

**ACR**

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# Bulletin

**Blurred  
Lines**

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*“In addition to the educational opportunities ACR offers and the opportunity to get involved in multiple committees, they are our voice on the Hill. They are there to push for you, whether you’re in an academic or in a private practice setting.”*

*Kevin Jeffrey Chang, MD, FACR  
Member Since 2007*



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AMERICAN COLLEGE OF  
RADIOLOGY

*If you have already renewed your  
2023 membership, thank you!*

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Bonnie L. Litvack, MD, FACR

Co-Chair of ACR  
Governmental Affairs  
Committee

Guest Columnist

# The Scope of the Problem

Radiologists have been trained to lead the patient's healthcare experience and are fighting state efforts to relinquish that role to independent non-physician healthcare practitioners.

In statehouses across the country, efforts are underway that, if successful, will legislatively undermine, disrupt and hamper the healthcare team, putting patients at risk. This is not peripheral to radiology. The language of bills being proffered includes the ability to “order, perform and interpret” imaging.

Healthcare is a team effort that is optimized when the team members, including the patients, work together. Radiologists, including interventional radiologists and radiation oncologists, know this well. Collectively, we work with every specialty in medicine and fully understand the power of the team. Our radiologists, interventionalists and radiation oncologists are trained with a team focus — to communicate and share observations, expertise and decision-making responsibilities. Our teams are diverse and share a common goal of providing the safest, best possible care.

Effective teams have leaders, whether in healthcare, sports or other arenas. In healthcare, those leaders are the physicians, who have seven years or more of postgraduate education and at least 10,000 hours of clinical experience.

Over the past decade, there have been movements to disrupt the physician-led team with calls for non-physician healthcare practitioners to practice independently. During the height of the COVID-19 pandemic, many states bypassed the usual checks and balances on scope-of-practice changes to navigate through the crisis. Those pandemic flexibilities are now being used as an excuse to accelerate independent practice.

The ACR is deeply committed and actively engaged in defending patients' access to team-based, physician-led care. Over the past year, the American College of Radiology Association® (ACRA®) has established a scope-of-practice fund that has awarded grants to a half-dozen state radiological societies to help fund efforts to fight SOP including independent practice, direct billing by non-physicians and reductions in radiologist oversight.

The ACR is a member of the AMA Scope of Practice Partnership and stands united with the house of medicine in its resolve to defend physician-led healthcare. The

myths must be dispelled, the science disseminated and the patients' voices heard. As we advocate for the best care for our patients, consider these points.

- **Independent practice has not filled the primary care access gap in underserved and rural communities.**<sup>1</sup> In states with independent practice, nurse practitioners (NPs) have not preferentially chosen to locate or practice in underserved or rural areas. Having a lower standard of education and training for rural and underserved areas perpetuates health inequities.
- **Independent practice is not the solution to rising healthcare costs.** The *JACR*<sup>®</sup>, which analyzed skeletal X-ray utilization for Medicare beneficiaries from 2003 to 2015, found ordering rose by more than 400% among nonphysicians, primarily NPs and physician assistants.<sup>2</sup> Additionally, Hattiesburg Clinic's value-based care analysis showed that care provided by non-physician providers working on their own patient panels was more expensive than care delivered by doctors.<sup>3</sup>
- **An AMA survey indicated patient preference for physician-led care.**<sup>4</sup> Conducted in 2012, research by Baseline & Associates on behalf of AMA Scope of Practice Partnership found that patients overwhelmingly want a coordinated approach to healthcare, with a physician leading the team (see sidebar).

Healthcare silos are not in the best interests of the patient. The words “independent” and “team” are mutually exclusive. There is no “I” in team. “Independence” fragments our teams, puts our team members at odds, creates confusion for patients, drives up healthcare costs and, most importantly, threatens quality and safety. In medicine, we have always looked to science to guide our path forward, and that data supports the team — the physician-led team. **B**

## ENDNOTES

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2. Mizrahi DJ, Parker L, Zoga AM and Levin DC. National Trends in the Utilization of Skeletal Radiography From 2003 to 2015. *J Am Coll Radiol*. 2018 Oct;15(10):1408-1414. doi: 10.1016/j.jacr.2017.10.007. Epub 2018 Mar 23.
3. Batson BN, Crosby SN and Fitzpatrick JM. Targeting Value-based Care with Physician-led Care Teams. *J Miss State Med Assoc*. 2022;63-1:18-21. [bit.ly/JMSMA-Physician-Led-Team](https://bit.ly/JMSMA-Physician-Led-Team).
4. AMA Advocacy Resource Center. Patient support for physician-led health care teams. Based on survey conducted by Baseline & Associates on behalf of AMA Scope of Practice Partnership. [bit.ly/AMA-Patient-Support](https://bit.ly/AMA-Patient-Support).

## Patient Preferences

Key findings of an AMA survey indicate patient support for physician-led healthcare teams.

**91%**

said a physician's years of education and training are vital to optimal patient care — especially in the event of a complication or medical emergency.

**86%**

said patients with one or more chronic diseases benefit when a physician leads the primary healthcare team.

**80%**

prefer a physician to have primary responsibility for the diagnosis and management of their healthcare.

**75%**

prefer to be treated by a physician — even if it takes longer to get an appointment and costs more.<sup>4</sup>



## Lung Cancer 201: Expanding Horizons

The ACR Lung Cancer Screening (LCS) Steering Committee has partnered with the National Lung Cancer Roundtable to create a podcast series titled “Pleural Space: Conversations in Lung Cancer,” featuring candid and casual conversations with people doing work in lung cancer and health equity.

The newest season highlights the collaborations between patients, primary care physicians, pulmonologists, researchers, radiologists and health equity experts bringing lung cancer screening, diagnosis and treatment into the future.

The first season, “Mythbusting Lung Cancer Screening,” launched in 2020 and focused on combatting common myths found in treatment and discussion of lung cancer. [Listen now at bit.ly/LC\\_Podcast](https://bit.ly/LC_Podcast).

## First National LCS Day Finds Success



LCS is an important issue, and the College continues to work to raise awareness about it. Nearly 580 patients across 324 sites participated in the first National Lung Cancer Screening Day, which took place on Nov. 12, 2022. The effort was a collaboration involving the ACR, the American Cancer Society’s National Lung Cancer Roundtable, GO<sub>2</sub> for Lung Cancer and the Radiology Health Equity Coalition. The sites signed up

to participate in the event by either spreading awareness or by opening their facilities on that Saturday, enabling patients to receive screening without taking a day off work. The ACR is working to make National LCS Day an annual event.

For ACR LCS resources, visit [bit.ly/LCS-resources](https://bit.ly/LCS-resources).

Read more about LCS Day from ACR BOC Chair Jacqueline A. Bello, MD, FACR, at [bit.ly/LCS-Day-Dr-Bello](https://bit.ly/LCS-Day-Dr-Bello).

## Register for ACR 2023

The 2023 ACR Annual Meeting will take place May 6–10 at the Washington Hilton, where the College will celebrate a major milestone: 100 years of quality, integrity, leadership and innovation. When you register for the meeting, be sure to add the Centennial Gala to your registration.

In addition to the celebration, ACR 2023 provides an opportunity to take part in Council business meetings, Council elections, section-specific programming, the ACR Convocation, caucus meetings, CME programming and more.

There is an option for virtual participation, but in-person attendance at the conference is required to receive Council credentials to vote in ACR elections and on Council business.

Register at [bit.ly/Register\\_ACR2023](https://bit.ly/Register_ACR2023).

**ACR2023**  
WASHINGTON, DC  
May 6–10

## Contribute to the ACR Centennial



The ACR marks a major milestone in 2023, and chapters are invited to participate in the celebration by creating a short video that will be shared with the entire membership.

The video should be two to four minutes in length. Topics can include a profile of the chapter and its history, the importance of the ACR-chapter relationship or simply a congratulatory message recognizing the ACR on its 100th anniversary. For an example, see the video submitted by the Texas Radiological Society ([bit.ly/Texas-ACR-video](https://bit.ly/Texas-ACR-video)). Follow the guidelines below to join the celebration and capture content without incurring significant cost.



In its video, the Texas Radiological Society wishes the ACR a happy 100th anniversary.

### Format

- iPhones and iPads will record in .mov format.
- Androids will record in MPEG-4 format.
- Record in 1080p at 30fs, if possible.

### Tips and Tricks

- Enlist someone to record you.
- Stand in front of a plain, light-colored wall (nothing in the background).
- Position the frame of your camera (phone, tablet or digital camera) so you are visible mid-chest to above your hair.
- Relax. Look directly into the camera while delivering your message.
- Mount prompts on cards attached to the camera/phone to guide what you want to say.
- Remember to make eye contact with the camera.

### Submission Deadline

- While the deadline for submitting your video is Feb. 1, some chapters may need more time.

Contact Brad Short at [bshort@acr.org](mailto:bshort@acr.org) to submit a video, ask a question or arrange a new deadline.

NOTE: In addition to the videos, the ACR is asking chapters to identify multigenerational radiologists, particularly those families with three generations of ACR members, for another project.



