

ACR

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MAY 2020 | VOL. 75 | NO. 5

# Bulletin



**PANDEMIC RESPONSE**

# JOURNEY



*I can be alongside policymakers for my profession; I can advocate for my peers and be part of the decision making.*

**Sarvenaz Pourjabbar, MD**

*Diagnostic Radiology Resident*

*Member Since October 3, 2013*

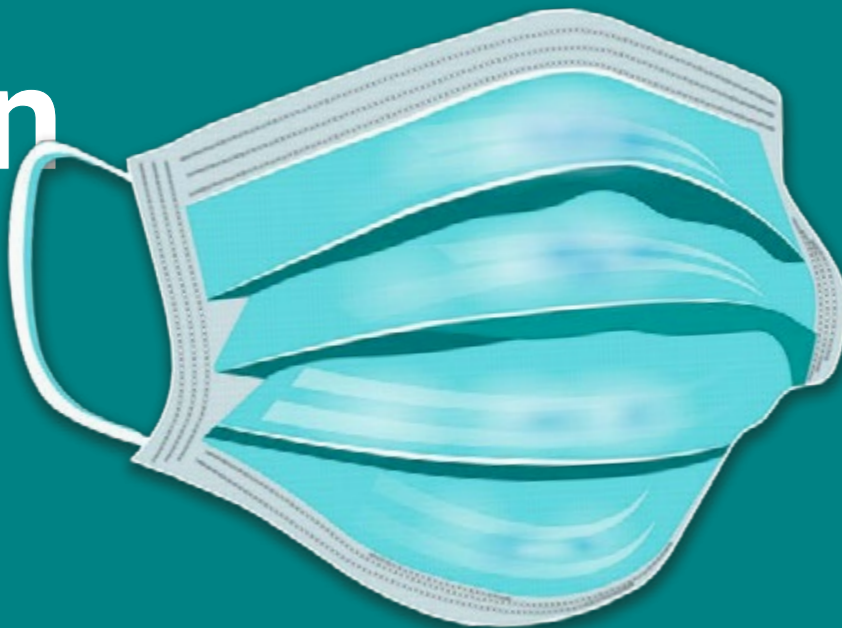


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## FEATURE

## 9 Pandemic Response

In February, few U.S. radiologists had any experience with COVID-19. Now, many are finding it's their main focus as they equip themselves and support each other to take care of patients during a rapidly changing crisis.



12

## ALSO INSIDE

## 12 Answering the Call

As hospitals across the nation receive an increasing number of COVID-19 patients, radiology residents and fellows are taking the unusual step of volunteering to provide clinical care in the wards.

## 14 Maintaining Wellness During a Pandemic

A radiologist discusses how the changing environment brought about by the coronavirus outbreak goes to the heart of staff well-being.

## 16 All Hands on Deck

A radiology resident shares what it's like to be on the front lines at the epicenter of the pandemic and how his team is adapting to meet the hospital's needs.

## 18 Fostering the Future

The chair of the ACR Commission for Women and Diversity discusses how the PIER program is ensuring that the increasing diversity of the U.S. population is reflected in the radiology community.

## 19 Less Is More

The 15 to 20% reduction in medical radiation doses to U.S. patients can be largely credited to greater awareness and reporting efforts led by the radiology community.

## DEPARTMENTS

## 4 From the Chair of the Board of Chancellors

Even as the U.S. is in the grip of the COVID-19 pandemic, the ACR remains committed to bringing members' voices to decisions that impact patients.

## 5 Dispatches

News from the ACR and beyond.

## 8 From the Chair of the Commission on Economics

During the ongoing crisis, finances are a difficult point of discussion — but not addressing the topic can bring serious negative consequences to our broader communities and the very patients we serve.

## 20 Job Listings

## 21 Final Read

What has being a radiologist during the COVID-19 pandemic taught you?

**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](mailto:bulletin@acr.org)

Digital edition and archives of past issues are available at [ACR.ORG/BULLETIN](http://ACR.ORG/BULLETIN).



# ACR's Role in the Pandemic and Beyond

The College responds to the global health crisis and keeps its eye on long-term priorities around health equity and patient access.

