

Bulletin



The Way Ahead

**SCREENING
SPECIAL ISSUE**



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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.



The Strategic Path Forward

The ACR is facing the changing tides of healthcare with a new plan to help guide the way.

Strategic planning has been defined as the process by which a company or corporation determines its priorities as a means to direct decisions and resource allocation. Many of us have been involved in strategic planning exercises for our practices, departments, or health systems. They can vary in their depth, effectiveness, and even longevity. Unfortunately, all too often they rarely make it off the shelf once they are completed.

The ACR's Strategic Plan has been the foundation by which we function as an organization. The current version was developed in 2014 and revised in 2017 (read the current Strategic Plan at acr.org/About-ACR). The Board and staff have used the document as a reference for almost every decision that they make. It has served us well in multiple aspects, including redirecting discussions towards the agreed-upon goals and priorities of the College.

We embarked on revisiting our Strategic Plan in early 2020. Unfortunately, due to the COVID-19 pandemic, the process was deferred. However, we have resurrected the effort under the leadership of Alexander M. Norbash, MD, MS, FACR, Frank J. Lexa, MD, MBA, FACR, and ACR Vice President of Strategic Planning and Business Excellence Pamela Mechler, MS, CAE, who is guiding us through this important exercise. We are grateful to Drs. Norbash and Lexa for volunteering both their expertise and their time, despite having rotated off the BOC.

We elected to engage an outside facilitator to help us reach our goals. LBL Strategies has provided us with a framework to rigorously research, develop, and implement our plan. The first phase has been environmental assessment. We set a goal to cast a wide net with input from both internal and external stakeholders. Special emphasis was placed on reaching out to early-career radiologists for their thoughts and perspectives — given that they have the longest investment in the direction of the profession. An analysis of the macroenvironment included looking at environmental, technological, and economic forces, along with sociocultural, political, and regulatory trends. Considerations for the microenvironment included such factors as members/stakeholders/customers, competitors, other radiology societies, state of the industry/healthcare sector, patients, and healthcare systems.

Our environmental assessment analysis was especially rigorous with input from more than 1,000 ACR members and other key stakeholders. It included a

comprehensive survey to all members and non-members in our database (adding up to more than 39,000 recipients), with responses received from 842 members and 137 non-members.

Interviews, a visioning session, scenario-based planning, and focus groups involved more than 90 ACR members, 58 ACR staff, and 52 external stakeholders — including ten leaders from other societies, nine industry representatives, and six patient advocates.

The next phase of our process will be strategy formulation, which will include determining our strategic direction and establishing strategic goals. We are aiming to finalize the formalized portion of our Strategic Plan at the ACR's October Board meeting. We will be sure to communicate the results to our members and other stakeholders via the *Bulletin* and other communications. However, the work does not stop there. An important analysis will involve aligning the resources we need to operationalize the plan.

The strategic management performance system we are implementing is an ongoing loop for feedback and process to drive the ACR forward in achieving the desired future goals.

The last phase will be execution. The Strategic Plan and strategy map provide a roadmap to ensure there is alignment in the organization and a framework to guide implementation that will determine our success.

Most importantly, we are committed to self-evaluation and performance management. We must be constantly measuring performance and outcomes. We have to continue learning and adapting as the environment changes and we realize the results of our efforts. The strategic management performance system we are implementing is an ongoing loop for feedback and process to drive the ACR forward in achieving the desired future goals.

The College is dedicated to moving ahead in a purposeful and intentional direction to provide value for our members and leadership for our profession. This new Strategic Plan will provide our collective focus as we invest ACR resources, staff, and volunteerism to advance the impact of medical imaging and intervention in the healthcare of our patients. **B**



Follow the 2021 strategic planning work at acr.org/commissions-committees.



Disputed EHR Dose Levels Could Keep Patients From Getting Necessary Imaging Exams

Expert medical organizations caution that evidence-based ordering of medically necessary imaging exams should not be denied due to widely disagreed-upon radiation dose levels tracked in some EHRs. In a joint statement, the ACR, the American Association of Physicists in Medicine, and the Health Physics Society urge providers to optimize imaging use with widely available evidence-based tools and base orders on clinical grounds — including prior imaging results. The joint statement is endorsed by the RSNA.

“Dose information tracked in EHRs is not standardized — or even universally accepted,” says Mahadevappa Mahesh, PhD, MS, FACR, chair of the ACR Commission on Medical Physics. “Imaging history is useful to doctors as they work with patients to determine the best care, but still-evolving dose estimates should not be used to deny patients’ imaging exams prescribed by their doctors.”

Imaging exams are linked to greater life expectancy and declines in mortality rates. Scans reduce invasive surgeries, unnecessary hospital admissions, and length of hospital stays. Arbitrary imaging limits based on non-clinical factors, including dose quantities not broadly accepted by radiation safety experts, may lead to unintended consequences and could negatively impact patient care.

Read the joint statement and accompanying FAQ document at acr.org/EHR-Statement.



JACR Health Equity Special Issue

The November special issue of the *JACR*[®] focuses on health equity — now and into the future. Issue editors Ruth C. Carlos, MD, MS, FACR, Melissa A. Davis, MD, MBA, and Efrén J. Flores, MD, bring together case studies, commentary, and the latest research on diversity, equity, and inclusion.

This issue is also freely available! Find out what you need to know about health equity. Then share an article with a colleague outside of radiology to spread the word and kickoff a conversation about creating a more equitable health system for patients everywhere.

Read the issue at [JACR.org](https://acr.org) on Nov. 1.

Radiology Health Equity Coalition Moves Forward



Healthcare disparities and inequities in the U.S. have been well-documented for decades. At the national level, the CDC and others have examined disparities in healthcare utilization, behavioral risk factors for disease, environmental hazards, social determinants of health, and morbidity and mortality. More recently, as COVID-19 has disproportionately affected some racial and ethnic minority groups, the issue of disparities and healthcare inequities has taken sharp focus, demanding both attention and action.

The vision and missions of radiology societies focus on continually improving patient care. Medical imaging impacts most patients at some point in their care journey, and radiology professionals have the potential to be unifying change agents across an inequitable healthcare system. Radiologists can and should play a leadership role in ensuring high-quality imaging care for all people, in screening, diagnosis, treatment planning and monitoring, and image-guided and interventional radiology treatments.

The Radiology Health Equity Coalition is focusing on concrete steps that individual radiologic professionals, imaging practices, and healthcare institutions can take to improve imaging health equity. We are actively seeking input from the radiology community and other groups in organized medicine as we establish our goals, focused on:

- Best practices for health equity initiatives
- Volunteer member engagement in health equity-related work in their communities

To commit to act, visit acr.org/Health-Equity.

For more information, email the Radiology Health Equity Coalition at rhec@acr.org.

“It is well-documented that diverse teams perform better, with the caveat that the members of those teams must be intentionally empowered to participate effectively. Yet too often, policies are developed and decisions made by teams that are anything but diverse.”

ACR IMMEDIATE PAST PRESIDENT
GERALDINE B. MCGINTY, MD, MBA, FACR



IMAGING 3.0: Introducing Medical Students to Radiology

At the University of Chicago, radiologists have developed a Radiology Expo to introduce medical students to the specialty. The event went virtual in 2020, expanding to include students from across the country and around the world. The Radiology Expo includes hands-on learning activities, such as using ultrasound on models, to give participants a clear understanding of what it means to be a radiologist. Medical students who have attended the expo say that it has increased their understanding of the field and some say it has even encouraged them to pursue radiology careers.

“The expo was a stepping-stone,” says Annie N. Dinh, MD, a second-year radiology resident who decided to specialize in radiology after attending the Radiology Expo. “I had no interest in radiology before I attended the event. I was just going on a trip with my friends. Look at me now: I’m on my way to becoming a radiologist. The expo empowered me as a female and encouraged me down the path that will challenge and encourage me. For me, it was the opportunity that changed my life.”

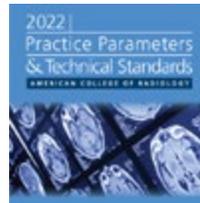
Read the case study at bit.ly/RadiologyExpo.



Help Move the Needle on Health Policy Research

The ACR Foundation is seeking donations to support new initiatives at the Harvey L. Neiman Health Policy Institute® (NHPI). The first goal is funding for access to national Medicaid claims data that will enable policy research on lower socioeconomic status groups and studies on health equity. The second initiative is a new NHPI grants program to facilitate novel research that paves the way for evidence-based health policy in radiology toward effective and efficient patient care.