The legislative and regulatory decisions made on national, state and local levels have serious impact on practicing radiologists and, perhaps most importantly, our patients.

FATIMA ELAHI, DO, MHA



## 2023 ACR Chapter Grant Program

The Chapter Grant Program is accepting applications for financial support for innovative initiatives that help chapters meet member needs and support the radiology profession. Applications are due Feb. 28.

For consideration, all applications must include comprehensive information describing the project, a timeline/schedule, a detailed budget with metrics to determine effectiveness of the project, and a final report. Proposals should describe how the program would support the Principles of Alliance as outlined in the Affiliation Agreement.

The 2022 Chapter Grant recipients:

- **Massachusetts Radiological Society** – Development and Implementation of a State-Wide Cancer Screening Program in the Radiology Waiting Room
- **New York State Radiological Society** – Virtual Hackathon: Member Engagement, Collaboration, and Creative Problem Solving
- **Texas Radiological Society** – Specialty Webinar Series
- **Washington State Radiological Society** – Gender and Race in Radiology Podcast

Visit the Chapter Grant Program at [bit.ly/ACR\\_Chapter\\_Grants](https://bit.ly/ACR_Chapter_Grants) for additional information.



National Football League Commissioner Roger Goodell (left) and Kansas City Chiefs Chair and CEO Clark Hunt (right) with Amy K. Patel, MD

PHOTO COURTESY OF THE KANSAS CITY CHIEFS

## ACR Member Nominated for NFL Fan of the Year

Every year, the National Football League (NFL) has each team nominate an outstanding member of its fan base to recognize that individual's hard work and dedication to creating a better community. This year, the Kansas City Chiefs have selected the ACR's own Amy K. Patel, MD, as their nominee.

Patel has been making a difference since she joined the ACR in 2013. From creating a Commission for Women and Diversity Committee for RFS members in 2015 to being named medical director of the Breast Care Center at Liberty Hospital in Liberty, Mo., her impact in the world of radiology and on the patients she cares for has been felt.

Voting for the NFL Fan of the Year will end Feb. 12, and then a winner will be announced.

To vote for Patel, visit [bit.ly/NFL\\_FOTY](https://bit.ly/NFL_FOTY) or aim your smartphone at the QR code at right.



## O-RADS Ultrasound Update

The ACR Ovarian-Adnexal Reporting and Data System (O-RADS™) Ultrasound (US) has instituted some updates to the v2022 Assessment Categories and Management System to provide clarification on system implementation. The updates modify and strengthen management strategies to align with recent validation studies, gynecology clinical input and other consensus guidelines. Revisions improve specificity of lower-risk lesion groups by using descriptors that add value to risk assessment. Users may now incorporate O-RADS US into pelvic US reporting templates for all patients. A short presentation providing details and committee rationale is available for reference.

Access the updated system at [bit.ly/O-Rads](https://bit.ly/O-Rads).

## ACR Spotlights Military Mentorship Program

Military radiologists looking to transition to civilian practice after their service ends can find assistance through the ACR's Military Radiology Mentorship program.

Experienced radiologists who have made the transition themselves participate as mentors in the program, where they are matched with active-duty physicians planning or considering civilian radiology. The ultimate goal is to guide mentees through their short-term and long-term career aspirations.

The College offers discounts to U.S. military members on dues, products and CME resources, along with the ability to work toward ACR fellowship while in service.

Learn more at [bit.ly/Military\\_Radiology\\_Committee](https://bit.ly/Military_Radiology_Committee).

## Attend the 2023 SBI Breast Imaging Symposium

The 2023 Society of Breast Imaging (SBI) Breast Imaging Symposium, which takes place May 4–7 in National Harbor, Md., will offer more than 60 sessions across all breast imaging modalities, access to ePoster abstracts and the chance to connect with vendors in an extensive exhibit hall.

The SBI continues to help breast imagers improve their practice to increase chances of early detection, diagnosis and treatment. Register today to get involved in SBI 2023.

To register, visit [bit.ly/SBI\\_2023](https://bit.ly/SBI_2023). Learn more at [www.sbi-online.org](https://www.sbi-online.org).

## Making a Difference for the Community — and the Planet



When radiology professionals focus on the three P's of people, planet and profit, they function as civic leaders. This, in turn, elevates the entire profession. That was one premise of a plenary session led by ACR member **Reed A. Omary, MD, MS, FACR**, at RSNA in November 2022. His session, titled “Designing Radiology for Patients, Communities and the Planet,” offered perspectives on how radiologists are joining a growing global conversation around environmental, social and governance issues.

“As radiologists, we need to see that it’s important to give back — to our communities, and to organizations that support our values,” said Omary, professor and chair of radiology at Vanderbilt University Medical Center (VUMC) in Nashville. “I’d like us to think about how we can move from sympathy to empathy, and how we can move from the maze of healthcare to amazing healthcare.”

Omary encouraged audience members to go back to their own workplaces and consider ways they can move the needle in improving healthcare while also reducing the climate impact of radiology. He cited the work of his VUMC colleague Lucy B. Spalluto, MD, MPH, who serves on the ACR’s Commission on Patient and Family-Centered Care. Spalluto is an associate professor of radiology at Vanderbilt and also the vice chair of health equity and associate director of the Office of Diversity & Inclusion for the VUMC radiology department.

Omary predicts environmental sustainability will become mainstream in the radiology community. “We have the opportunity to recognize that climate care is healthcare, and when we address the health of the planet, we impact the health of our patients,” he noted. “It’s up to all of us to take responsibility.”

Read the full article at [bit.ly/RSNA\\_Omary](https://bit.ly/RSNA_Omary).

## New and Updated ACR Appropriateness Criteria

The latest update to the ACR Appropriateness Criteria® (AC) includes one new and seven revised topics. Each topic includes a narrative, an evidence table and a literature search summary. Altogether in 2022, the ACR added seven new and 31 revised topics to the AC, which now includes 223 diagnostic imaging and IR topics with more than 1,060 clinical variants covering 3,000 clinical scenarios.



The new topic is Thoracoabdominal Aneurysm or Dissection: Treatment Planning and Follow-Up.

The seven revised topics are:

- Chronic Extremity Joint Pain — Suspected Inflammatory Arthritis, Crystalline Arthritis or Erosive Osteoarthritis
- Headache
- Palpable Breast Masses
- Pretreatment Detection, Surveillance and Staging of Prostate Cancer
- Routine Chest Imaging
- Soft Tissue Masses
- Staging of Renal Cell Carcinoma

Review the revised topics and more at [bit.ly/ACR\\_ACRcriteria](https://bit.ly/ACR_ACRcriteria).

**Inadequate access to care and low utilization rates for LCS present an opportunity for medical professionals, cancer centers, health systems, patient and caregiver advocates, community health organizations, payers and industry partners to work together to promote health equity, reduce healthcare disparities and enhance accessibility to lifesaving and effective lung cancer screening.**

ERIC M. HART, MD, AND KIM LORI SANDLER, MD

## Step Into the World of Academic Publishing



Would you like to pursue medical journalism as a part of your career? If so, consider applying for the Hillman Fellowship in Scholarly Publishing, which provides a concentrated experience in medical editing, journalism and publishing for a qualified staff radiologist.

The fellowship gives participants an inside look behind the scenes at the *JACR*® and allows them to work with the editor-in-chief and deputy editor and complete a project related to the journal. The fellowship also includes a one-year appointment to the editorial board and an invitation to the editorial retreat.

Applications are due by Feb. 28, 2023. Apply at [bit.ly/Hillman-2023](https://bit.ly/Hillman-2023).





**Dana H. Smetherman,  
MD, MPH, MBA, FACR**

ACR Treasurer;  
Radiology Department  
Chair and Associate  
Medical Director,  
Ochsner Medical  
Center – New Orleans

Guest Columnist

# Preventive Services Coverage

Reimbursement processes vary from payer to payer, and sometimes state to state, which creates challenges for all involved.

**H**ealthcare payment policy in the United States is complicated, and nowhere is this more apparent than for preventive services. Coverage differs among payers, including traditional Medicare, Medicare Advantage, Medicaid and commercial insurance. In addition, the process to obtain reimbursement for new services and procedures varies, creating challenges and confusion for patients and physicians alike.

When Congress created Medicare under Title XVIII of the 1965 Social Security Act, only diagnostic services and treatments for illnesses were included. Amendments to the original statute were necessary to provide Medicare coverage for preventive services. Screening mammography, for example, was not covered by Medicare until the Omnibus Reconciliation Act of 1990.

In 2008, Congress passed the Medicare Improvements for Patients and Providers Act (MIPPA), which granted the authority to expand coverage for screening to the secretary of Health and Human Services (HHS) through the national coverage determination (NCD) process. To qualify under Medicare coverage, a preventive service must be determined by the HHS secretary to be “reasonable and necessary for the prevention or early detection of an illness or disability; recommended with a grade A or B by the USPSTF [U.S. Preventive Services Task Force]; and appropriate for individuals entitled to benefits under Medicare.”<sup>1</sup>

Of note, MIPPA does not require coverage based solely on USPSTF recommendation. In addition to the HHS secretary, the Centers for Medicare and Medicaid Services (CMS) can also establish Medicare coverage for preventive services following similar guidelines.