At the time of writing, the U.S. is in the grip of the COVID-19 pandemic. The ACR has been an authoritative voice on the appropriate use of imaging and has worked actively with Congress to ensure that our health system and economy can survive this crisis. The challenges of caring for a diverse population, as well as the likely longer-term impact on our nation's economic health, have highlighted the need for radiologists to be at the leadership table to ensure that we deliver on our core commitment: to serve patients and society by empowering members to advance the practice, science, and professions of radiological care.<sup>1</sup> While the goals articulated in our strategic plan do not specifically address health equity, it is impossible for us to adhere to our values without striving for our patients to have access to the highest-quality imaging that is appropriate for them.<sup>2</sup>

Our national discussion on healthcare reform continues in parallel to the pandemic, and the complexities of our delivery system — and its financing — are beyond the scope of this column. That said, your ACR remains committed to bringing your voice to the fora where decisions are made that can impact patients and your ability to care for them. Even as we continue the fight to ensure continued insurance coverage of mammography screening for all women starting at 40, we must also advocate for research funding to understand and address the gap in breast cancer outcomes for African-American women.<sup>3</sup> Our efforts to decrease deaths from lung cancer could not end with Medicare's 2015 decision to pay for screening with low-dose CT. We must continue the fight against

What we must never do is be satisfied. There is always more we can accomplish as a profession. Prioritization is critically important, and for this we employ a robust strategic planning process to ensure that we match our ACR efforts with our goals.

stigma and inadequate reimbursement that disproportionately affect those with mental illness.<sup>4</sup> Recognizing the access challenges faced by patients in rural areas, we must devote resources and energy to supporting our general, small, emergency, and/or rural practice radiology community, especially in the aftermath of the pandemic. Understanding the imaging needs of children with chronic disease, we push back strongly on insurance company policies that seek to divert them away from the facilities who have coordinated their care. We must leverage every opportunity to improve the quality and appropriateness of imaging so that all patients are better served.

What we must never do is be satisfied. There is always more we can accomplish as a profession. Prioritization is critically important, and for this we employ a robust strategic planning process to ensure that we match our ACR efforts with our goals. As a community, we must challenge ourselves to ensure that no patient is denied the benefit that medical imaging can provide. **B**

## ENDNOTES

1. American College of Radiology. ACR goals and strategic plan. Accessed March 13, 2020.
2. World Health Organization. Health topics: health equity. Published 2020. Accessed March 13, 2020.
3. Division of Cancer Prevention and Control, Centers for Disease Control and Prevention. Breast cancer rates among black women and white women. Updated September 13, 2018. Accessed March 13, 2020.
4. Flores EJ, Park ER, Irwin KE. Improving lung cancer screening access for individuals with serious mental illness. *J Am Coll Radiol*. 2019;16(4, Part B):596–600. Accessed March 13, 2020.

## We're all in this together



We are facing an unprecedented time, but we are a resilient community, and we will persevere. I'm so inspired and sustained by the collaboration happening on our platforms, like Engage. I encourage you, if you haven't already, to please join that community at [engage.acr.org](https://engage.acr.org) and keep in touch with us. Keep in touch with each other. The ACR is here to support you throughout this rapidly evolving situation. Our radiology community is stronger together, even as we stay far apart.

— Geraldine B. McGinty, MD, MBA, FACR, ACR BOC Chair

## Radiology Turns to ACR for COVID-19 Information



The ACR has created the COVID-19 Radiology-Specific Resources section on [acr.org](https://www.acr.org) to offer access to critical, up-to-date clinical information to help you protect yourself, your patients, and other providers from COVID-19. “As we continue to fight the coronavirus (COVID-19) pandemic, I’d like to take a moment to acknowledge the selfless and impactful work of our radiologists, radiology residents, allied professionals, and healthcare workers during this pandemic,” says ACR BOC Chair Geraldine B. McGinty, MD, MBA, FACR.

Key goals for the U.S. healthcare system in response to the COVID-19 outbreak are to reduce morbidity and mortality, minimize disease transmission, protect healthcare personnel, and preserve healthcare system functioning. The health and safety of radiologists, allied professionals, patients and healthcare workers are of primary importance.

ACR is closely monitoring guidance from the CDC, WHO, and other reliable sources regarding COVID-19. Based on the information available at the time of print, the ACR has released the following recommendations:

- CT should not be used to screen for or as a first-line test to diagnose COVID-19
- CT should be used sparingly and reserved for hospitalized, symptomatic patients with specific clinical indications for CT. Appropriate infection control procedures should be followed before scanning subsequent patients.
- Facilities may consider deploying portable radiography units in ambulatory care facilities for use when CXRs are considered medically necessary. The surfaces of these machines can be easily cleaned, avoiding the need to bring patients into radiography rooms.
- Radiologists should familiarize themselves with the CT appearance of COVID-19 infection to be able to identify findings consistent with infection in patients imaged for other reasons.

For the most up-to-date information, as well as access to radiology-specific COVID-19 resources, visit [acr.org/COVID-19](https://www.acr.org/COVID-19).

## ACR2020

VIRTUAL MEETING

May 16–19

### The Annual Meeting Goes Virtual

The ACR annual meeting is transitioning this year to a completely virtual meeting that prioritizes ACR governance activities. ACR 2020 will be held entirely online May 16–19.