Donate to these campaigns at bit.ly/Donate-NHPI.

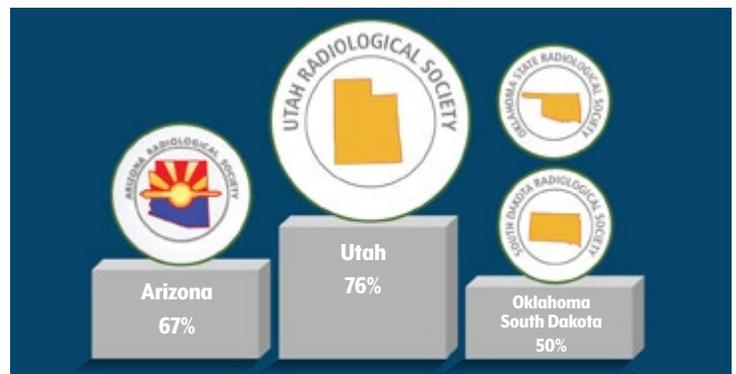


Improving the Quality of Radiologic Care

The final two field reviews for the 2022 ACR Practice Parameters & Technical Standards are still open. Your feedback not only helps improve the quality of radiologic care for your patients, but also supports the ACR core values of leadership, integrity, quality, and innovation.

Field review is an opportunity for all members to highlight both editorial and substantive concerns for consideration during ACR 2022. Members are encouraged to review the documents and provide comments now to ensure the drafts presented to the Council are as complete as possible.

Comment early at acr.org/PPTS-Field-Review.



Celebrating ACR Chapters

Chapters are an essential part of your membership benefits. They provide local advocacy as well as opportunities to network, volunteer, and earn your FACR credential. Every year, our chapters work to reach out to remind lapsed members to renew. This year, Utah lead the charge by renewing more than 76% of their lapsed members.

1st Place: Utah Radiological Society, with 76% renewed.

2nd Place: Arizona Radiological Society, with 67% renewed.

3rd Place: Oklahoma State Radiological Society and South Dakota Radiological Society, both with 50% renewed.

Thank you to everyone who participated in this year’s challenge.

When Screening Meets AI

As the first screening-focused tools enter practice, radiologists are on the frontlines ensuring AI delivers on its promise of accurate, efficient imaging.

Screening programs (like all healthcare services) not only have to prove medical effectiveness, but also cost-effectiveness. The test itself must be relatively low-cost if it is to be deployed on a large scale. False positives must be minimized not only to avoid additional costs of diagnostic workup, but also to prevent health risks of unnecessary interventions and the psychological strain induced by positive test results.

Several imaging-based screening tests exist currently, such as breast cancer screening with mammography, lung cancer screening with chest CT, and colon cancer screening with CT colonography. The convoluted reimbursement for these three is a case study in the challenges of payment policy for screening tests. Screening mammography and lung cancer screening are covered by both Medicare and commercial payers. CT colonography is covered by the major commercial payers but not Medicare. A complete discussion of the economic evaluation of screening tests is beyond the scope of this article. However, payment policy is an important component of screening programs as reimbursement is necessary to incentivize adoption. In addition, lack of payment policy is a known barrier to screening implementation.

To detect diseases earlier, we need to predict who is going to be diagnosed in the future. The prevalence of a disease is often more important for costs and outcome of a screening program than the test validity. Current screening programs are not suitable for early detection of rare diseases with low prevalence. This concept is explained by Bayes' Theorem, which predicts potentially higher-than-tolerable false positive rates for disease detection in the setting of rare diseases, even when using a screening test with high sensitivity and specificity. The complex task of forecasting risk could be bolstered by AI tools, which have potential to refine screening guidelines based on a person's level of risk for developing a certain type of cancer. A shift from mass screening to selective screening could alter the cost-benefit equation to make screening feasible for cancers of the bladder, pancreas,

kidney, and others. AI's potential ability to decrease the cost of screening tests (through technical efficiencies and targeted risk modeling) and increase the quality of screening tests (through reduction in overdiagnosis) increases the overall value of screening in general and could negate many of the criticisms of current screening.

One example of an AI tool targeting population screening is a vertebral compression fracture algorithm. The algorithm uses deep learning to identify incidental osteoporotic compression fractures on chest CT performed for other reasons. This information could be used to assist healthcare providers in accurately identifying patients at risk and placing them under supervision or in fracture-prevention programs to reduce the risks of subsequent osteoporotic fractures. Unlike many of the currently-marketed AI tools focused on triage, this type of algorithm shifts emphasis to population health in ways that potentially foreshadow the future of screening.

CMS recently approved a Category III CPT® code for the vertebral compression fracture AI tool, largely predicated on the potential impact on population health. It is important to note that Category III codes are a set of temporary codes assigned to emerging technologies, services, and procedures. Unlike Category I codes, these codes are typically not reimbursed by Medicare or commercial payers. The lack of payment is certainly tied to the currently sparse data for true outcome advantages of using the tool, as well as well-defined cost savings. Nonetheless, this is the first AI code specific to radiology and provides a glimpse of how this type of technology may fit into the fee-for-service system.

With or without AI, screening tools cannot increase downstream costs in healthcare. Not only must false positives be minimized, but there must also be safeguards in place against fraud and abuse. The potential for this type of abuse is arguably greater with AI-augmented screening, as larger populations can be screened in less time. Widespread screening tools used by companies to market a product or procedure to a targeted population would present an ethical dilemma, as well as an economic one. AI screening tools that serve as hypersensitive detection algorithms may find "disease" that would have otherwise never impacted a patient's longevity or quality of life. In screening, as in all of our profession, we must strive to provide all of the care that is necessary and none that is not. **B**

Dr. Golding would like to acknowledge the role of Gregory N. Nicola, MD, FACR, in the development of this column.



Lauren P. Golding, MD
ACR RUC Advisor
Guest Columnist



The Way Ahead

Prolonged delays in imaging due to the pandemic are threatening to increase existing health disparities, but radiologists can help move the needle forward.

As the world surpasses 18 months since the pandemic began (at the time of this writing), mounting evidence suggests that COVID-19 will be an endemic virus that will continue to shape healthcare delivery for the foreseeable future. In this context, healthcare delivery along the cancer care continuum has suffered, especially for underserved and underrepresented populations. Studies from the U.S. and Europe have shown that cancer screening dropped dramatically during the pandemic. These missed screenings may also worsen preexisting disparities.¹

In March of this year, the U.S. Preventive Services Task Force (USPSTF) updated its lung cancer screening guidelines to widen screening eligibility for individuals who are 50 to 80 years of age and have a 20 pack-years or more smoking history, who either currently smoke or have quit in the last 15 years. This update is projected to double the number of individuals eligible for screening and helps to reach Black patients who have a higher risk of lung cancer at a younger age and with a lower smoking history. The new guidelines aim to help reduce disparities in eligibility for screening.²

It is also well-known that Black patients fare worse in multiple phases of the colorectal cancer continuum — they are less likely to be screened with colonoscopy, are more likely to present with late-disease stages, and have lower 5-year rates of survival following