Although Medicare is a federal program, Medicare claims are processed through a network of private healthcare insurers called Medicare Administrative Contractors (MACs) in different geographic regions.<sup>2</sup> For most services, absent an NCD, coverage for new procedures can also be obtained through a local coverage determination (LCD). The MACs develop LCDs for their regions with input from carrier advisory committees for each state.<sup>3</sup> Nonetheless, pursuant to Section 1861 (ddd) of the Social Security Act, coverage for screening and preventive services requires an NCD.<sup>4</sup>

Under the Affordable Care Act (ACA) enacted in 2010, coverage for screening services by commercial

health insurance plans and state Medicaid expansion programs (but not Medicare) is governed by the USPSTF and the Health Resources Services Administration. Only screening tests that receive a grade A or B recommendation from the USPSTF are covered without out-of-pocket expense for beneficiaries. At the current time, Congress has delayed until Jan. 1, 2024, coverage based on the 2016 USPSTF screening mammography guidelines, which call for biennial screening mammograms between ages 50 and 74. Additionally, in December 2022, the Find It Early Act was introduced in Congress to ensure all health insurance plans, including Medicare, cover screening and diagnostic mammograms, breast ultrasounds and MRIs without cost sharing.<sup>5</sup>

Currently, there are no USPSTF guidelines for supplemental screening in patients with dense breast tissue and/or those at increased risk for breast cancer due to genetic mutations, family history and other risk factors. Many states have passed legislation mandating patient notification of breast density. Some states also require coverage for supplemental screening tests, such as whole-breast ultrasound or breast MRI.

While these payment mandates can apply to commercial payers and state Medicaid programs, Medicare is a federal program with coverage determined at the national level. In addition, while screening services with a USPSTF A or B recommendation must be covered without out-of-pocket expense under the ACA, this requirement does not apply to other diagnostic studies. Even diagnostic mammograms and breast ultrasound in patients recalled for additional evaluation after screening mammography may be subject to co-pays and deductibles.

Lack of coverage is sometimes mistakenly attributed to the absence of a Current Procedural Terminology (CPT®) code. While CPT codes are necessary for Medicare billing, they do not mandate coverage — with or without cost sharing by patients — for screening services without an NCD.

Even if there is a CPT code that could be used for a screening test — for example, code 76641 for complete breast ultrasound or code 77049 for bilateral breast MRI without and with contrast — Medicare will not cover these exams for a screening indication without an NCD, regardless of how the codes were designed and approved through the CPT and Relative Value Scale Update Committee process.

Ultimately, because coverage guidelines vary from payer to payer and can change over time, physicians and patients are strongly encouraged to check with the payers in their markets. **B**

ENDNOTES available in the digital edition at [acr.org/bulletin](http://acr.org/bulletin)



# Blurred Lines



## State radiology chapters continue their scope-of-practice fight this year against non-physician roles in imaging care.

The ACR state government relations (GR) staff is ready to back state chapters for another busy year of battling non-physician scope-of-practice (SOP) bills that have drawn the ire of some radiologists nationwide. An ACR-funded SOP grant program has been assisting state radiological societies in grassroots efforts to educate lawmakers, fund lobbyists and fight SOP legislation doctors say could negatively impact patient care.<sup>1</sup>

There has been confusion over SOP throughout the U.S. around the reimbursement of non-physician radiology providers (NPRPs).<sup>2</sup> Doctors maintain that proper supervision and interpretation of imaging exams by trained radiologists is critical to the accurate diagnosis and treatment of disease, injury and illness. To protect patient access to safe, high-quality care, the College's state chapters have tracked and acted on hundreds of bills nationwide since 2020 — including those around SOP.

The ACR works with state chapters to advocate at the legislative, regulatory and administrative levels for clear, sensible definitions of scope for health professionals. The College and like-minded state and national medical associations believe patients are best served when medical imaging is provided only under a physician's supervision and when radiologists interpret medical imaging studies.

Radiologists are uniquely educated, trained and qualified to practice radiology — including imaging supervision and interpretation. Most radiologists undergo 10 years of comprehensive training beyond their undergraduate degrees.<sup>3</sup> The ACR maintains that NPRPs do not have comparable training or experience and should not independently supervise or interpret imaging exams.

NPRP societies — among them associations representing advanced practice RNs (APRNs) and physician assistants (PAs) — have ramped up their fight to increase their members' SOP and gain independent practice, particularly at the state level. State and federal agencies have encouraged use of these physician extenders — especially during the height of the COVID-19 public health emergency. Radiologists believe this must now be countered.<sup>4</sup>

Across the country, state chapters have been advocating on behalf of members to protect radiologist-led teams from SOP creep by NPRPs. The following is a sampling of what a handful of states have done — and will continue to do — to combat the problem. These states submitted proposals for ACR grants for their advocacy efforts. They have met with challenges, successes and some losses on a variety of issues related to SOP and have shared their stories.

CONTINUED >>



## KANSAS

### Partnering for a Punch

The biggest SOP issue facing patients and practices in Kansas has involved APRNs. Recently passed legislation in Kansas now allows APRNs to prescribe medications (including controlled substances) and durable medical equipment without physician oversight, eliminating the physician-authorized prescribing protocol or collaborative practice agreement. To combat the situation, the Kansas Radiological Society (KRS) has joined forces with some allies for combined firepower.



To have access to a known lobbyist, one with a record of success, makes your ideas and needs that much more likely to have success in the debate over public policy.”

JOHN H. LOHNES JR., MD, FACR

“The Kansas Medical Society has employed lobbyists along with senior staff for decades,” says John H. Lohnes Jr., MD, FACR, chair of the Kansas RADPAC and former KRS president. “To facilitate their activities — for which there has been a long track record of success and access — we chose to help fund that position rather than attempt to go it alone. This also provided us increased visibility for radiology within the ‘house of medicine.’

“To have access to a known lobbyist, one with a record of success, makes your ideas and needs that much more likely to have success in the debate over public policy,” Lohnes says. “The levers of government are many. Developing access to them is not a one-off. It requires a sustained, purposeful approach to cultivate those contacts and trust. Just as in our daily lives where we have to speak the language of our referring physicians, so it is in politics.”

With the adoption of the APRN legislation, the Kansas Board of Nursing has sought to expand its SOP beyond what was passed. “This is the next hurdle we face,” Lohnes says. “Their methodology mimics the definition of the practice of medicine as defined by the state. They are seeking full autonomy, beyond the legislative intent.”

A desire to develop reimbursement opportunities over the protection of patients is also an ongoing battle, he says. Within various practices throughout medicine, the desire and need to maintain levels of

compensation result in the distribution of responsibilities in the guise of efficiency. “Within the house of radiology, it is incumbent that we as physicians acknowledge and promote the appropriate stratification of services within our practices — with appropriate safeguards for our patients.”



## MICHIGAN

### Relying on Lobbyists

The Michigan Radiological Society (MRS) also has turned to lobbying efforts to go to battle against a bill that would increase the scope of non-physicians. The initiative seems to be working, says Mark Weiss, MD, FACR, president of the MRS.

“ACR grant monies helped our lobbyist in Michigan devote more time and effort to making certain the Nurses Scope of Practice Bill did not pass in its current version,” Weiss says. “This appears to have been successful during the prior term. In Michigan, if a bill is not passed or voted on during a term, it automatically sunsets. However, it is likely that the bill will be reintroduced during the new legislative period this year. MRS, with the help of the ACR, will stay vigilant in its efforts regarding this Nurses Scope of Practice bill.”

The MRS has approached SOP limitations and balancing the services of non-radiologists against the expertise of radiologists from three perspectives.

“The first is education,” Weiss says. Nurses receive a lesser amount of training. Total nursing school education after basic requirements is three years maximum. Nurses do not receive training in imaging and supervision. “Radiologists receive a minimum of four years of radiology training, and most radiologists have an additional year of fellowship training. This is after four years of medical school and a one-year internship,” he adds.

“The second is safety. Radiologists are trained in radiation safety,” Weiss says, “while nurses and other NPRPs do not have radiation safety training. This puts patients and their staff at risk.”

The third, he says, is use of imaging and cost. “Nurse practitioners and physician extenders tend to order more studies in an attempt to get assistance in making a diagnosis,” Weiss says. “This will increase utilization and, ultimately, the cost of medicine. In addition, more patients will unnecessarily receive radiation.”

MRS plans to continue its engagement with in-state lobbyists. “In addition, MRS board members will be reaching out to their respective representatives from various parts of the state to educate their representatives and make themselves available to answer any questions representatives may have about this issue,” Weiss says.

Additionally, MRS board members will be reaching out to the governor and state senators to educate them about the pitfalls associated with the bill that was introduced in the last legislative session. “MRS is concerned, since the bill had bipartisan support,” Weiss says. MRS is working hand in hand with subspecialty societies to avert this legislation’s passage in its current form.