“The health and safety of ACR members and the patients they serve, as well as that of ACR employees and local hospitality staff, are the primary reason for this transition,” says ACR BOC Chair Geraldine B. McGinty, MD, MBA, FACR. “We support and participate in ongoing national efforts to reduce coronavirus (COVID-19) risk. As such, the ACR will empower ACR 2020 participants to take part online.”

The ACR 2020 virtual meeting will enable participants to take part in and experience:

- ACR Caucus Meetings
- ACR Elections
- Consideration of ACR Practice Parameters and Technical Standards
- Consideration of ACR Policy Resolutions
- Livestreaming of Presidential Address and Chair’s Report
- Virtual Convocation Ceremony
- Awarding of ACR Fellowship, Gold Medals, and Honorary Fellowships

“The move to a virtual meeting allows us to continue to carry out important ACR business while ensuring the health and safety of those involved,” says ACR Council Speaker Richard Duszak Jr., MD, FACR. “The move to a virtual meeting is the right thing to do during this difficult time for healthcare providers, those we serve and our nation.”

In accordance with Centers for Disease Control and Prevention guidance, the annual RADPAC® Gala and Capitol Hill Day events will not take place. Please review the ACR 2020 Frequently Asked Questions and ACR 2020 Online Program for more information at [acr.org/AM-2020](https://www.acr.org/AM-2020).

Throughout my career, I've been privileged to learn from female mentors, including my chair of radiology, program director, and chief of physics. But I also realize how incredibly fortunate I am to have direct access to female leaders in my field of medical physics.

— Ashley E. Rubinstein, PhD, medical physics resident at UTHealth McGovern Medical School, at [bit.ly/VOR\\_WomenMedPhysics](http://bit.ly/VOR_WomenMedPhysics)

## CPI Releases Two New Modules

Improve your diagnostic imaging skills with two new self-assessment SA-CME activities by the ACR Continuous Professional Improvement (CPI) program.

- The CPI Vascular & IR Module 2020, co-chaired by Charles A. Gilliland IV, MD, and J. David Prologo, MD, includes ACR Appropriateness Criteria® and Liver Imaging Reporting and Data System (LI-RADS®).
- The CPI Genitourinary Tract Radiology Module 2020, chaired by Nicola Schieda, MD, includes PI-RADS® version 2.1, discussion of Bosniak version 2019 proposed updates, and updates on nephrogenic systemic fibrosis and gadolinium retention and implications for clinical practice.

Each CPI module includes at least 50 self-assessment questions and offers up to 8 CME/SA-CME. Choose the print publication or the online examination and receive a free e-book copy. Members save \$35 per module when selecting six modules through a customized CPI Select Six Series. *In the wake of the current COVID-19 crisis, the ACR is making the CPI chest modules available for free via e-book format for educational purposes only.*

Learn more at [acr.org/cpi](http://acr.org/cpi).

## Abbreviated MRI Outperforms 3-D Mammograms

Breast MRI with a scanning protocol as short as 10 minutes found more invasive cancers in women with dense tissue than digital breast tomosynthesis (DBT), according to an ECOG-ACRIN Cancer Research Group study, EA1141, published in February in *JAMA*.

The study, “Comparison of Abbreviated Breast MRI vs DBT for Breast Cancer Detection Among Women with Dense Breasts Undergoing Screening,” compared the diagnostic performance of abbreviated breast MRI to DBT in screening average-risk women with dense breasts for breast cancer and found that abbreviated breast MRI detected nearly two and a half times as many breast cancers as DBT. The analysis included 1,444 trial participants, all of whom were screened with both DBT and abbreviated MRI within 24 hours.

According to Christopher E. Comstock, MD, FACR, imaging chair of ECOG-ACRIN’s Breast Cancer Committee, and the publication’s lead author, “When screening women at average risk with dense breasts, we found that abbreviated breast MRI detected significantly more breast cancers than DBT. We also found that the abbreviated breast MRI was well-tolerated by women, with very few side effects. Although MRI is undoubtedly the most sensitive test for detecting breast cancer, it is not being used to screen the large number of average-risk women with dense breasts due to its high cost and time to perform.”

Currently, only a few centers offer abbreviated breast MRI and it is not covered by insurance. According to Comstock, “Our hope is that study EA1141 will provide the impetus for more centers to provide this new test and that insurers will see its benefit to improve early detection of breast cancer.”

To read the full study, visit [bit.ly/JAMA\\_Comstock](http://bit.ly/JAMA_Comstock). To access a patient brochure on breast density, visit [acr.org/dense-breast](http://acr.org/dense-breast).