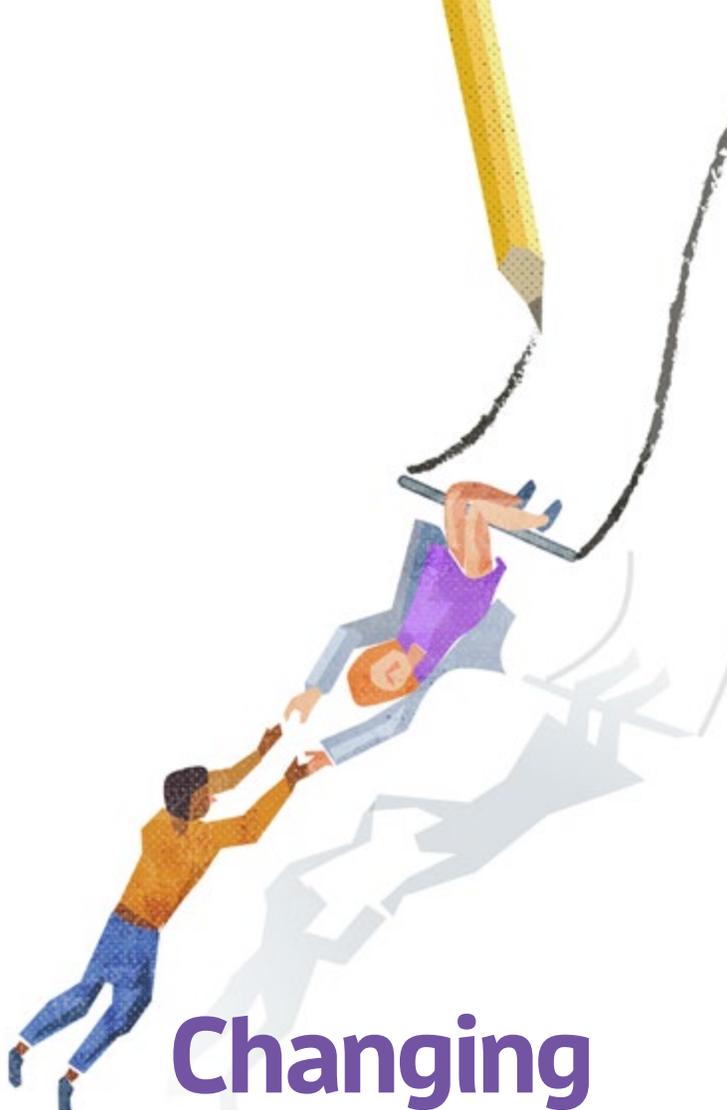
a diagnosis, despite adjustments for disease stage at presentation.³ That's why the new USPSTF recommendation for adults ages 45–49 means that millions more Americans will receive private insurance coverage for this vital screening.⁴

There are also disparities in LGBTQIA+ communities that have to be addressed to improve cancer outcomes. These disparities have been attributed to lack of access, lack of insurance, and other barriers to care in this population.⁵

The COVID-19 pandemic's aftershocks on healthcare will be long-lasting and worldwide. Although its challenges have forced a reckoning in how we provide care, the pandemic also provides an unparalleled opportunity to reorganize and address the existing disparities. To do so, we must focus on just access to high-quality care and access to screening, both of which are necessary to achieve health equity. The College is urging members to get involved and take on leadership roles in screening programs and outreach efforts. The pages of this special issue of the *Bulletin* take us through exactly how we, as radiologists, can lead the way. **B**

By Rebecca L. Seidel, MD, associate professor of radiology and imaging Sciences at Emory University School of Medicine and chair of the Bulletin Advisory Group

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



Changing the Storyline

Radiologists can rewrite the existing narrative on health disparities by reaching out to underserved communities about the lifesaving benefits of CTC.

As the third most common and second deadliest cancer in the U.S., colorectal cancer (CRC) remains one of the most preventable cancers by appropriate screening.¹ Because CRC starts from an adenomatous polyp that develops over a period of years into a cancer, this extended timeframe provides an ideal window of opportunity for detection, removal, and prevention. Despite this, nearly one-third of eligible candidates remain unscreened.² As the recommended age to start CRC screening has been lowered to age 45, that percentage may increase.³

As unfortunate as these numbers are, they're even worse when we zoom in on minorities in the U.S. For example, the incidence of CRC in Black Americans is 20% higher than White Americans, and the mortality rate from CRC is 40% higher.⁴ CRC is 40% more common in those with a lower socioeconomic status than those of a higher socioeconomic status. Forty-four percent of this

racial healthcare disparity is attributed to differences in screening rates, according to the American Cancer Society.⁵ This is one healthcare disparity that radiologists can work to improve through promoting increased uptake of CRC screening within minority communities.

The most prevalent CRC screening method currently in use is called optical colonoscopy (OC). Although OC is the most well-known CRC screening exam, it presents significant challenges for uptake among minority groups. For instance, the use of anesthesia requires a driver post-procedure. Undergoing OC also often requires patients to take a day off from work, which can be a challenge for those in underserved populations. The anesthesia involved with OC also evokes fear in some cultural and ethnic minority groups.⁶ Furthermore, access to OC continues to be limited by the number of available gastroenterologists to perform the exam and the lower number of gastroenterologist practices in locations convenient for minority screening candidates.⁷

By comparison, although less widely used than OC, CT colonography (CTC) presents fewer barriers to adoption in underserved communities. Despite the recommendations of the U.S. Preventive Services Task Force (USPSTF) to make CTC screening widely available to all eligible screening candidates, CMS does not currently reimburse for screening CTC unless the patient meets very specific criteria.⁸ In practice, however, this “one-size-fits-all” approach does not facilitate access to minority screening candidates and contributes to the healthcare disparities we are trying to overcome in the medical community.

Although CTC still requires bowel prep, CTC helps overcome many barriers to resistance. First, CTC does not require anesthesia. Second, the procedure takes approximately 20 minutes to perform, and screening candidates can resume normal activities or work immediately afterwards. Plus, CT scanners are widely available to a variety of patients regardless of zip code. For these reasons, CTC has been shown to increase screening percentages for some groups who are offered this option.⁶⁻⁸ Establishing a CTC program to optimize access has realistic potential to impact both CRC incidence and mortality disparities.

Optimizing the EHR

One tool that radiologists can enlist in their effort to improve access to CRC screening is the EHR system. Results from a 2017 survey indicated that 99% of hospitals and healthcare systems use EHRs.⁹ Many EHR systems can be programmed to identify patients who have not been screened for colon cancer when they present to a healthcare provider. Once identified, communication tools can educate and encourage minority screening candidates to schedule CRC screening via CTC.

Similarly, patient letters, email, or electronic patient portal messages have been used with some success in reaching minority breast cancer screening candidates.¹⁰ Building on this success, many healthcare systems are now consolidating these communication channels into centralized systems for health maintenance. The use of automated reminders to “nudge” physicians to order timely CRC

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Bringing Patients In

The updated USPSTF guidelines are a win to reach people at high risk for lung cancer with CT screening, even as the continued pandemic discourages some from seeking healthcare.

“Lung cancer screening (LCS) is in a transition period right now,” says Debra S. Dyer, MD, FACP, chair of the department of radiology at National Jewish Health in Denver and chair of the ACR’s LCS 2.0 Steering Committee. “We have opportunities now because of the new eligibility guidelines, but also concerns about a resurgence of COVID-19 — which really halted our momentum just as we were starting to take off in early 2020.”

Earlier this year, the U.S. Preventive Services Task Force (USPSTF) updated their LCS guidelines to broaden LCS eligibility to individuals who are 50 to 80 years of age and who have a 20 pack-years or more smoking history. These guidelines apply to people who currently smoke or who have quit smoking in the past 15 years. The previous USPSTF eligibility age range

was 55 to 80 years and 30-pack years. A pack year is calculated by multiplying the number of packs of cigarettes smoked per day by the number of years the person has smoked ([learn more about the new guidelines at \[bit.ly/screening-guidance\]\(https://bit.ly/screening-guidance\)](#)).¹

The change to the guidelines doubles the eligible population, and private insurers and groups, such as the American Academy of Family Physicians, are adopting and supporting the new guidelines. The USPSTF update may also help address healthcare disparities by reaching more Black patients who have a higher risk of lung cancer at a younger age and with a lower smoking history. A return to higher screening numbers, however, is still challenging, Dyer says. “This is especially the case for patients with no primary care provider (PCP) and those who are reluctant to return to screening because of COVID-19 safety concerns,” she says.

Returning Rates

“We have concerns around the resurgence of COVID-19 this year and how it might impact screening volume,” Dyer says. “Fortunately, I have not encountered any resistance from patients to come in for screening or follow-up care — which was not the case last year. We are excited about the opportunities the USPSTF recommendations present.”

Expanded eligibility is a huge outcome of the updated guidelines, but there is still work to be done. “Here in Colorado, we are very pleased that our state Medicaid program was one of the first in the country to adopt the new guidelines,” she notes. Medicaid is a bit more flexible and nimble than Medicare, Dyer says. To that issue, the ACR and other physician groups are currently in talks with CMS, urging officials to apply the guidelines to Medicare patients and make LCS a covered benefit. The ACR has also asked the country’s largest private insurers to make changes to their plans reflecting the new guidelines.

“We are discouraging some of the current Medicare coverage requirements when it comes to screening, and optimistic that the talks are going well,” Dyer says. According to Dyer, the requirements mean that Medicare patients must go through a shared decision-making visit with their PCP before they can get a CT for early detection.

Some people do not have PCPs, Dyer points out. That’s a challenge for the overall healthcare system, she says. Optimizing opportunities — such as starting a LCS conversation when a patient comes in for screening mammography — is critical. “Those patients are already aware of the importance of screening and may be more receptive to a discussion about LCS and smoking cessation programs (if applicable),” Dyer says.

