by Paying Remuneration to Physician Groups Inconsistent with Fair Market Value Services.” Apr. 30, 2021.
3. Stanger K. “Paying for Call Coverage.” Holland & Hart Health Law Blog. Nov. 13, 2012.
4. Moonlighting Policy. Dartmouth-Hitchcock. July 21, 2021.
- 5,6. Medical Malpractice Insurance. American College of Physicians.
7. Claussen K. “Control Your Schedule to Avoid Burnout.” Resolve.com, Nov. 4, 2021.
8. Wichita Center for Graduate Medical Education Institutional Policy and Procedure GME Manual. The University of Kansas.

Legal and Business Practices

The ACR proves its members with several resources to help ensure that radiology practice business operations stay up-to-date in a changing legal environment, including a free online HIPAA toolkit, a guide to professional practice of clinical medical physics, and a medical-legal issues in radiology handbook. Visit acr.org/Practice-Management-Quality-Informatics/Legal-Practices to access these resources.

A New Partnership

Despite the COVID-19 pandemic, the PIER program was able to adapt and grow in a virtual setting — while forging an alliance with the ACR Case in Point® editorial team.

The importance of mentoring medical students and connecting young talent to radiology continues to be top of mind for the ACR. Hence, the ACR Commission for Women and Diversity started the Pipeline Initiative for the Enrichment of Radiology (PIER) program in 2016. The goal of PIER is to introduce medical students to the field early — particularly those from backgrounds underrepresented in the specialty.

“The idea is we’re going to advance diversity one student at a time by exposing them to a wide range of radiology,” says Michele H. Johnson, MD, FACR, professor of radiology and biomedical imaging at Yale School of Medicine and director of the PIER program. Since its inception, the PIER program has grown and adapted, and one of these adaptations came in the form of a 2020 partnership with the ACR’s online Case in Point® (CiP) educational module.

Changing With the Times

The PIER program was launched in conjunction with Nth Dimensions™ — an educational nonprofit that strives to increase diversity in orthopedics and other subspecialty fields of medicine. The program is now run independently by the ACR. For the first three years, five PIER candidate interns were selected to work side-by-side with experienced radiologists in both academic and private practice environments.

Following an orientation at ACR headquarters, all PIER activities and lectures were done onsite at individual institutions, with a variety of lectures and networking opportunities. “At my institution, students attended the lectures for new residents (including diagnostic, IR, and radiation oncology) and accompanied me to the Radiological Society of Connecticut’s meetings so they could meet other radiologists,” says Johnson. “In addition, each of the students worked on research projects with their preceptors that culminated in a poster presentation at the National Medical Association’s (NMA) annual meeting.”

Things took a turn in the spring of 2020, when the COVID-19 pandemic struck and PIER was forced to convert to a virtual setting. Many preceptors and participants began to doubt that the program would be able to continue. But Johnson wasn’t ready to give up just yet. “I said, ‘I think I can write a comprehensive online educational curriculum and assign preceptors, but we need a substitute for the onsite research exposure,’” says Johnson. That’s when she came up with the idea of partnering with CiP as an opportunity to expose the students to research opportunities and presentation skills.

Exposing Students to Radiology

The CiP-PIER alliance allows PIER students to work on a case report submission that the PIER preceptor helps them choose ([learn more at \[acr.org/PIER\]\(https://www.acr.org/PIER\)](https://www.acr.org/PIER)). For many radiology trainees, CiP is an introduction to the publication process and the creation of scholarly work. Additionally, the CiP program introduces early-career radiologists to the ACR, many of whom will become lifelong members of the College. PIER students submitting cases to CiP enjoy an expedited but rigorous review process by CiP editors and they receive feedback during their six-week PIER experience. Once published, cases submitted by the PIER students are viewed by the CiP’s 1,100 average daily readers, many of whom will claim CME credit for completing the case.

“The idea is we’re going to advance diversity one student at a time by exposing them to a wide range of radiology.”

MICHELE H. JOHNSON, MD, FACR

Johnson felt the program would be the perfect way to connect with PIER students in an online setting, while getting them exposure to the field of radiology. “We have them prepare a case with the help of their preceptor, present it orally to their peers, and then present it at the NMA meeting virtually,” says Johnson. “They learn to research a topic, prepare the material, and create an oral presentation. Finally, they prepare and submit the CiP digital publication. Learning how to create a project and execute it is a really valuable skill.” In addition to the breadth of lectures in diagnostic radiology, IR, and radiation oncology and the exposure to non-interpretive skills, the CiP partnership has allowed these students to gain presentation skills and publication experience that will be helpful for their residency applications.