## Mobilizing Advocates

The New York State Radiological Society (NYSRS) operates under the adage, “There’s strength in numbers.” Several initiatives help the organization mobilize radiologists to join the cause and speak out in one voice against scope creep of non-physicians.

“SOP limitations are important to ensure our patients have the best physician specialists performing and interpreting their imaging exams — to minimize radiation exposure, maximize image quality and provide the most accurate professional interpretation,” says Robert J. Rapoport, MD, FACR, a member of the NYSRS board of directors and co-chair of the organization’s Governmental Affairs Committee. “For medical imaging, radiology is the specialty with the longest length of training, the most in-depth training for image interpretation, and the most education and expertise in radiation safety.”

Convenience should not outweigh the standard of care, Rapoport says. “In some cases, clinicians have in-office imaging, which they provide for patient convenience — so the patients don’t need to go to a second location with a separate appointment. In such instances, to maximize quality and safety, these images should still be interpreted by a radiologist, not the clinician. The radiologist should be the primary decision-maker in setting up protocols, educating technologists and being involved with a quality assurance program.”

Patient safety and fair reimbursement are both key issues within the SOP debate, Rapoport says. “When other clinicians try to extend their SOP into radiology, they are trying to perform imaging studies with less training and professional expertise when compared to radiologists.” That risks lower exam quality, higher radiation dose, and less attention paid to other safety issues, such as intravenous contrast administration and MRI safety, he says.

“We are fortunate to have an excellent, experienced lobbyist,” Rapoport says. “He is aware of all bills as soon as they are submitted to the Assembly or Senate. He evaluates those pertinent to NYSRS and advises us on how to proceed.”

Some are the same bills from prior years, and others are new and unexpected. “At times when we

need to act quickly, we have found that the ACR Government Affairs team can overnight send out a ‘Call to Action’ email targeting radiologists by ZIP code of their legislator — and with a convenient link to send an email to their elected official with opinions on a piece of legislation.”

Having a Political Action Committee (PAC) is also an important part of lobbying. “We have been and will continue to reach out to radiologists statewide for support and have been working with practice leaders to contribute on behalf of their entire practice,” Rapoport says. “In 2023, we expect to send out emails to members asking for support, make announcements at our all-members meetings (and provide a link in the chat box for secure online donations), and work with practice leaders to donate for their entire practice. Our board leads by example, and annually board members contribute to the PAC. We are appreciative of the support we receive statewide, and all of these PAC donations allow us to best represent the members.”



The residents hear about SOP issues on a regular basis by participating in our board and all-members meetings and in ACR’s RFS. This is an opportunity to be part of advocating for their profession.”

ROBERT J. RAPOPORT, MD, FACR

The NYSRS also has an annual Spring Lobby Day, which has focused in recent years on SOP bills. Board members, NYS radiologists and residents head to the state Capitol to meet with lawmakers and their staffs. This gives residents real-world experience in the importance of lobbying and the value the ACR and state societies bring to the specialty.

“The residents hear about SOP issues on a regular basis by participating in our board and all-members meetings and in ACR’s RFS,” Rapoport says. “This is an opportunity to be part of advocating for their profession.”

Over the past several years, NYSRS has recognized the growing importance of working collaboratively with the Medical Society of the State of New York and physician specialty societies, particularly in opposition to SOP expansions desired by PAs and nurse practitioners.



“We are extremely fortunate that Bonnie L. Litvack, MD, FACR, a board member and the co-chair of our Governmental Affairs Committee, is a recent past president of the Medical Society of the State of New York and has helped facilitate this. We will work to expand these relationships,” Rapoport says.

“

Our efforts have been not necessarily to teach people about the specialty, but to shed light on how our physician members’ work impacts patient care.”

JOHN KLINE

The organization has created six short videos, with financial support from the ACR SOP grants and spearheaded by NYSRS President Robert J. Pizzutiello Jr., MS, FACR, and past Presidents Kimberly N. Feigin, MD, FACR, and Atul K. Gupta, MD, FACR. The productions, available on the organization’s YouTube channel ([bit.ly/NYSRS-videos](http://bit.ly/NYSRS-videos)), are about one to three minutes each in length and discuss important aspects of radiology.

The group will continue to disseminate the videos to advocate for the profession by educating elected officials and their staff members. Rapoport explains why this is essential: “They should understand the importance of preventing other providers from impinging on our SOP.”



PENNSYLVANIA

### Educating the Public

“There is a recognition by leaders in the Pennsylvania Radiological Society (PRS) that many patients are unaware of radiological practices and the extent that a radiologist is part of their care,” says John Kline, executive director of the PRS. “Our efforts have been necessarily not to teach people about the specialty, but to shed light on how our physician members’ work impacts patient care.”

The idea, chapter leaders say, is that bringing to light the SOP in radiology will positively impact patient safety and fair reimbursement. “We have used some ACR grant monies to: 1) increase the SOP knowledge of patients and the public, as well as public officials; 2) use social media to build an advocacy mechanism; and 3) use social media to ask viewers and users to contact

elected officials at the state level to encourage passage of an important bill making its way through the Pennsylvania Senate,” Kline says.

PRS contracted with a communications specialty company in Harrisburg, which prepared a visual vignette clearly explaining the duties of a radiologist and how nearly all medical cases involve radiology. The public relations campaign (available at [bit.ly/PA-SOP-ad-campaign](http://bit.ly/PA-SOP-ad-campaign)) ran for several weeks in state senatorial districts of decision-makers who were controlling the outcome of the bill.

The campaign’s message was concentrated in the geographic regions of specific legislative leaders, Kline says. “After a few weeks, the information was modified to ask viewers to contact their respective senators to help pass a bill that would benefit radiology, patient safety and privacy. The response was excellent,” he notes. More than 70 constituents sent in letters electronically urging passage of the bill.

“Unfortunately, the bill did not pass because of one legislative committee chair,” Kline says. “Nevertheless, the results were very good, in our opinion, and the subject will be easier to address in this year’s legislative session.” PRS plans to use this tool in the future whenever advocacy from constituents is needed.



WISCONSIN

### Focusing on Safety

Wisconsin Radiological Society (WRS) leaders have employed tactics similar to those their counterparts in other states have used, but they’ve honed their message to focus on patient safety. A flurry of activity has helped the group get out its message and make an impact.

“Funds provided by the ACRA SOP grant enabled the WRS to have one of its most active legislative sessions to date,” says Ian A. Weissman, DO,

#### APPLY FOR A STATE ADVOCACY GRANT

Three state radiological societies have been awarded grants from the American College of Radiology Association® (ACRA®). The Michigan Radiological Society, the Texas Radiological Society and the Radiological Society of New Jersey are the first societies to be awarded SOP grants in 2023. State chapters can still apply for an ACRA SOP grant. The new deadline for chapters to apply is Feb. 28. This new deadline allows extra time for chapters to formulate their advocacy strategies surrounding SOP battles in their respective states. To apply, visit [bit.ly/ACRA-SOP-Fund](http://bit.ly/ACRA-SOP-Fund).

FACR, president of the WRS. In addition to lobbying in favor of breast-cancer supplemental-screening legislation, WRS also spent considerable time and effort to defeat APRN independent practice legislation.

“WRS actively participated in a coalition of physician organizations, provided financial assistance to Wisconsin Doctor Day, drafted and deployed several action alerts to members, and lobbied our governor to veto the bill,” Weissman says. “These efforts, in fact, resulted in our governor vetoing the APRN independent practice legislation, despite intense pressure from the nursing lobby.”

“As physicians who interpret imaging studies, we have seen firsthand how the dramatic growth in the number of APRNs and PAs working in Wisconsin in recent years has already led to a rise in the ordering of unnecessary, expensive imaging exams, such as CT and MRI scans,” Weissman says. “We are deeply concerned that APRN independent practice will exacerbate this dangerous trend, with detrimental impacts on patients.”

The key to the battle in Wisconsin has been in educating lawmakers — with help from the WRS government relations team led by Gregg A. Bogost, MD, FACR, and Blumenfeld & Associates. “Our messaging in the fight against APRN independent practice focused on the differences between physician training and non-physician training. We affirm that NPRPs are a critical part of the care team,” Weissman says. “However, they simply do not have the in-depth clinical training and experience needed to justify allowing them to practice in the same manner as a physician.”

“One of the key talking points we used when lobbying against the APRN bill was that it removed the important patient safety guardrail of physician collaboration.”

IAN A. WEISSMAN, DO, FACR

In his veto memo, Wisconsin Gov. Tony Evers wrote, “I object to altering current licensure standards for APRNs, allowing practices functionally equivalent to those of physicians or potentially omitting physicians from a patient’s care altogether notwithstanding significant differences in required education, training and experience.”

Allowing APRNs to practice independently after less than two years of working under physician supervision is fundamentally a patient safety issue

because of the tendency of APRNs and PAs to over-order imaging exams, Weissman says. “Ordering unwarranted imaging studies exposes patients to unnecessary radiation. One of the key talking points we used when lobbying against the APRN bill was that it removed the important patient safety guardrail of physician collaboration.”