Screening Early

“One of the things I have been most frustrated by in my career is the lack of hope among lung cancer patients and their providers,” 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. “The outcomes for lung cancer, really until the last five years or so, have been pretty dismal.”

Traditionally, lung cancer has been caught through symptomatic and incidental pathways, Gieske says. “Now we have a mechanism to go after it — to screen people early just like we have done with breast and colon cancer,” he says. If lung cancer

is detected in stage 1, the literature suggests a 70% to more than 90% chance of curing the cancer through surgery, chemotherapy, or immunotherapy intervention, Gieske says.²

“We are on track to roll out and follow the USPSTF 2021 recommendations by January of 2022,” Gieske says. Promoting the significance of LCS and the expanded eligibility pool can only be accomplished through better communication with potential patients and their providers. “It is incumbent upon providers to, at some point, tell their patients that this quick and painless CT scan exists,” he says.

“You also need public service announcements and marketing — and partnering with like-minded organizations helps,” Gieske says. His group is involved with the Kentucky Health Collaborative, a state-based healthcare initiative, for LCS outreach and advocacy. Radiologists need to use the resources available to them now through collaboration with other organizations, Gieske says.

Utilizing Resources

“We have created a number of educational tools, webinars series, and podcasts on LCS,” Dyer says, and the ACR Education Center recently updated its online screening course to include Lung-RADS®. The ACR Lung Cancer Screening (LCS) Registry® is also a great resource. “In my role at ACR, I think the best thing the LCS Steering Committee, and the College as a whole, can do is help provide radiologists with the tools they need to feel comfortable with recommending and scanning for lung cancer as eligibility expands,” Dyer says.

Choosing the right language is perhaps a less-considered way to facilitate LCS and care across the lung cancer continuum, says Ella A. Kazerooni, MD, MS, FACR, chair of the ACR Lung-RADS Committee and LCS Registry. The International Association for the Study of Lung Cancer recently put together a language guide on how to change one’s language to help eliminate blame and end the stigma associated with lung cancer towards one of healing and hope.

“A person is not defined by their condition,” Kazerooni says. “We need person-first, non-blaming language that doesn’t describe people as something — a smoker, for example, is an individual who smokes. A lung cancer patient is a patient with lung cancer. This type of language is catching on, Kazerooni says, and lets patients know that they are patients first. “Person-first language can translate into patients thinking of LCS as just another screening test — without the stigma of smoking as the catalyst,” she says.

Connecting Roles

Just as patients need to understand what LCS actually is, providers too need education on the LCS process, Kazerooni says. “We’ve got to educate and develop systems to help our PCPs identify eligible patients,” she says. “Usually, an IT department can help with that by tracking at-risk patients. Unfortunately, pack-years are not readily available in most EMRs to do this easily yet. PCPs must also implement the shared decision-making process, and discuss smoking cessation too.”

LCS is not just a CT scan, Kazerooni says. “It’s a process. Another component to this is educating your hospital or practice administrators,” Kazerooni says. “Take the numbers to them on your local population at risk for lung cancer, and educate them on

the process and the resources needed to support your program. It’s not only the right thing to do for patients who can be saved from a lung cancer death, but like breast cancer screening, it makes sense financially as well.”

Beyond radiologists and PCPs, connecting with the community is vital to the success of an LCS program, she says. “There may be a lung cancer survivorship group in your community, for example, or an advocacy group through organizations like the GO2 Foundation for Lung Cancer, the American Cancer Society, or the American Lung Association that works with state and local health departments to promote screening,” Kazerooni says.

Beyond radiologists and PCPs, connecting with the community is vital to the success of an LCS program. “There may be a lung cancer survivorship group in the community, for example, and the Lung Cancer Alliance works with state and local governments on promoting screening,” Kazerooni says.

Finding Momentum

Many imaging centers and radiology departments have recovered somewhat from the outbreak of COVID-19 in the spring of 2020, ending the year with no growth in LCS over 2019 nationally, Kazerooni says. “Now we’re seeing the trajectory for the number of screenings slowly rising,” she says. “We are hopeful it will continue to grow through the end of the year.”

“Over the past year we have seen about 85% to 90% of our patients coming back,” Dyer says. That is in no small part thanks to navigators, she adds. Frontline navigators and program coordinators help manage the care continuum for LCS. “They talk to patients on the phone, reassure them that we have safety protocols in place, and work to ensure follow-up care,” says Dyer.

“A lot of our approach to lung cancer centers around the way in which we deal with patients — and really with one another as providers and comrades,” Gieske says. “We have this routine scan available to us for early detection. It is no longer a hopeless situation, and we are starting to catch this earlier — the same as breast or colon cancer.”

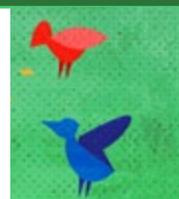
“We have been successful in building partnerships to get the word out,” Gieske says. “Our program at St. Elizabeth Medical Center has been collecting solid, homegrown data. When your program is successful, you minimize patient risk and you cause a stage shift that greatly increases survivability.”

“If we do our due diligence, encourage vaccination, and maintain a safe environment for staff and patients, I’m optimistic that we can keep patients coming in for screening,” Dyer says. Last year, for the patients who came in for LCS, Dyer’s group found only one case of lung cancer that was not stage 1. “Screening works,” she says, “and you will find it leads to some very grateful patients.” **B**

By Chad Hudnall, senior writer, ACR Press

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

One thing ACR members can do is to ensure that all of their LCS facilities are listed within the new ACR LCS Locator Tool. The locator tool allows patients and their families to quickly find a screening location by entering their zip code. Learn more at acr.org/LCS-Locator.





Improving Access

RAD-AID has partnered with ACR on many initiatives throughout its 13-year history, including support for RAD-AID's annual global health radiology conference, collaborations in Haiti and Nepal, projects for radiology residents at RAD-AID's international sites, and the recent collaborative distribution of ACR's BI-RADS® Atlas to RAD-AID's partner low-resource breast imaging centers in low- and middle-income countries.

When RAD-AID launched the Women's Health Access Program in the U.S. in 2020, Ian A. Weissman, DO, FACR, chair of the ACR Commission on Patient- and Family-Centered Care (PFCC) Outreach Committee and president-elect of the Wisconsin Radiological Society, reached out to inquire about a potential collaboration between the two groups — as they share similar objectives of reducing healthcare disparities among people of color in the U.S.

Patient communication and navigation are essential factors in addressing morbidity and mortality from breast and cervical cancers. One of RAD-AID's key strategies for capacity-building in underserved areas is to bridge patient navigation, education, and equipment resources. Navigation means directly helping patients

RAD-AID International and the ACR are partnering to eliminate social and structural barriers that lead to health disparities in underserved communities.

to understand care options and find care providers to optimize access, follow-up, and care delivery. Navigation also addresses key social determinants of health, which are integral to health disparities. One way to improve patient access is to advance patient satisfaction and the diversity of providers.

Addressing Disparities

The RAD-AID USA Women's Health Access Program, in partnership with Hologic, the Black Women's Health Imperative, and the ACR PFCC Outreach Committee, seeks to combat existing health disparities. John R. Scheel, MD, MPH, PhD, a breast imaging

radiologist at the University of Washington (UW) and director of the RAD-AID USA Women's Health Access Program, leads this effort, along with Mary W. Wetherall, RN, director of nursing, and Olive Peart, MS, RT(R)(M), program manager of mammography technologists. The initiative will deliver multidisciplinary healthcare to underserved communities. Areas of focus include public outreach, nursing and community navigation, breast and cervical cancer screening, and other medical services for people of color, says Scheel. Sites will be located in cities such as

Washington, D.C., Seattle, Denver, Phoenix, Chicago, Philadelphia, and New York, as well as more rural regions of Georgia and Alabama.

Partnerships among diverse individuals are necessary to eliminate health disparities, notes Scheel. “By including participants with different backgrounds, we’ll be able to identify gaps in our own knowledge and strategy,” he says. “One of the reasons I think we’ll be successful is that we’re involving patient populations, providers, nurses, RTs, and other patient- and back-facing staff across the continuum of care. We need everyone.”

This approach is one of the reasons the ACR PFCC Outreach Committee is excited about the collaboration. “Our committee members bring their areas of expertise and unique life experiences to this initiative,” says Weissman. “We aim to use our different talents to combat health disparities.”

“Our committee members bring their areas of expertise and unique life experiences to this initiative. We aim to use our different talents to combat health disparities.”