Not only does the PIER and CiP partnership provide students with a unique chance to gain valuable experience, but it also introduces them to a world of resources, such as the case archives, that they can refer to for the rest of their medical careers. “It can be a lifelong learning experience,” David R. Pettersson, MD, associate professor of neuroradiology at Oregon Health and Science University and newly appointed editor-in-chief of the ACR’s CiP, says. “I know when I was just starting my radiology training as a resident, I was doing CiP cases daily. It’s a great way to get introduced to a wide variety of pathologies and take advantage of all the resources that the ACR provides.”

Adapting With the Feedback

While Johnson and her team faced some challenges while adapting the PIER program to the virtual world, they adjusted based on the feedback they received. According to Johnson, “We found out that participants didn’t like sitting for 12 hours on Zoom,

“I know when I was just starting my radiology training as a resident, I was doing CiP cases daily. It’s a great way to get introduced to a wide variety of pathologies and take advantage of all the resources that the ACR provides.”

DAVID R. PETERSSON, MD



ACR® PIER

Case
in Point

so we changed the program to take place from 6:00 p.m. to 9:00 p.m. on Thursday nights, and 11:00 a.m. to 4 p.m. on Fridays, which made it more doable for West Coast students and made it feasible for greater PIER faculty participation because faculty could teach in the evening.”

Over the past two years, with the conversion to virtual and the partnership with CiP, the PIER program has seen its number of applicants and participants grow exponentially. “In 2021 we interviewed 23 students and accepted 14,” Johnson says. “In 2022, we had 70 applicants. We interviewed 64 candidates and accepted 30 students. For medical students who want to go into radiology, the early exposure to the ACR and its resources will strengthen their residency applications and connect them with preceptors and faculty who can serve as mentors and sponsors to help them with their preparation.” ^B

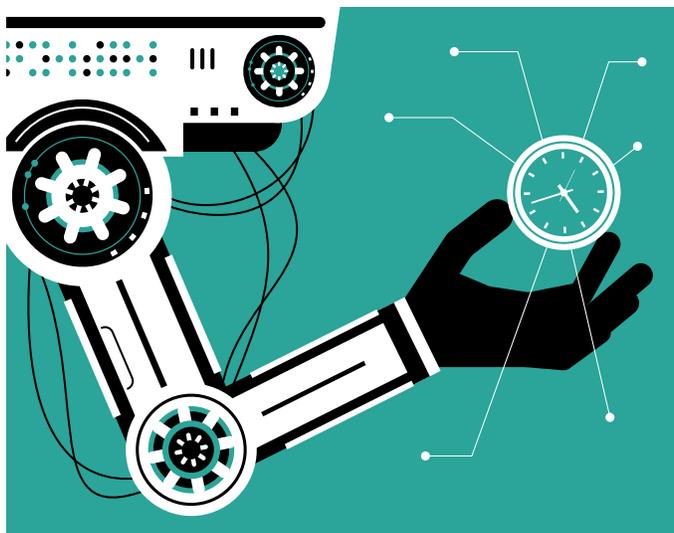
By Alexander Utano, editorial assistant, ACR Press



The PIER class of 2020 is pictured in a session with the Road2IR (a group of individuals and organizations working together to bring IR training to East Africa) residents in Tanzania.

Exploring Multitasking AI

Some of the problems with AI implementation could be addressed by designing programs that have more robust use and output.



More and more AI products are hitting the market each month. As of its last update in September 2021, the U.S. FDA lists 343 AI-enabled medical devices, with 241 relating to radiology. With new algorithms reaching extraordinarily high performance for their given tasks, many radiologists are wondering why there is not more widespread adoption of AI tools in clinical practice. Ironically, these myriad AI tools might actually make it more difficult to determine which product could have the most impact on your radiology department's needs.

Most imaging AI tools focus on a specific clinical problem, for example, they search for a specific imaging finding on a single imaging exam type. Few tools are focused on solving multiple problems as a primary goal. As has been demonstrated by many publications and commercial products, AI algorithms can improve workflow and patient care, but the appeal of discrete, one-solution tools has not been enough to spark widespread adaptation. There are various reasons for this, including the cost of individual implementation and challenges with demonstrating return on investment.

Addressing Issues With Implementation

A general radiologist performs many different diagnostic tasks in the course of a day. An imaging AI system that gives an alert for pneumothorax or a natural language processing tool that generates recommendations for thyroid nodule follow-up are both useful for efficiency, patient care, and quality of interpretation. But how many times in a day would one call upon such a tool? To harness the full effect of automated tools in radiology, will departments

need to build or purchase numerous AI tools? Not only would the purchase of multiple AI algorithms be very expensive to radiology practices, the training involved for radiologists to use each element with its own user interface is a prohibitive hurdle.