WRS plans to fight against APRN independent practice once again with the hope of expanding the state’s grassroots engagement and building public awareness of the patient safety implications of SOP expansion.

## Same Fight, New Year

In statehouses across the country, efforts are underway to legislatively undermine healthcare teams — a trend doctors say puts patients at risk. This is not peripheral to radiology, Litvack says. The language of the proposed bills wrongfully includes the authority to order, perform and interpret imaging.

“The ACR is deeply committed and actively engaged in defending patient access to team-based and physician-led care,” she says. “The College will continue to support states through grants to fund efforts to fight scope creep — including independent practice, direct billing by non-physicians, and reductions in radiologists’ oversight. It’s all about our expertise.” **B**

By Chad E. Hudnall, senior writer, ACR Press

## GET TIPS ON SCOPE-OF-PRACTICE ADVOCACY

Interested in ramping up the advocacy in your state on scope-of-practice legislation? Here are some resources that offer tips and best practices.

**ACR web page on scope of practice** — The ACR has tracked and acted on hundreds of bills nationwide since 2020, including those regarding SOP. The Advocacy and Economics section of the ACR website includes talking points on why radiologists are engaged in the SOP battle, a summary of SOP activity by state, recent ACR communications on the issue, and examples of joint communications with other organizations.

Visit [bit.ly/ACR-SOP](http://bit.ly/ACR-SOP).

**New York State Radiological Society videos** — In an initiative designed to mobilize advocates through education about radiologists and their SOP work, the NYSRS has released a series of six videos that are available on the organization’s YouTube channel.

Visit [bit.ly/NYSRS-videos](http://bit.ly/NYSRS-videos).

**Pennsylvania Radiological Society public relations campaign** — To increase SOP knowledge among patients, elected leaders and the general public, the PRS worked with a communications company to produce pieces the organization can use in various social media outlets. The PR campaign also included wording for a letter advocates can use to appeal to their legislative officials. See the examples at [bit.ly/PA-SOP-ad-campaign](http://bit.ly/PA-SOP-ad-campaign).

# Advocacy 101 for Residents

Online presentations drive home the importance of getting involved.

Throughout 2022, the ACR's state government relations (GR) staff teamed up with leaders from the Texas Radiological Society (TRS) to present an Advocacy 101 series to eight different radiology resident programs throughout the state. Sarah S. Avery, MD, FACR, president of the TRS and a radiologist with the Austin Radiological Association, and others from TRS were integral in promoting and presenting webinars focused on the importance of physician-led advocacy and how residents can get involved.

These presentations are tailored to fit a resident's and program's individual needs. The *Bulletin* recently spoke with Avery about how she and other TRS leaders spearheaded this webinar series — which counted 154 resident attendees — and how other state chapter leaders can work with the ACR to present an Advocacy 101 series to residents in their own states.

## Why did you decide to get involved in this Advocacy 101 series for residents?

We want to get young people involved. I got involved in advocacy mainly because when we had monthly board meetings at my group, legislative and regulatory issues were discussed as they affected our practice. We wanted to explore how we could better take care of patients and how certain issues could affect our business model. Everyone was essentially encouraged to better understand the various economic, legislative and advocacy topics in our state. It became a central part of the TRS strategic plan. I have been involved in advocacy efforts for some time. Before I became president of the TRS, I was past chair of the TRS political action committee and sat on our legislative committee. I felt like it was a great fit for me to lead this webinar series to educate residents.

## How much work went into putting together these webinars?

I had some trepidation at first, but it came together easily and quickly with the help of many folks — our GR staff at ACR, TRS staff, our TRS lobbyist, and TRS Executive Director Christy McDonald. It didn't take much of a time commitment, and it was inexpensive. We put these webinars out there to give residents the opportunity to participate. It was the same program material essentially with each presentation, but we had a slightly different

approach for each major school in the state. We pride ourselves on having many training programs in Texas. But it should be relatively easy to pull off this sort of thing in any state.

## Why is it important to educate residents on state advocacy efforts?

We want to educate them on some of the big topics that are facing our profession right now. Scope of practice is one example. This is about patient safety, patient access and potential economic impact. Understandably, residents are focused on their education and might not understand the legislative, regulatory and economic topics that should be part of their focus. For instance, I have been involved in state-level legislation that changed the Texas Department of Insurance code to give patients access to diagnostic breast imaging without a co-pay. It is about helping patients. Plus, when we did a member survey about a year ago, respondents told us that advocacy was the number one thing they wanted TRS to do for them. It's extremely important to our members.

## How do you get residents involved?

We want to educate residents at all radiology programs in Texas. This includes outreach to diagnostic radiologists, interventional radiologists, radiation oncologists and medical physicists. You have to make it part of your group's strategic plan. Our members-in-training are very focused on the didactic and educational parts of their programs. When they find out and learn about some of these non-interpretive issues as part of their residency, it can be powerful and useful to their future careers. It can be difficult to reach them at times, but doing simple things, like hosting webinars, can go a long way in getting them interested.

### BRING A RESIDENT ADVOCACY SERIES TO YOUR STATE

Getting early-career radiologists involved in advocacy takes a concerted effort. Here are some resources to help state radiological societies create advocacy series for professionals serving in residencies.

**ACR Advocacy and Economics** – The ACR hosts a repository of advocacy and economics resources to keep members up to date on what is happening in Congress, federal agencies and state legislative and regulatory bodies. Visit [acr.org/Advocacy-and-Economics](https://acr.org/Advocacy-and-Economics).

**Radiology Advocacy Network** – Members across the country ensure radiology's voice is heard at the local and federal levels. Visit [bit.ly/About-RAN](https://bit.ly/About-RAN).

**RADPAC™** – This members-only site of the political action committee includes information about getting more involved. Visit [bit.ly/ACRA-advocacy-site](https://bit.ly/ACRA-advocacy-site).

**ACR Government Relations** – If you have any questions on how to bring a resident advocacy series to your state, email Dillon Harp at [dharp@acr.org](mailto:dharp@acr.org).

## What can other state radiological groups do to promote advocacy to residents?

We are encouraging all residents to go to the Radiology Advocacy Network website of the ACR and sign up ([see sidebar](#)). I would say to any member reading this, you can do something similar — your own version of educating residents on advocacy. Texas is big, and this project cost us virtually no money. I'm sure other states could launch the same type of outreach presentation with the hope of helping residents better understand the importance of advocacy in their states. You can scale up or down, depending on what is going on in your state in terms of training programs and exactly what you want to present. **B**

Interview by Chad E. Hudnall, senior writer, ACR Press



# Understanding Bias in AI



A thoughtful approach to implementing AI tools can prevent adverse effects that can lead to disparities in healthcare.

**A**s new AI tools are developed in radiology, the medical community is exploring ways these advances could unintentionally incorporate biases. Experts in imaging AI considered this as they gathered for the 2022 ACR Imaging Informatics Summit to discuss bias in AI. Moderated by Tessa S. Cook, MD, PhD, vice chair for practice transformation at the University of Pennsylvania, experts addressed sources of bias in AI models and their potential for perpetuating health disparities without thoughtful AI implementation.

“We know there are multiple potential sources of bias in AI models, and we know those biases have the potential to amplify health disparities,” Cook explained. “For us, as clinical practitioners and imaging physicians, it is important to be aware, as we incorporate tools in our workflow, that they could have unanticipated or unintended consequences for our patients.”

## Defining Bias

Addressing bias in AI requires awareness of multiple, co-existing definitions that frame conversations. “Bias” commonly refers to “cognitive” bias, or a human filtering process to simplify information processing, which can result in prejudice toward an idea, person or group. Further categorization yields differences between “explicit” and “implicit” bias, distinguishing intentional from unintentional prejudice.

Within the context of AI, the definition of bias can be further narrowed to specify:

- **Algorithmic bias** – a tendency for AI models to reflect human biases present within the training data.
- **Statistical bias** – systematic errors, or reproducible differences between true and expected values. As Cook explained, “statistical bias occurs when there are inherent errors in the model that make it not capture or represent reality.”
- **Prediction bias** – differences between the average of model prediction versus the average of labeled data.

- **Social bias** – the potential for decisions based on AI results to adversely affect underrepresented groups and exacerbate healthcare inequities.

Discussions regarding bias in AI often introduce the concept of the “bias-variance tradeoff,” referring to prediction bias. Variance refers to variability in prediction of a given data point, reflecting the range of data. High-bias, low-variance contexts lead to “underfitting,” where an oversimplified model fails to effectively capture the patterns in the training data. In contrast, high-variance, low-bias contexts lead to “overfitting,” where complex models become oversensitive to noise in the training data and fail to generalize.

## Sources of Bias

Statistical bias in AI may arise from any stage along the AI development pipeline, generally categorized as stemming from:

- **Data handling.** Bias may derive from imbalanced data sets not representative of actual patient demographics, varying levels of data annotator expertise, lack of standard annotating guidelines, heterogeneous image/scanner quality, and failure to identify data leakage, such as overlapping training and testing data.
- **Model development.** Bias during model development manifests from inattention to the bias-variance tradeoff, predisposing to over- or under-fitting training data sets.
- **Performance evaluation.** Selection of inappropriate metrics for performance evaluation enables misrepresentation of model performance.