- Ian A. Weissman, DO, FACR

Creating Effective Communication

Patient communication is a central component of the project, says Scheel. “One of the big things we’re working on is developing communication, education, and results letters for mammography, as well as appointment reminders,” he says. For these communications to be successful in modifying health behavior, he says, they need to be culturally appropriate and written using words that people of all levels of education and fluency in English can understand. As was necessary for the UW project, outreach needs to incorporate diverse viewpoints and beliefs — as well as the misinformation that already exists in communities. “Many patients we’ve spoken to believe that if breast cancer doesn’t run in their family, they don’t need to worry about it — or they only need one mammogram over the course of their lifetime,” says Scheel. RAD-AID volunteer, Christine B. Ormsby, MD, leads the patient communication work group and is assisted by RAD-AID and PFCC Outreach Committee members.

“Outreach will also need to be educationally appropriate,” explains Weissman. “Most medical communication is written at a 12th-grade reading level, although it should be targeted more toward a third-grade level for increased comprehension. One of our goals will be figuring out how to clarify the language in the radiology reports to empower patients to more fully participate in their care.”

The ACR PFCC Outreach Committee will not only be working on communication, says Weissman. “A lot of the committee members actually reside in areas where RAD-AID International is setting up program sites,” he says, “so we’ll be on the ground working with the patients.”

Producing Results

Improving communication and access to underserved communities are only two of the initiative’s many goals. Ultimately, its overarching aim is to address health inequity by providing a model that can be used to address other health problems. “We want to serve as an example that promotes policy change,” says Scheel. “To really improve population health, we need to show a cost-effective solution such as ours exists.”

Weissman agrees. “Patients can only advocate for themselves so much,” he says. “Our goal is to remove the obstacles in their way toward the end result of improving their care. Systemic change is also key to improving outcomes and equity in healthcare. We’re confident the RAD-AID USA Women’s Health Access Program will be a part of that change by demonstrating tangible results in these underserved communities.”

Developing the Strategy

This program is founded on the premise that global health includes local community health. By addressing the upstream sources of health disparities, such as systemic racism and education, RAD-AID USA hopes to include people previously excluded from the healthcare system and, thus, improve population health. This means that RAD-AID’s work applies not just to the low- and middle-income countries, but also to communities in high-income countries that face critical barriers to health equity.

Early in Scheel’s career at UW and the Fred Hutchinson Cancer Research Center, he worked on the iFortaleza Latina! program. This program used a multi-level intervention that included patient promoters/navigators at primary care centers and a mammography van to improve breast cancer screening rates in Seattle’s underserved Latinx population. When the van was sent out into the community, program leaders noticed many Latinx patients were reluctant to use these mammography services. He worked with a team to determine why the project was not as initially successful as they had hoped. They discovered many people in the community believed that because the mammography machines were mobile, they were not as high-quality as machines at a hospital. “We assumed addressing awareness, transportation, and cost would fix access issues and increase participation in screening,” explains Scheel. “However, we also needed to provide culturally-appropriate communication, specific to mobile mammograms, so the community understood that the screening exams and radiologists interpreting their exams were of the same quality as what they would receive at our fixed sites.”

Misinformation like this is just one reason that underserved populations experience deep inequities in healthcare. Black patients in particular experience higher death rates from breast and cervical cancers, despite having nearly identical incidence rates to White patients. These patients are often screened at lower-resourced and non-accredited facilities and experience longer intervals between mammograms — as well as between abnormal results and follow-ups.¹ The collaboration between RAD-AID USA and the ACR aims to address these education and communication gaps. **B**

By Meghan Edwards, freelance writer, ACR Press

ENDNOTE

1. American Cancer Society. Breast Cancer Facts & Figures. 2019–2020. Atlanta: American Cancer Society, Inc. 2019.



Starting a Conversation

New, more inclusive breast cancer screening guidelines seek to clarify, educate, and reach patients and their referring clinicians to get more people screened.

Breast cancer is the second leading cause of cancer deaths and the leading cause of premature death in American women. Mammography can reduce breast cancer deaths in women age 40 years and older, with a potential mortality reduction of 40% with regular screening.¹ However, not all patients have access to this potentially lifesaving procedure. Minority patients and LGBTQIA+ patients have thus far been marginalized in many aspects of our health system, including cancer screening. And according to an article recently published in the *JACR*,² treatment advances cannot overcome the disadvantage of being diagnosed with an advanced-stage tumor, which may have been caught earlier with more regular screening.¹

When Debra L. Monticciolo, MD, FACR, ACR past president and vice chair of the department of radiology and section chief of breast imaging at Baylor Scott & White Medical Center-Temple, and Stamatia V. Destounis, MD, FACR, partner and chair of clinical research and medical outcomes at Elizabeth Wende Breast Care and chief of the ACR Commission on Breast Imaging, set out to work on updating the 2017 ACR guidelines

on breast cancer screening, they took a different approach. “We know that patients of color and minority patients are really at higher risk in many ways,” says Monticciolo. Minority women under the age of 50 are much more likely to be diagnosed with invasive disease and much more likely to die before the age of 50 than White women.² “Guidelines that advise patients to wait to get screened until age 45 or 50 are a bad idea for all patients,” Monticciolo says, “but they’re really devastating for patients of color and minority patients.”

The result is updated guidelines on breast cancer screening, published jointly by the ACR and the Society of Breast Imaging (SBI), that recommend annual mammography screening beginning at age 40, which the authors note, “provides the greatest mortality reduction, diagnosis at earlier stage, better surgical options, and more effective chemotherapy.”¹ To learn more about the guidelines, the *Bulletin* spoke with Monticciolo, Destounis, and Evelyn Carroll, MD, body imaging fellow at the Mayo Clinic in Rochester, Minn., and a future breast imaging fellow at NYU Langone Health.

What are some notable updates to the ACR/SBI guidelines for breast cancer screening?

Destounis: The ACR, in close association with the SBI and other related societies, continually updates the breast cancer screening guidelines. We want primary care physicians to know exactly what the most appropriate and up-to-date breast cancer screening guidelines are for their patients.

It's also important to note that when we talk about breast cancer in underrepresented and underserved populations, that can include LGBTQIA+ patients — who often get overlooked in the conversation, and for whom there has been a lot of confusion over breast cancer screening guidelines (for the patients and their referring clinicians as well). Transgender patients who were assigned female at birth and have not had a mastectomy still carry the prior risk of breast cancer because they have breast tissue. The new guidelines state that annual screening is to start at age 40 for these patients. Similarly, transgender patients who were assigned male at birth and take hormones may be at higher risk for breast cancer. These patients should also begin screening at age 40.

LGBTQIA+ patients have historically faced significant barriers to getting screened. They may feel uncomfortable getting screening in a facility that may be perceived as not welcoming. In addition, their referring clinicians may not know that these patients need the screening for breast cancer.

Another population that gets overlooked is patients over 74. The U.S. Preventive Services Task Force still has no recommendations for patients 74 and over. That is also a largely ignored population. We want to make sure that these guidelines communicate that you should continue to get screened past age 74 unless you have significant comorbidities that will limit your overall life expectancy or you're unable to undergo a needle biopsy (should something be identified on a mammogram).

What do the new guidelines mean for patients?

Monticciolo: I hope patients will clearly see the benefits of screening and feel encouraged not to wait past the age of 40. When it comes to breast cancer screening, we sometimes hear about controversy — but there's really no controversy about the benefits of getting screened. These benefits need to be presented clearly to patients so they can make the choice for themselves. I think patients will find the risks to be very manageable, and the benefits are outstanding. It's not just that we can decrease breast cancer deaths by 40% — which is really significant, especially considering one in eight U.S. women will someday be diagnosed with breast cancer — but it's an opportunity for patients who are diagnosed with a tumor to have much better options for treatment.³

We're really trying to make clear that patients will have the best outcomes if they are screened starting at age 40 and continue to be screened regularly. Historically, the risk for people of color has been underestimated. The risks for black women in particular need to be more widely recognized by providers and the women themselves. Members of the LGBTQIA+ community have been marginalized in many ways as well. We don't want that to be occurring in breast imaging. We want to welcome all patients.

These guidelines are based on evidence, but we need more inclusive data on breast cancer and screening for LGBTQIA+

patients. As we learn more about how breast screening can benefit all patients, we can continue to update and refine our guidelines.