No matter how you approach it, putting individual AI tools into place is inefficient. Each tool needs to be fine-tuned and trained on local imaging studies to attain peak accuracy. Once deployed, each tool must be continually monitored for performance. Technical staff then has to learn to troubleshoot multiple new programs and understand how they are each uniquely integrated into their EHR and PACS systems.

Given these logistical challenges, demonstrating that any given AI algorithm increases revenue by enabling higher radiologist efficiency is difficult. And making the case for purchasing multiple costly programs — without a large gain in efficiency for each one — is not something many practices are willing to tackle.

Some of these problems could be addressed by designing AI programs that have more robust use and output. This strategy has been limited primarily because designing a single algorithm to do multiple different things is a computationally difficult task and needs large training datasets.

Despite the challenges, new algorithms and techniques have made multitask tools in imaging and text-based algorithms more feasible. For example, a tool that generates automated follow-up recommendations for multiple body areas and modalities is more appealing to a general practice than one limited to pulmonary nodules on chest CT only.

Designing Multitasking AI Tools

With the current granularity of AI research in radiology, developers could benefit from considering a broader approach to reach a larger audience. Combining AI algorithms into a single commercial product with multiple facets would have many benefits. A single multitask product would be easier to use and support than multiple products from different vendors. Not only would grouping multiple tools together make AI useful for more cases in a daily workload, it would also make it easier to demonstrate a sizable impact on a radiology practice.

Those who have deployed AI in diagnostic imaging are telling us it has value, but the majority of radiologists are not currently using AI tools in practice. The ever-increasing ability of AI to perform high-level tasks with accuracy and support radiologists in improving patient care can best be demonstrated by more direct clinical use in real-life practice.

Introducing more comprehensive AI products could be a gamechanger that would increase the overall use of AI in clinical radiology practice. Considerable evidence supports the predictions that powerful AI tools will have a positive impact on the role of radiologists in patient care. Finding more ways to widely adopt these available tools should be actively pursued in research and clinical practice. **B**

By Nathaniel B. Linna, MD, fourth-year radiology resident at the Hospital of the University of Pennsylvania, and Charles E. Kahn, MS, MD, professor of radiology at the Hospital of the University of Pennsylvania and vice chair of the department of radiology at the University of Pennsylvania

Why is it valuable to attend radiology conferences?

The value of attending radiology conferences is multifaceted.

- 1) You are exposed to the latest research, innovation, and technology within the industry, learning elements that can be applied to your daily practice.
- 2) You are able to meet new people from across the world, share ideas, and collaborate.
- 3) If you present, you are given the stage (literally) to share your expertise, whether it be AI, diversity, equity, and inclusion, leadership, or healthcare policy.
- 4) Even if you are unable to travel, you are afforded the opportunity to still participate in conferences via live sessions, virtual Q&A panels, and recorded videos.

For me, the best part of attending radiology conferences is that I am able to catch up with colleagues and friends, and I return from conferences feeling substantially refreshed and invigorated.



Jade A. Anderson, MD, radiology resident at Norwalk Hospital and AMA Section Council on Radiology member representative to the Radiology Health Equity Coalition

“As physicians, we are committed to the pursuit of lifelong learning. Conferences are a succinct and effective way to access high-quality, up-to-date information. Attendees can ask questions and get clarification on confusing topics from expert speakers offering fresh perspectives. Radiology conferences are also an excellent way to network. Meeting colleagues from different regions and practice types allows for the flow of information and ideas on a broad range of topics, both clinical and otherwise. As radiologists, we all strive to improve our clinical knowledge, while working to streamline and improve our own practices. Radiology conferences allow for a meeting of the minds, where individual experiences and new information can intersect — allowing us to continually push the field and our own practices forward.”

Sasha O. Staack, MD, radiology resident at Mayo Clinic



VIRTUE-BASED CULTURE

continued from page 4

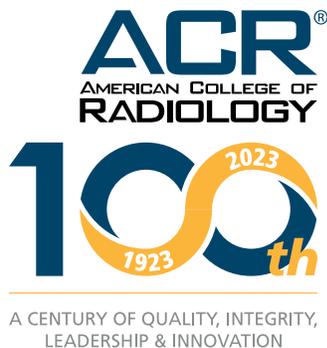
disinformation, or bullying in any form whether intentional or not. The ACR can only survive and thrive in the face of adversity through collaborative innovation and coalition-building. To that end, this issue of the *Bulletin* focuses on lung cancer screening, highlighting the power of partnerships and outreach in advancing these life-saving programs (see page 8).