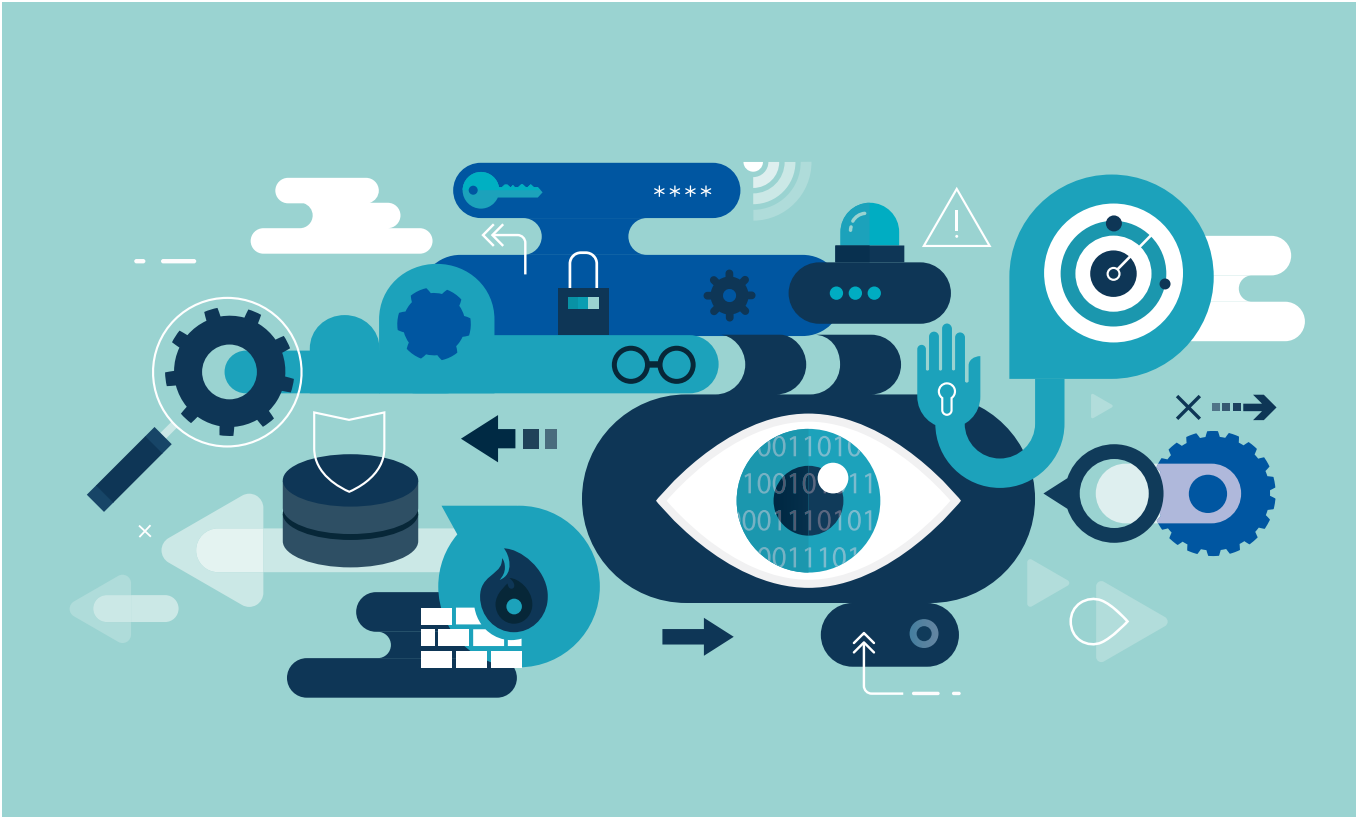


**“We know there are multiple potential sources of bias in AI models, and we know those biases have the potential to amplify health disparities.”**

TESSA S. COOK, MD, PHD

Sources of AI bias are sometimes difficult to identify prior to model deployment and are therefore often identified retrospectively. Mandating transparency in reporting details about model development and critical attention to review of published results become important as a result. Failure to scrutinize models may lead to deployment of biased AI models that perpetuate inherent discrepancies, ultimately harming patients. Examples include those trained on patient populations whose characteristics differ from the patients on whom the models are being used (e.g., adult

*continued on page 22*



# Protecting Patient Privacy in AI

Sharing data to develop AI in radiology is tricky because of patient information embedded in each image. The ACR DSI is working with doctors to come up with solutions.

In the 1990s, the Massachusetts Group Insurance Commission released anonymized individual data on all state employees, including every hospital visit from that decade. In 1997, while still a computer science student at the Massachusetts Institute of Technology, Latanya Sweeney, PhD, requested the data set and was able to re-identify the data, sending the governor of Massachusetts’ health records to his office. She later went on to show that 87% of people in the U.S. can be identified by only three unique pieces of information — their five-digit ZIP code, birthdate and gender.

More than 20 years later, the appropriate use and privacy of patient data is as much of a concern. Today, we’re not likely to see broad disclosures of individual data by the government, but large hospital systems use big data — including clinical, imaging, genomic and demographics — to drive healthcare innovations. To develop AI algorithms that have widespread applicability, organizations must share anonymized patient data. Radiology

practices are sometimes reluctant to share their data, in part because de-identification in imaging is difficult. Here’s a look at methods for helping radiologists protect patient privacy and what the ACR Data Science Institute® (DSI) is doing to advance solutions that enable data sharing for AI development.

## The Regulatory Environment

In the U.S., healthcare data is protected under the Health Insurance Portability and Accountability Act of 1996 (HIPAA). HIPAA covers Protected Health Information (PHI), which is defined as any piece of individually identifiable health information held by a covered entity transmitted or maintained in any form or medium. The HIPAA Privacy Rule also describes the circumstances under which PHI can be shared with third parties when de-identified.

HIPAA outlines two methods for de-identification:

- **The expert determination method**, which states that a person with appropriate knowledge of and experience with accepted statistical and scientific principles renders the information not individually identifiable. That person applies this principle and determines that the risk of re-identification using available information is very small, and then documents the methods and results to justify this determination.
- **The safe harbor method**, which requires the removal of 18 specific identifiers.<sup>1</sup>

**While several tools are available, few are 100% successful at de-identification, especially when dealing with large, heterogeneous data sets.**

This regulatory environment informs how radiologists representing the interests of their practices, their patients and their research subjects approach issues of privacy, consent, data ownership and the concerns of vulnerable populations when embarking on their own AI journey together with third parties.

### Special Considerations

Disclosures of research and innovation data often hinge on de-identifying images and related data, usually by the Safe Harbor method, but de-identification in imaging is notoriously difficult. De-identification of medical imaging requires addressing metadata found in DICOM files. While several tools are available, few are 100% successful at de-identification, especially when dealing with large, heterogeneous data sets. Even when the DICOM metadata is de-identified, there is a concern that identifying information might be “burned in” to images by modalities, in scanned reports or from associated processing software.

Any imaging of the face raises further concerns. Several open-source de-facing software applications are available; however, a review of six available de-face applications for brain MRIs found that the most successful application had only an 89% success rate. De-identification of radiology reports is also a challenge because they sometimes include PHI within their text.<sup>2</sup>

With the limitations of de-identification in medical imaging, there is a need for other methods of protecting data privacy. Differential privacy and federated learning are two methods being explored:

- **Differential privacy** is a mathematical definition of privacy based on cryptography, which publishes a pattern from a large data set so that an individual’s personal data is not distinguishable. It is a method that works best on large data sets. Because it answers queries approximately, it is useful in general statistics and pattern recognition, but has limited utility in answering specific questions.
- **Federated learning** independently trains a network on a population’s data and then reports all the independently trained models back to a centralized model.

Both approaches are promising but still face practical challenges, such as dealing with heterogeneity in distributed systems and maintaining performance considering increased computational overhead.

### How the ACR DSI Is Helping

The ACR DSI has been at the forefront of dealing with these challenges. Besides defining use cases and a dataset directory for

AI development, the ACR DSI provides practical tools in a data science toolkit that radiologists can use to develop their models through the ACR AI-LAB™ ([bit.ly/ACR\\_AI-Lab](https://bit.ly/ACR_AI-Lab)). The ACR DSI is also spearheading a collaborative, multi-institutional federated learning experiment ([bit.ly/AI-Lab\\_Federated\\_Learning](https://bit.ly/AI-Lab_Federated_Learning)) using a combination of central ACR servers and localized institutional datasets that are never shared with other partners.

The ACR has been addressing some of the stickiest issues associated with working with data. In 2019, the College created a data-sharing workgroup that identified five key elements within data sharing: informed consent, data standardization, contracts, valuation and privacy.<sup>3</sup> The workgroup proposed that a governance board might be necessary for developing a system for informed consent in data-sharing agreements, creating a uniform consent process and determining whether scenarios exist where sharing of patient data poses a low enough risk to the patient that informed consent would not be required.