Carroll: With respect to the transgender patient population, the new guidelines are excellent. I don't think we've ever had guidelines coming from any radiology organization for breast cancer screening for the transgender population. Many transgender patients have no idea if they need breast screening, and most of their clinicians don't know either.

The other issue is, will insurance cover this screening? It's common for transgender patients to have insurance companies deny coverage for things like breast cancer screening.⁴ These guidelines from the experts in breast imaging will go a long way in terms of clarifying best practices and hopefully moving insurance companies in the right direction in terms of covering the screening these patients need and deserve.

How can radiologists educate PCPs and patients about these new guidelines?

Destounis: I hope these new guidelines will prompt radiologists to look at their own practice settings and ask themselves, “Are there aspects of our screening program I need to address? How can I make this better in my facility? How can I educate my staff? And how can I reach out to my PCPs with this important information?”

It's paramount to be sensitive to different people's needs. For example, some patients may not feel comfortable making a screening appointment in person. Does your facility have a portal that enables them to make appointments online? It's also important to be sensitive to the workflow of how a patient will travel through your facility. Do you have privacy areas for patients? Are you equipped with sufficient options for gowns so that patients can wear what they're most comfortable in (or bring their own gowns)? The staff needs to be educated and become familiar with things like appropriate versus inappropriate questions and making sure to use the patient's correct pronouns and name (sometimes despite what their medical documents may say). We want all the patients who are eligible for screening to come in and get the care they need, and the healthcare provider needs to make a person feel comfortable to make that choice.

Monticciolo: I hope these guidelines make it even more clear what our charge is and encourage radiologists to be advocates for screening. We prioritized making the information easy to read and easy to relay to patients and providers. We've really tried to reach all the populations that would benefit from these guidelines, and I think it's going to at least start a conversation between patients and their healthcare providers about screening — and among radiology teams about how we can do things better. We need to be mindful of inclusion. These are guidelines for all patients. We hope to bring more patients into the conversation about screening. That would be a great outcome. **B**

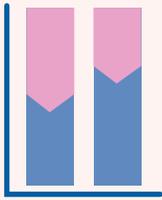
Interviews by Cary Coryell,
publications specialist, ACR Press

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

Read the new guidelines published in the *JACR*® at jacr.org. For more information about the proven effectiveness of regular mammography screening to reduce breast cancer deaths, visit RadiologyInfo.org, MammographySavesLives.org, and EndTheConfusion.org.

Breast Screening Meets COVID-19

A new *JAMA* study finds high rates of missed breast cancer screening as a result of the pandemic, which may worsen preexisting disparities among underserved groups.



Over the 20 weeks following March 11, 2020, the volume of screening mammograms fell 58%, while diagnostic mammograms fell 38%.¹

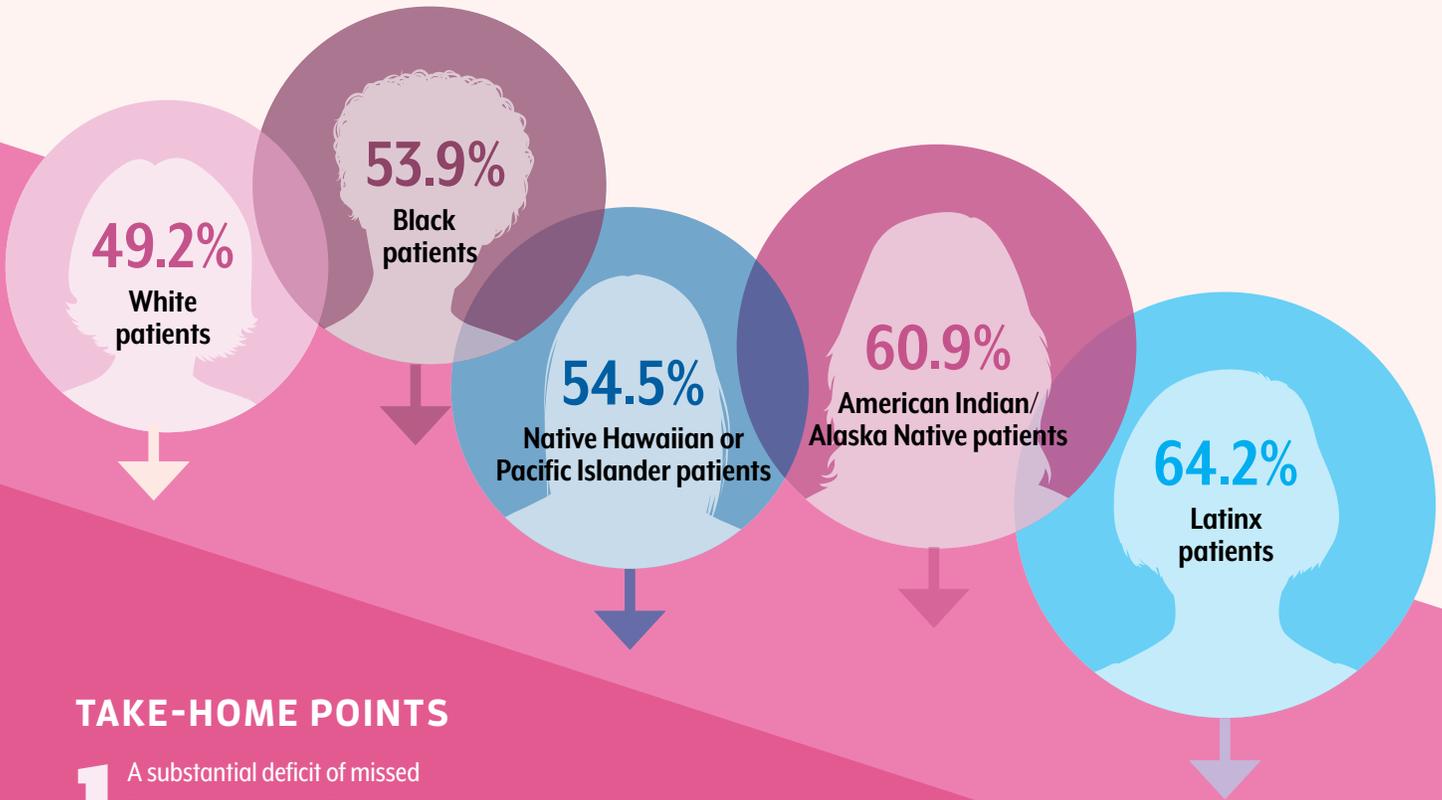


A study in Washington State found the number of screening mammograms done between April and December 2020 **dropped by 49% compared to the same period the year before.**³

DECREASE IN SCREENINGS



It is estimated that delayed and missed screenings will likely **increase breast cancer deaths by 7.9% to 9.6%.**²



TAKE-HOME POINTS

1 A substantial deficit of missed breast cancer screenings may worsen preexisting disparities.

2 The differences by race/ethnicity reflect the effect of worry, competing priorities, limited access, and disproportionate burden and socioeconomic impact of COVID-19 in underserved communities.

3 Healthcare systems should leverage COVID-19–related community outreach and engagement to develop concerted efforts that ensure preexisting disparities do not worsen among communities with higher risk.³

Read the full study in *JAMA* at bit.ly/JAMA_COVID19.

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

Fluoroscopy Futures

A new Dose Index Registry module can improve practices' efficiencies and help reduce errors.

“Registry data, and in particular the derived indices, will help sites optimize their practice, because you are highlighting practice aspects that might need more attention,” says Kevin A. Wunderle, PhD. The *Bulletin* recently spoke with Wunderle, diagnostic medical physicist at Cleveland Clinic and associate professor of radiology in the Cleveland Clinic Lerner College of Medicine, and A. Kyle Jones, PhD, lead medical physicist for the ACR's Dose Index Registry (DIR) Fluoroscopy Education Committee and professor of imaging physics at the University of Texas MD Anderson Cancer Center in Houston, to learn more about the ACR's new DIR Fluoroscopy module.

The DIR is one of eight registries that comprise the National Radiology Data Registry (NRDR®). The DIR allows participating facilities to compare dose indices against national benchmarks. It also enables facilities to evaluate and compare details about scanner and device performance across participating facilities. The ABR has qualified participation in the DIR as meeting the criteria for practice quality improvement in the ABR Maintenance of Certification program.

Nine facilities piloted the fluoroscopy module before its official launch earlier this year. It is the first of three new DIR modules (with nuclear medicine and digital radiography pilots underway) that build on CT dose indices — which, until now, were the only collected and reported data in the DIR.

Why is the registry such a valuable tool?