As we begin the implementation of our recently revised ACR Strategic Plan, please know that it is a living document that we all own, and that your engagement and input is critical going forward. The ACR is our organization, and only together will we succeed in our mission, vision, professional satisfaction, and wellness.

The ACR will celebrate the world-changing achievements and contributions realized by its members during its centennial year celebration to be held May 2023 until May 2024. The College praises the lifesaving impact our members have had on radiology, patient care, and society. The ACR member leadership, volunteers, and staff are working together to bring about the next century of innovation and to advance medical care. I welcome your thoughts, questions, and suggestions, and look forward to our future conversations and the continued success of the ACR. **B**

ENDNOTE

1. Ghosh S and Stoller JK. Reflections on the Value of a Virtue-Based Culture in Imaging. *J Am Coll Radiol*. 2022;19(3):493–495.



PRICE TRANSPARENCY

continued from page 11

in the Medicare Hospital Compare Quality of Care database that offer lumbar spine MRI, identified by a listed OP–8 score (a quality metric indicating rates of lumbar spine MRI). The researchers next assessed compliance across these hospitals with the CMS price transparency tools as of October 2021. The compliance was nearly 50% — higher than a prior report in 2021 of 17% compliance across hospitals and services.⁶ The researchers found up to 50–fold variability in the listed cash prices and charges for lumbar spine MRI. Of particular interest was that the researchers linked hospital price transparency compliance to consumer ratings. Although the results did not show a significant correlation between consumer ratings and listed prices, the study did find that the hospitals with high star ratings from the Hospital Consumer Assessment of Healthcare Providers and Systems were more likely to comply with the price transparency mandate.

Perhaps these data are not surprising. Hospitals that are working harder across the board to increase patient satisfaction are also taking steps earlier to provide prices for shoppable services. But the question remains — to what end?

Providing tools and data for patients to be more informed about the cost and quality when they choose their care provider is a laudable goal. But providing some information but not all information necessary for a patient to make an informed choice may take us even further away from this end game.

We need to take a step back and ask: in a system where all healthcare is not equal, how do we help patients decide what they are willing to pay based on the value they'll receive? Because, in the most simplified form, providing prices in the absence of quality data has the potential to erode quality with the pressure to keep prices low, and at the same time brand imaging as a commodity. **B**

By Elizabeth Y. Rula, PhD, executive director of the Harvey L. Neiman Health Policy Institute®

ENDNOTES available in the digital edition at acr.org/bulletin

ACR BOARD OF CHANCELLORS (2021–2022) (2022 ACR election results not available at the time of this printing)

Howard B. Fleishon, MD, MMM, FACR (Chair)
Jacqueline A. Bello, MD, FACR (Vice Chair)
Beverly G. Coleman, MD, FACR (President)
James V. Rawson, MD, FACR (Vice President)
Dana H. Smetherman, MD, MPH, MBA, FACR (Secretary-Treasurer)
Amy L. Kotsenas, MD, FACR (Speaker)
Timothy A. Crummy, MD, FACR (Vice Speaker)
Richard A. Barth, MD, FACR
Lori A. Deitte, MD, FACR
Richard Duszak Jr., MD, FACR
Catherine J. Everett, MD, MBA, FACR
Lauren P. Golding, MD
William T. Herrington, MD, FACR
John E. Jordan, MD, FACR
Ania Zofia Kielar, MD, FACR (CAR)
Andre Konski, MD, MBA, MA, FACR (ARS)
Arun Krishnaraj, MD, MPH
Jonathan B. Kruskal, MB, ChB, PhD, FACR
David B. Larson, MD, MBA
Johnson B. Lightfoote, MD, FACR
Mahadevappa Mahesh, MS, PhD, FACR
Mary C. Mahoney, MD, FACR (RSNA)
Alan H. Matsumoto, MD, FACR
Andrew K. Moriarity, MD
Reginald F. Munden, MD, DMD, MBA, FACR (ARRS)
Gregory N. Nicola, MD, FACR
Robert S. Pyatt Jr., MD, FACR
Andrew B. Rosenkrantz, MD
Eric M. Rubin, MD, FACR
William Small Jr., MD, FACR (ASTRO)
Timothy L. Swan, MD, FACR
Christopher Wald, MD, PhD, MBA, FACR
Pamela K. Woodard, MD, FACR
Don C. Yoo, MD, FACR