### Ongoing Challenges and Opportunities

Despite progress, challenges to data sharing remain. HIPAA and other related regulations in the U.S. were codified well before the current AI environment took hold and are criticized both for not giving adequate protection for privacy and for being overly restrictive in a time when the benefits of AI in healthcare are limited.

While federated learning shows promise for model training and validation, it is in its early stages. Researchers and ethicists are still grappling with the best way to deal with the potential bias that using unrepresentative datasets introduces into AI models. These challenges define the opportunities for improvement and innovation in the responsible development of data-driven technologies and partnerships. **B**

By Rebecca Driessen, MD, diagnostic radiology resident, Emory University School of Medicine, and Nabile M. Safdar, MD, MPH, endowed professor and vice chair of informatics, in the department of radiology and imaging sciences at Emory University, and associate chief medical information officer, Emory Healthcare

#### ENDNOTES

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#### LEARN MORE ABOUT USING AI IN RADIOLOGY



DATA SCIENCE  
INSTITUTE  
AMERICAN COLLEGE OF RADIOLOGY

Explore use cases focusing on critical content for algorithm development, including value proposition, common data elements and output parameters. These use cases help radiologists and allied professionals by ensuring that AI tools provide needed information, can be efficiently implemented into daily workflow and have the potential to improve patient care. [Visit \[acrdsi.org/DSI-Services/Define-AI\]\(https://www.acrdsi.org/DSI-Services/Define-AI\) to learn more.](https://www.acrdsi.org/DSI-Services/Define-AI)





# Increase Annual Screening to Nip Lung Cancer in the Bud

Ella A. Kazerooni, MD, FACR, discusses the importance of LCS and the ACR Lung Cancer Screening Registry.

In this discussion, we dive into lung cancer screening (LCS) and the ACR® Lung Cancer Screening Registry (LCSR) (available at [bit.ly/ACR\\_LCSR](https://bit.ly/ACR_LCSR)) with Ella A. Kazerooni, MD, FACR, professor of radiology and internal medicine and associate chief clinical officer for diagnostics at the University of Michigan Medical Group. She is also the founding chair of the LCSR and the new chair of the ACR National Radiology Data Registry (NRDR®) Committee.

## What is the importance of LCS in the delivery of patient care?

Lung cancer has been the leading cause of cancer death in the U.S. among both men and women for over 30 years. To make an impact on cancer mortality in the U.S., it is imperative that we increase the uptake of LCS. Most people aren't aware that lung cancer kills more people each year than cancers of the breast, colon and prostate gland combined.

Fortunately, we have a screening test that works: low-dose chest CT. We are already seeing what a difference screening programs can make, with a stage shift in lung cancer over the last decade from late-stage cancers to earlier-stage cancers. This is happening because the early-stage cancers commonly found with screening have a five-year survival of 80% to 90%, compared to symptom-detected cancers where it's only 10% to 15%.<sup>1,2</sup>

In 2021, the U.S. Preventive Services Task Force changed its LCS recommendations to lower the starting age for screening from 55 to 50 and the smoking history requirements from 30 pack-years to 20 pack-years, which nearly doubles the eligible population for LCS from about 8 million up to over 14 million people. And, more importantly, it reaches a more diverse population, including Black Americans and women, who have a higher cancer risk at a younger age and with a less extensive smoking history.

It's also important to know that the National Committee for Quality Assurance is embarking on the development of an LCS Healthcare Effectiveness Data and Information Set (HEDIS) measure. Like the HEDIS measure for breast cancer screening, this will likely revolve around the percentage of patients eligible for LCS who are being screened, something that radiology practices can directly impact. HEDIS performance measures are designed to provide purchasers and consumers with the information they need for reliable comparison of health plan performance and cover many measures that impact public health.

## What is the LCSR and why is it an indispensable part of every quality and safety program?

The LCSR helps clinicians monitor and demonstrate the quality of LCS in their practices through detailed feedback reports, including peer and registry benchmarks. Because screening is performed on an asymptomatic population, there is an added responsibility for the medical community to ensure that risks and benefits are adequately measured and monitored. Contributing data to the LCSR not only helps clinicians improve their own quality of patient care, it also helps improve and refine LCS care for everyone at the national level.

As we were setting up the infrastructure for LCS at the ACR, one of the important things we wanted to do was learn lessons from prior cancer screening implementations, such as that for breast cancer. Because the fundamental foundation of all the ACR NRDR registries is quality improvement, we see the LCSR as a way for practices to enter their data about the population they are screening, including results, follow-ups and cancer diagnosis rates. This ensures they're rolling out LCS with attention to quality and by benchmarking themselves against other practices. They can see how they're performing, look for gaps in performance and engage in quality improvement work to change their screening practices for the better.

## Tell us about new initiatives to use LCSR data for quality improvement.

One of the things we've been working hard on for the LCSR is making it easier for practices to look at and use their data. We wanted to make the interface more user-friendly and provide tools

that can help practices do quality improvement (QI) projects using their own data. The dashboards have been significantly improved for ease of use, and we've started to use the format of key performance indicators where practices can focus attention. Importantly, the team of volunteers and ACR staff have developed the first batch of three practice QI project templates that take users step by step through their own data. The templates can help practices conduct gap analysis of their performance compared to the dashboard benchmarks. From there, they can go through a cycle of Plan-Do-Study-Act (PDSA) to improve their performance.

A key measure for which we have developed quality improvement templates this year is adherence to annual screening. To realize the benefit of screening, it's important that patients come back annually, but adherence to annual LCS is under 25%.<sup>3</sup> We need to do better if we're going to save lives using LCS. So we developed a project template where registry participants can look at their data, see how they're performing and go through actionable steps to identify patients they might target in trying to improve adherence to annual screening. By going through a PDSA cycle, they can then determine whether those tactics are making a difference — and then go through the PDSA cycle and check again. Each template has suggestions for who it might be important to include in a practice or facility when working on performance measures and outlines tactics it might be useful to implement.

The other two QI project templates for the LCSR are smoking cessation in the setting of LCS and radiation dose for LCS CT exams. Smoking cessation is the number one way to reduce cancer deaths, and we know that it can take eight or more quit attempts on average for a person to stop smoking. By providing information and connections to resources with each step in a screening journey, radiology practices play an important role in that quit journey. For radiation exposure, we use the low-dose chest CT technique for lung cancer screening, with just enough radiation exposure to get good-quality pictures of the lung tissue, with less importance to the noisier parts of the images that you might see in the body wall or soft tissues. Keeping the dose as low as possible for patients who may be screened annually for several decades of their lives is really important as a radiation safety measure.

In the NRDR Support Knowledge Base (available at [bit.ly/ACR\\_NRDR\\_SKB](https://bit.ly/ACR_NRDR_SKB)), participants can see these QI project templates as well as step-by-step instructions for how to use them to implement practice changes and analyze their data over time.

### What are the actionable steps that radiologists should take now to use LCSR data to improve quality and safety in their organizations?

Whether you are new to the registry or have been submitting data as far back as 2015 when the LCSR first opened, I would encourage you to log in to the registry and look at your data. We want to see active engagement and encourage participants to use some of the tools that we've created in the dashboard and the QI templates. The value of your data is looking at your performance and figuring out what you can do to bring better care to your patients. It's important to engage the right team of people in your practice, which might include a lead radiologist, CT technologist, front desk and scheduling staff, primary care physician advocates

for screening, someone from a local tobacco cessation program or with your state program, as well as the specialist who will be seeing patients who have an abnormal screening test result, such as a pulmonologist or thoracic surgeon.

### As the new chair of the NRDR Steering Committee, can you tell us what's new and next for NRDR?

I'm honored to be the new chair, and it's been wonderful to learn more about the history of each of the registries, what their goals are for the future and what challenges they are facing. Last spring, the prior NRDR Steering Committee chair, Margarita L. Zuley, MD, FACR, brought together NRDR registry chairs with the ACR registry and quality staff leadership at ACR headquarters, which was a great learning experience for all of us.

For me, one of the most important things is for practices to be able to understand how to use their data. Putting data into a registry is one thing, but once you have your data in a registry, you need to be able to understand how to look at your performance and do the important work of QI. We want to make the NRDR suite of registries highly user-friendly, so that radiologists and staff in their facilities who are contributing data can actually dig in and use their data.

### What advice do you have for radiologists who want to become more involved and engaged in QI initiatives?

The ACR has a wealth of opportunities for engagement, including serving on panels or committees that are helping develop these tools and making them better for all stakeholders. I used to find quality work daunting and wondered how I could make a difference as one person. But the more you ask, the more you learn — and soon you're ready to get started.

November is Lung Cancer Awareness Month, and in 2022 we had a lot of focused activities and increased awareness about the importance of accelerating quality LCS. The ACR, in collaboration with the National Lung Cancer Roundtable at the American Cancer Society, launched the first National Lung Cancer Screening Day on Nov. 12. There's no time like the present to learn more about LCS and to accelerate quality screening in your practices. Participating in the ACR LCSR is an important way to bring high-quality LCS to your patients. **B**

Interview by Linda Sowers, consulting editor, ACR

#### ENDNOTES

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# Pathway to FACR



Wondering where to get started in your journey to ACR Fellowship?