Jones: As a physicist, it is really challenging to understand where your site or your practice stands with regards to dose management in fluoroscopy. There is no current normative data set — the best we have is 20 years old. To have any hope of knowing where you are compared to where you want to be, you need to have access to the registry. The fluoroscopy module is now open for enrollment and data submission. Anyone already sending CT data can participate at no cost, and there is minimal extra work involved in submitting fluoroscopy data.

Wunderle: The DIR CT has been extraordinarily successful and has provided an ongoing source of normative clinical data for national and international benchmarking. Participation is a key aspect of a quality assurance program in fluoroscopy. We hope this will ultimately reduce variability in radiation usage for procedures performed using fluoroscopy and promote the adoption of best practices for fluoroscopically-guided procedures.¹

What did you learn through the pilot?

Jones: We wanted to measure the accuracy and consistency of fluoroscopy dose index reporting and report rates of radiation use and safety, trainee participation in procedures, and optional hardware availability at pilot sites. In the past decade, there have been a number of technological advances — radiation dose-reduction techniques — and current fluoroscopic systems have lower default dose rates. There is more awareness of dose-reduction techniques, which we are seeing as we analyze the pilot data. So far, the registry contains information on more than 50,000 procedures — and the ones we have looked at so far show that typical dose indices (e.g., for placement of inferior vena cava filters) are down substantially since the year 2000.

Wunderle: Participation in the DIR Fluoroscopy is an ideal way to identify opportunities for improvement by comparing data to and help promote best practices. The increasing scope and number of fluoroscopically-guided procedures performed each year makes the addition of a fluoroscopy module to the ACR DIR a logical next step to enhancing the safety and quality of patient care.

Are there any potential challenges when using the DIR?

Jones: We (the pilot group) have done a lot of work updating the ACR Common™ lexicon (a collection of common terms and semantics throughout the specialty) so that everyone using the registry will be using the same language. The quality of the comparisons from the DIR is directly tied to how well a facility maps its terminology to that of ACR Common. If you do a poor job at this, you may not get any useful insight into your practice.

Wunderle: I think most people understand the enormous benefits that the DIR CT has brought to the radiology table. Our goal is to translate that success and that infrastructure to fluoroscopy as an imaging modality.

Where can existing or potential participating sites learn more about the DIR Fluoroscopy?

Jones: The ACR website on DIR Fluoroscopy is constantly updated, and interested registry participants should visit the fluoroscopy webpage at acr.org/DIR-Fluoro to learn more about what is coming down the pike.

Wunderle: A series of webinars on the DIR as a whole, and on individual index modules, is in the works. In addition, while the current DIR Fluoroscopy focuses on IR and neurointerventional radiology, a pilot slated to start by the end of the year will expand that scope to include fluoroscopy in diagnostic radiology. **B**

Interviews by Chad Hudnall, senior writer, ACR Press

ENDNOTE

1. Jones AK, Wunderle KA, Gress DA, et al. A diagnostic medical physicist's guide to the American College of Radiology Fluoroscopy Dose Index Registry.

Quality Care for All

Vanderbilt University Medical Center's department of radiology health equity program addresses barriers to care.

High-quality care is the ultimate goal of healthcare institutions. However, value-based care in one population does not necessarily look the same as it does in another population. The department of radiology at Vanderbilt University Medical Center (VUMC) believes that radiology is in a unique position to improve health equity — and is committed to ensuring that all patients have the opportunity to be as healthy as possible. In 2020, Vanderbilt radiologists established a health equity program within their department that is dedicated to reducing barriers to high-quality imaging care.

Imaging 3.0® staff sat down with Lucy B. Spalluto, MD, MPH, vice chair of health equity at VUMC radiology, and Andrea A. Birch, MD, FACR, professor of clinical radiology at VUMC and a member of the ACR's Commission for Women and Diversity, to discuss the program and why radiologists should be at the forefront of addressing health inequities.

Why did Vanderbilt Radiology start its health equity program?

Spalluto: Vanderbilt Radiology's dedicated, formal health equity efforts began in early 2020. We recognized the need to focus departmental efforts on addressing health disparities — specifically, we determined that providing the infrastructure and support for these efforts is essential to drive real change. Vanderbilt Radiology Health Equity's overarching goals are to strengthen and amplify health equity efforts through a combination of learning, research, and collaborative partnerships, ultimately driving systemic change within and beyond Vanderbilt to achieve health equity. To this end, our team works closely with VUMC's Office of Health Equity, which is led by Consuelo H. Wilkins, MD, MSCI, VUMC's vice president for health equity and a nationally-recognized expert and leader in health equity.

What are some obstacles to achieving health equity in your community?

Birch: Location is a big challenge. For instance, in our city, many communities of color don't have a breast imaging center, and for those that do, it's not accredited by the ACR as a Center of Excellence. If you are trying to get the best outcomes for these patients, they are already potentially disadvantaged because access to quality care is more difficult to obtain. Access is only one of the issues, though.

Spalluto: In Nashville, and more broadly in the state of Tennessee, there is a lack of access to good jobs with appropriate pay that offer health insurance. Access to childcare can also be an obstacle, as can language and cultural barriers. It may be difficult to find a physician who looks like you and understands your specific

needs. One of the ways we can start to address these obstacles is to understand the social determinants of health and how these obstacles impact different populations in different ways, as well as the types of resources different individuals require to be healthy.

How can radiology address these obstacles?

Spalluto: Radiology can start by building stronger relationships with patients and the community. We need to help our patients understand why imaging is being performed and help them to trust the radiologists who are providing recommendations for follow-up care based on the results of the studies. We can do this by creating an environment for imaging that is inclusive of all patient needs. This can include offering information before exams and results after exams in the language and terminology that patients understand. It can also include understanding the different cultural needs of the community when it comes to imaging. There are many opportunities for radiology to make changes to improve equitable care.

What were the first steps you took to start your health equity program?

Spalluto: Our first steps were to obtain leadership support and establish the infrastructure within the department to support health equity efforts. Next, we developed an interdisciplinary team to drive our efforts and built collaborative relationships across departments within the medical center, as well as at institutions outside of the medical center. Cross-institutional, multidisciplinary, interprofessional efforts are necessary to drive systemic change to achieve health equity. We cannot stay in our radiology silo and in our reading rooms and expect to be able to make the necessary changes. We need to interact with our colleagues within the medical center and beyond. We must also build relationships with community members, including community healthcare centers and other organizations that help to provide care for these patients, as well as with patients themselves.

Who are the leaders of the program, and how were they selected?

Spalluto: Vanderbilt Radiology Health Equity is a collaborative effort driven by a diverse, interprofessional team. Initial discussions with our department chair, Reed A. Omary, MD, MS, FACR, focused on the need to advance health equity efforts locally as well as nationally. We also discussed how efforts to achieve health equity require a team with a broad skillset. Important skills for team members and leadership in this field include experience in health services and health disparities research, experience working with the community, an understanding of health policy, and a commitment to developing learning materials for health professionals and patients. As our vice chair for health equity, I guide this team in our efforts to address disparities.

Who else is involved in the program?

Spalluto: We built a diverse team that has experience in providing various types of patient care across the organization



Lucy B. Spalluto, MD, MPH



Andrea A. Birch, MD, FACR

— for example, breast cancer screening, lung cancer screening, and nuclear medicine. Our team includes radiologists, other radiology team members, nurse practitioners, trainees, and non-radiology team members from outside of the department. This diverse team provides a broad perspective across the field of radiology and beyond. We also believe it is important to have diversity of race, ethnicity, and gender representation on our team so that we can have a dynamic perspective in recognizing the needs of the community and developing potential solutions to meet those needs. Dr. Omary and I developed an initial list of qualified individuals we believed would be interested in joining the team and then reached out to ask if they would like to join our health equity team efforts.

What types of initiatives has the health equity team undertaken so far?

Spalluto: We have focused our initial efforts on our three core functions: increasing awareness of health equity principles, generating interest among trainees, and fostering health equity research. Within the awareness category, we created a website for Vanderbilt Radiology Health Equity, where we post informational resources, departmental health equity publications, upcoming talks, and links to health equity resources. We also started an annual grand rounds health equity speaker series, funded by the department. And we worked to increase awareness of health equity through collaboration at the national level with the ACR and other societies, such as the American Society of Neuroradiology, through webinars and speaking series.

Regarding generating interest in health equity among our trainees, we focused our early efforts on education. In February of 2021, we piloted a two-week health equity mini elective for our residents. Trainees from emergency medicine, internal medicine, and radiology participated in didactic learning and journal club-style activities. The residents were also able to spend time at some of our local community health clinics as well as develop a focused quality improvement project related to addressing health disparities.