ACR BULLETIN ADVISORY GROUP

Rebecca L. Seidel, MD (Chair)
Jennifer Buckley, MD
Neena Davison, MD
Efrén J. Flores, MD
Antony J. Hayes, MD
Ryan K. Lee, MD
Kirang Patel, MD
Colin M. Segovis, MD, PhD
Courtney M. Tomblinson, MD
Hari M. Trivedi, MD
Jade A. Anderson, MD
Po-Hao Chen, MD, MBA
Ragni Jindal, MD

ACR BULLETIN STAFF

Elizabeth Bleu, Senior Director, ACR Press
Brett Hansen, CAE, Director of Operations, ACR Press
Lyndsee Cordes, Director of Periodicals
Nicole Racadag, MSI Team Lead, Publications
Lisa Pampillonio, Art Director
Alexander Utano, Editorial Assistant
Chad Hudnall, Sr. Content Specialist
Chris Hobson, Sr. Communications Mgr., Imaging 3.0
Jenny Jones, Publications Manager

CONTACT US

To contact a member of the *ACR Bulletin* staff, email bulletin@acr.org.

ACR Bulletin (ISSN# 2160-4754) is published monthly by American College of Radiology, 1891 Preston White Dr., Reston, VA 20191.

From annual membership dues of \$900, \$12 is allocated to the *ACR Bulletin* annual subscription price. The subscription price for nonmembers is \$90. Periodical postage paid at Reston, Va., and additional mailing offices. POSTMASTER: Send address changes to *ACR Bulletin*, 1891 Preston White Drive, Reston, VA 20191-4326 or email to membership@acr.org.

Copyright ©2022 by the American College of Radiology. Printed in the U.S.A.

Opinions expressed in the *ACR Bulletin* are those of the author(s); they do not necessarily reflect the viewpoint or position of the editors, reviewers, or publisher. No information contained in this issue should be construed as medical or legal advice or as an endorsement of a particular product or service.

The ACR logo is a registered service mark of the American College of Radiology.

For information on how to join the College, visit www.acr.org or contact staff in membership services at membership@acr.org or 800-347-7748.

For comments, information on advertising, or reprints of the *ACR Bulletin*, contact bulletin@acr.org.

Is a New Job in Your Future?



THE ACR CAREER CENTER, one of the most accessed member benefits, is actively responding to the evolving transition of employment among radiology professionals.

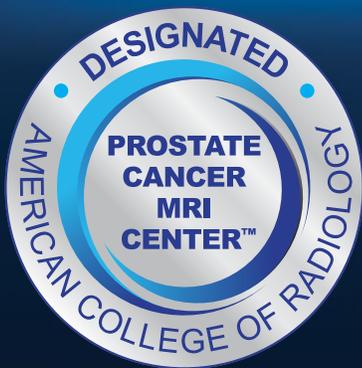
Post your CV online today to make sure you're noticed.

Creating an account will allow you to access resources, take advantage of the CV review service, and receive customized Job Alert emails applicable to your specialty and location interests. In addition, you may pursue career counseling that includes interview advice at your convenience.

Find a job today at acr.org/CareerCenter.

NEW —

ACR® Prostate Cancer MRI Center Designation



Show your site is distinguished as a provider of safe, effective diagnostic care for prostate cancer patients with the new ACR Prostate Cancer MRI Center™ designation*.

Prove to physicians and patients your facility:

- Meets high-quality MR prostate imaging standards.
- Is committed to patient safety and quality care.

* Available to ACR MR-accredited facilities that are accredited in the body module.

Learn more and apply today.
acr.org/MRIProstate

acr.org | 1-800-770-0145 |    



2022 RLI Resident Programs

The Radiology Leadership Institute® (RLI) offers residents and fellows an array of live and online courses for comprehensive training in professional development, leadership and career management. Gain the fundamental skills needed for early career success today!



RLI Resident Milestones Program (Virtual)

September 2022–March 2023

This turnkey program helps residents understand their role in healthcare economics while also helping satisfy the ACGME's Physician Role in Health Care Systems sub-competency.



Leadership Essentials 201: Preparing for Practice

September–December 2022

A comprehensive virtual program that equips residents and fellows with non-clinical and foundational leadership skills needed to maximize early career success. Examples of topics include basics of radiology business, negotiations and value of being a mentor.



RLI Kickstart Your Career Workshop

Oct. 1, 2022

This one-day, in-person workshop provides skills and tools to help successfully transition into your first job. Topics include understanding practice settings, interviewing, evaluating a job offer and more.

Learn more and register at acr.org/RLIresidents.

05.22

Questions?
Email RLI@acr.org.

CELEBRATING
10
YEARS