Fellowship in the ACR is one of the highest honors a member can achieve and recognizes a history of service to organized radiology/medicine, teaching, research or literature. This membership award is conferred by your colleagues in the ACR BOC. It seems like just yesterday that my family and I celebrated my FACR after attending the awesome convocation in Washington, D.C. The information below is to guide other members who want to attain this prestigious designation.

## Membership Eligibility

All post-training membership years are counted to meet the requirement of at least 10 cumulative membership years. Any lapse in continuing membership will delay the opportunity to apply for fellowship, but the years do not have to be sequential. FACR is a membership award; therefore, continued membership is advised when seeking this designation.

## Assess Your Current Pathway

As you are putting together your application, start with the Nomination Criteria chart (available at [bit.ly/FACR-nomination-criteria](https://bit.ly/FACR-nomination-criteria)). Columns are broken up by years of ACR membership. An eligible member may apply for this distinguished honor if at least one criterion is met from the applicable column. With criteria domains in service, teaching, research and literature, there are a variety of pathways for members to achieve this highly esteemed award. Military candidates or those with prior military service should also include a listing of military awards and specific military accomplishments in their CVs, as outlined in the Military Nomination Criteria ([bit.ly/FACR-military](https://bit.ly/FACR-military)).

## Strengthen Your FACR Candidacy

Early-career members can take professional steps toward the goal of fellowship. Volunteering on ACR commissions and committees allows connections to other professionals in the radiology or medical community, while networking promotes professional contacts and opens up new opportunities. Offer your willingness to serve with an email to [volunteers@acr.org](mailto:volunteers@acr.org).

An important entry to volunteering is your local ACR chapter. Attend your local chapter meetings and offer to serve on a committee in an elected or appointed role. Many chapters have volunteering opportunities listed on their websites.

If your interests are primarily research-related, pursue research opportunities with residents or non-radiologist colleagues in your workplace. Apply for research grants and participate in your local and institutional collaborative trials or local institutional review board. Also consider taking part in national research studies while further expanding your network.

In the workplace, volunteer for section, departmental and hospital committees. Consider volunteering for non-radiology

medical societies and community outreach to satisfy service criteria recommendations at various membership-year categories.

## Update Your CV

An important part of the fellowship application is your curriculum vitae. Consider updating your CV as your professional accomplishments occur or at least every six months. You will want to document accomplishments, such as committee assignments, publications and presentations, as well as research achievements. Include dates of achievement for both accuracy and context throughout your career.

## Seek Support From Chapter Leaders

Connect with your local chapter, especially the chapter fellowship chair, for mentoring support and CV review. This support can help you determine whether your current achievements are in sync with the criteria according to your membership years. Please visit [acr.org/chapters](https://acr.org/chapters) to identify your chapter's contact information.

Chapter leaders serve as the first application reviewers, so they are well versed in what a strong FACR application contains. Local insight gained from chapter leadership on FACR candidates is greatly appreciated by the ACR Committee on Fellowship Credentials (CFC), which serves as the second round of application reviewers. From there, CFC nominations are submitted to the BOC for approval.

To further extend networking, attend subspecialty meetings, chapter meetings and the annual ACR meeting as often as possible. This networking skill can be enhanced by connecting with peers, especially from your chapter, on current goals and meeting ACR Fellows who can serve as FACR application endorsers.

## Connect With ACR Fellows

The primary reason fellowship applications are not completed is the lack of at least two endorsement letters. In 2022, over 28% of the total FACR applications were not submitted, primarily due to not securing the required letters of recommendation. For these letters, candidates are tasked with identifying current ACR Fellows from their professional networking to attest to their achievements and professionalism with required endorsement letters for an FACR application. Stay connected with your colleagues between conferences to maintain relationships with those who may serve as your potential endorsers and possible career mentors.

## Get Help With Your Next Steps

If you are seeking guidance on your pathway to FACR, feel free to connect with FACR application staff, especially if you are a military or international member not supported with a chapter membership. Please reach out to [FACR@acr.org](mailto:FACR@acr.org) or visit [acr.org/FACR](https://acr.org/FACR) with any questions.

I wish you the best of luck in your pursuit to become a Fellow of the ACR. It will be a distinction that both you and your radiology peers will recognize and value. **B**

By Jay R. Parikh, MD, FACR  
Chair, ACR Committee on Fellowship Credentials



## What does winning the ACR's 2022 Radiology Leadership Institute (RLI) Emerging Leader Award mean to you?



“Success takes a village, and this was a way I could honor those countless mentors who have helped me along the way. I hope to pay it forward to future generations of radiologists. I am forever grateful for this distinction, and receiving this award has made me energized to do more and set my eyes on the next goal while continuing to work together with the radiology community to help continue advancing our field.”

Kirang Patel, MD, neuroradiology fellow, University of Texas Southwest Neuroradiology Fellowship Program

“While I am humbled to have received this award, I know that I stand on the shoulders of giants when it comes to those who have served before me and advanced the field of radiology. To me, winning an award is not about maintaining the status quo. It is about constantly challenging yourself and those around you to reach beyond 'good enough' and strive for excellence.”

Amina Farooq, MD, diagnostic radiology resident, Mather Hospital, Port Jefferson, N.Y.



“I feel a sense of responsibility to live up to the title of an emerging leader and to work even harder to serve what I consider the best specialty in medicine. Ultimately, winning this award is more a validation for my mentors and teachers in radiology and outside radiology who have made me who I am today. This award only emphasizes that I need to work to pay it forward to another lost student looking for their 'why.' Maybe one day they will be the next emerging leader in their field.”

Mohammed A. Ismail, DO, senior chief resident, Ohio State University Hospital



The RLI Emerging Leader Scholarship recognizes residents and fellows who have made a significant and noteworthy contribution to their institution and/or the field of radiology while also exhibiting the continued potential to be a future leader in the field. The 2023 application opened Jan. 23.

Visit [bit.ly/ACR-RLI-emerging-leaders](http://bit.ly/ACR-RLI-emerging-leaders) for more information.

models applied to pediatric patients, models predominantly trained on patients of one race and applied to patients of another) or models whose outputs can potentially harm patients in subgroups that were insufficiently represented in the training data.

### Using Bias to Mitigate Bias

Acknowledging the potential for unrecognized bias to adversely affect patients, intentional design accounting for bias presents an opportunity to mitigate bias in AI development. Directly mitigating bias by leveraging “equitable” bias involves oversampling data from underserved populations and/or groups shown to be negatively affected by social bias from previous AI use. Alternatively, “biased” AI tools can be selectively used in specific patient populations well-represented in the model’s training data set.

### Practical Steps to Address AI Bias

Paul Yi, MD, director of the University of Maryland Medical Intelligent Imaging Center, summarized additional practical areas where it is possible to mitigate AI bias:

- **Data level.** Report demographics, balance demographics and ensure accurate labels across subgroups.
- **Model level.** Leverage novel techniques, such as ensemble learning, which generates and combines

multiple models to solve problems, and vision transformer models, which treat input images as a series of patches and outperform convolutional neural networks in computational efficiency and accuracy.

- **Clinical deployment.** Incorporate real-time surveillance to monitor for unexpected model performance that might be secondary to underlying biases.

Radiology professionals are increasingly recognizing the risks posed by data and model drift, as real-time performance of AI tools often deteriorates over time due to changes in patient demographics, imaging protocols, imaging hardware and evolving prevalence of disease, among other factors. Active surveillance leveraging business intelligence solutions can allow early intervention to prevent premature clinical decisions based on erroneous AI results.

Ultimately, accelerating clinical deployment of AI tools can lead to increased risks of exposing patients to biases that perpetuate healthcare disparities. However, a deliberate, thoughtful approach to mitigate the potential downstream adverse effects on patient care from unaddressed sources of bias can establish best practices to guide ethical, effective use of imaging AI in practice. **B**

By Ali Tejani, diagnostic radiology resident, University of Texas Southwestern Medical Center

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#### CONTACT US

To contact a member of the *ACR Bulletin* staff, email [bulletin@acr.org](mailto:bulletin@acr.org).  
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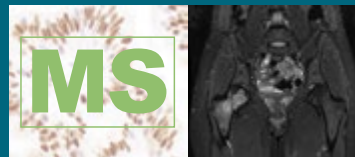
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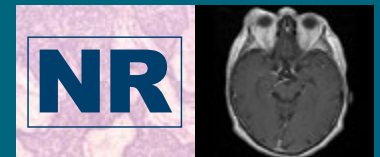
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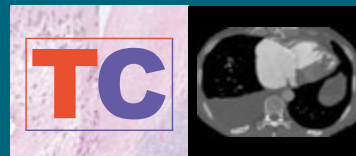
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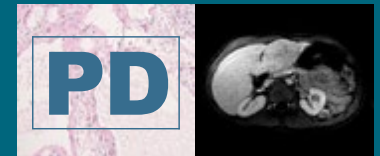
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