Birch: On the research side, we have started to look at how we can improve our service line at the breast center to provide care for underrepresented minorities. The mortality rate for Black Americans and other people of color is significantly higher than

that of White patients — so much so that the Society of Breast Imaging has declared being Black as a risk factor for developing breast cancer (learn more about the guidelines at acr.org/ACR_SBI). We are hosting virtual design-thinking sessions with multidisciplinary medical professionals, a diverse group of inter-professional community leaders, and patients to better understand what's most important to our patients, question assumptions, and identify barriers so that scalable solutions can be tested and implemented. This is important because, in years past, research cohort studies didn't necessarily reflect the population as a whole. Risk assessment models and guidelines for how frequently screening should be done — such as lung cancer or breast cancer screening — didn't necessarily include minority patients when they were created. Our goal is to better connect with patients from communities of color to deliver quality healthcare based on their needs.

We are also working on a project designed to meet the needs of our LGBTQIA+ populations and help our providers better meet these needs. We hope to help gender- and sexual-minority patients better understand breast health and screening recommendations. We want to create an enhanced service line to improve the outcomes and experiences of this patient population when they come to the breast center or our other facilities.

Why should radiologists care about health equity?

Birch: In the past, radiology has not been at the forefront of health equity. That has usually been left to primary care medicine, such as internists and pediatricians, because they are traditionally more patient-facing and have been in a better position to see how the inequities impacted their patients' lives and health outcomes. But as radiologists interact with patients more, the things that we are doing are impacting patients more than before. Health equity is starting to become something that radiologists are helping to address. This opportunity allows radiology to impact some of the policies, changes, and initiatives that need to occur to level the playing field. This is incredibly important work, and radiologists have a key role to play. At the end of the day, it is simply the right thing to do.

Why should radiologists consider committing resources to addressing health equity issues?

Spalluto: As Dr. Birch said, now is the time for radiology to claim our seat at the table for health equity. We need to show that radiology is committed to providing the best care possible to the diverse populations we serve. This will take commitment from everyone — ranging from the individual level to the national policy level. Vanderbilt Radiology is committed to health equity, diversity, and inclusion. We are excited to be announcing soon how we plan to amplify these efforts through a sustained financial commitment into perpetuity. Our goal is to inspire action within and beyond the radiology community. **B**

Interviews by Meghan Edwards, freelance writer, ACR Press

Evaluating AI

The 2021 ACR Data Science Summit delivered a diverse range of technical, financial, and patient-focused insights.

Each year, the ACR Data Science Institute® (DSI) holds a summit to update ACR and industry members on DSI projects and initiatives. The most recent ACR DSI Summit highlighted that AI is best used like any other imaging technology: when grounded in understanding its capabilities and limitations, coupled with an appreciation of the practical deployment challenges — always with the patient at the center. To that end, the summit held on June 16 focused on the three primary objectives of the ACR DSI:

- Facilitating member understanding of AI
- Creating tools for AI adoption
- Keeping the patient at the center of AI-enabled care

Looking at the Status of AI

One of the consequences of the hype surrounding AI has been that it inspires us to see this developing technology as capable of amazing feats derived from our imaginations rather than what science is truly capable of at this point. The best way to demystify AI is to foster a deeper understanding of AI capabilities, the underlying supporting data, and the limitations. Surveying the AI landscape reveals the most common modality for current FDA-regulated pixel-ML products is CT, and the most common anatomy area is the brain, with over 100 FDA-regulated AI products. However, less than 10 of these products in the radiology space contained published randomized controlled trials. The majority were marketed after only non-randomized retrospective trials, and only a few were either in prospective trials or otherwise tested in real-life clinical settings prior to FDA clearance.

Aside from the scientific merit of AI, it is also worth noting that economic incentives have slowly moved toward the use of AI products in radiology, with some usage examples (such as the detection, triage, and communication of large vessel occlusions in the brain) now being reimbursed through the new CMS technology add-on payment (NTAP) program.

ACR members shared in an ACR DSI survey that in settings where AI products have been adopted in practice, performance is often inconsistent. For example, only 30% of the responding radiologists are currently using an AI product in practice. Nevertheless, the survey showed that most radiologists expect continued growth in the use of AI in radiology, and the vast majority of respondents agree that AI provided some value to them and their patients.

Evaluating AI in Practice

In response to the heterogeneity of commercially-available products, evolving economics of reimbursement, and the emerging trends in radiology AI, the ACR DSI unveiled tools to help radiologists address these opportunities. The FDA-cleared AI models web page has become one of the most commonly utilized

resources for radiologists seeking to understand the current AI landscape. The ACR DSI Summit unveiled ACR AI Central as an upgrade to the AI models page, with attention towards usability and transparency. The maturing ACR AI-LAB™ allows imaging practices to build and evaluate AI models using their internal data and custom AI projects. Because most radiology practices cannot hire data engineers or otherwise garner experience in AI themselves, having a tool to facilitate these tasks can be beneficial to the typical ACR member practice.

But tools are exactly that — ways for physicians to assess AI models before applying them towards patient care. It remains essential for radiologists to remember that AI models can behave ideally in training scenarios but fail when applied to patient data that the algorithms have not yet seen — a phenomenon called “overfitting.” AI can pick up and incorporate implicit biases from the training data — biases that can elude even the data scientists building the model. And algorithms can be brittle, with a propensity to fail when the data contains unexpected noise, such as motion or overlying external objects.

Even with an AI product perfectly created to address overfitting, bias, and brittleness, changes in data, people, and disease can cause drifts and degradation in AI performance over time. For instance, an AI model that perfectly detected bacterial and viral pneumonia in 2018 might find itself making many false predictions in 2021 because it was not built using images containing signs of COVID-19 pneumonia. Other sources of drift for AI algorithms include newly-marketed scanners, new diagnostic guidelines, and changes in patient populations (such as a contract with a new hospital) — necessitating a robust method for continuous monitoring.

Improving Patient-Centered Care with AI

The ACR has a long track record of focusing on value-based, patient-centered care, ranging from its Imaging 3.0® initiative to the efforts of the Commission on Quality and Safety. Likewise, the adoption of imaging AI cannot exist in a vacuum. At present, many patients are wary of autonomous AI, both in medical devices and in imaging such as screening mammography. What's more, surveys suggest that more patients trust their physicians over AI to make the correct diagnosis and treatment recommendations. Patient opinions, ACR membership survey results, and ACR DSI's experiences all reflect this assertion: AI does not replace the radiologist or the clinical physician. Instead, AI serves as a second set of eyes and can help enhance both the clinical work and the quality of the images acquired, as well as aid in training the next generation of physicians.

To properly regulate and understand radiology AI and its impact on patient care, it is also vital to hold automated tools to a higher standard than manual processes. Researchers and vendors need incentives to iterate their work and compete towards better transparency, better performance, and better generalizability, with attention towards bias, brittleness, and patient outcomes. This way, data scientists, quality improvement professionals, and patients will work shoulder-to-shoulder to create an environment that fosters the growth of the next-generation imaging tools that radiologists and patients can trust. **B**

Po-Hao (Howard) Chen, MD, MBA, is the chief informatics officer at Cleveland Clinic's Imaging Institute, a practicing MSK radiologist, and the co-chair for the 2021 ACR Data Science Summit.

What can radiologists do to encourage patients to get screening?



“Radiologists should work to understand the barriers faced by patients in the community they serve and take active steps to address barriers to care, including screening. This includes hiring diverse and culturally sensitive radiologists, RTs, and support staff who can build patient trust and facilitate all aspects of screening. This also includes scheduling exams, communicating results in a sensitive way, and facilitating follow-up imaging or biopsy as needed. Individual interactions with patients give radiologists a unique opportunity to educate patients and to better understand and address their specific concerns about screening.”

Victoria L. Mango, MD, co-director of breast imaging education and training at Memorial Sloan Kettering Cancer Center



“Radiologists need to get out of the reading room and meet patients where they are. We need to connect with advocacy groups, faith communities, and community health centers to find out how we can best serve our communities. We should use community-based participatory approaches to forge authentic connections and ensure that the needs of patients are centered in these conversations.”

Anand K. Narayan, MD, PhD, vice chair of the ACR Commission on Patient- and Family-Centered Care Outreach Committee and vice chair of equity at the University of Wisconsin's department of radiology

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