## IMAGING 3.0: Caring for Colleagues



With persisting shortages of PPE, healthcare professionals nationwide are falling ill as they care for patients with the disease. At New York Presbyterian Hospital, radiologists are stepping out of their traditional roles and joining the Workforce Health and Safety (WHS) team to help triage their colleagues with COVID-19 symptoms.

“As a breast imager, I spend a lot of time each day speaking to patients, many of whom feel anxious about getting imaged, having a biopsy, or undergoing some other aspect of care,” says Aya Y. Michaels, MD, assistant professor of clinical radiology who recently joined the WHS. “As my colleagues call the WHS hotline, I am applying what I’ve learned in patient communication to help them during this very uncertain time. In this case, the caregivers have become the patients, and they are feeling similar anxieties and stress.”

Read the full Imaging 3.0® case study at [acr.org/CaringforColleagues](http://acr.org/CaringforColleagues).

IN MEMORIAM

## Robert E. Campbell, MD, FACR



Robert E. Campbell, MD, FACR, a past ACR Gold Medalist, passed away at the age of 88 on Feb. 2, at the Hospital of the University of Pennsylvania (HUP). Campbell was a leader in the field of radiology for a half-century. He had a distinguished career in diagnostic radiology in Philadelphia, where he served from 1955 through 2005 in the radiology department at Pennsylvania Hospital, and as chair of that department from 1986 through 1997. He mentored many radiologists as a professor both at the University of Pennsylvania and at Jefferson Medical College.

Born in Salem, Ohio, Campbell graduated from Phillips Exeter Academy in New Hampshire, and earned a degree from Harvard University and a medical degree from the Penn School of Medicine. He interned at Pennsylvania Hospital, and served a residency at HUP. Campbell received Pennsylvania Hospital's Good Samaritan Award in 2004 and the Philadelphia County Medical Society's 2007 Strittmatter Award, the organization's highest honor.

Campbell served the College of Physicians of Philadelphia as board chairman and president. He led many professional organizations, most notably as president of the RSNA in 1989. He was instrumental in the founding of the RSNA Research and Education Foundation and his legacy continues to make a significant impact on the radiology community and on improved patient care. In 1993, he received the Society's Gold Medal. He was ACR BOC Chair, receiving its Gold Medal in 2006, and chair of the examination committee of the ABR. He was also the first honorary member of the European Congress of Radiology.

Campbell was a prolific author of medical articles and presented many scientific papers in the U.S., and throughout the world. He served as editor of *Contemporary Diagnostic Radiology*, and associate editor of the ACR Self-Evaluation Syllabi on Emergency Radiology and on Chest Disease.

Read more about Campbell's life and work at [bit.ly/RSNA\\_Campbell](http://bit.ly/RSNA_Campbell).

“

In the case of the coronavirus (COVID-19), we are all facing an uncertain journey, but we have a unique opportunity here to step up as leaders and help our communities move forward.

— ACR BOC Vice Chair Howard B. Fleishon, MD, MMM, FACR, at [bit.ly/Leading\\_Crisis](http://bit.ly/Leading_Crisis)

”

## Heard on Social Media



**Jonathan Chung, MD**

@jonherochung



Certainly, there are going to be financial ramifications of locking down the hospital. I have heard that for an average sized hospital, tens of millions lost every month. However, it must be done. We will figure out the finances after we have conquered COVID-19. #JACR



March 25, 2020



**Julianna Czum, MD**

@JuliannaCzumMD



We are on the front lines of this war. Wars are won battle by battle. Every day is a different battle. That means daily disinfectant wipe usage. #JACR Bleach=my favorite new fragrance!



March 25, 2020



**Dominique Rowcroft, MD**

@RowcroftMD



Home school when your Mom is a radiologist. #radres #radxx #futureadres



April 20, 2020

## ACR Expels College Member for Ethics Violations

The American College of Radiology has expelled Thomas N. Padikal, PhD, a medical physicist from Hainesport, N.J., for violating the College's Code of Ethics.

By Ezequiel Silva III, MD, FACR, Chair



# COVID-19: The Economic Impact

## Radiology practices find themselves struggling to remain financially viable.

**C**COVID-19 struck our communities so rapidly that few radiology practices had time to adequately prepare. It became clear that we must cancel all non-urgent medical services to limit the use of resources necessary to fight COVID-19 and for the safety of our patients and staff. Gone were screening studies, non-urgent surgical planning, and non-urgent interventions and therapies. As a result, much of our practice revenue suddenly disappeared. People around the world are making sacrifices, and our circumstance is certainly not unique. Like many across the globe, radiologists are working to halt the spread of the virus while also incurring real financial consequences that threaten the future of many practices.

As we cancelled the majority of our imaging, difficult questions arose. How will we continue to pay and employ our administrative and clinical staff? How will we, as practicing radiologists, pay ourselves? The repercussions are already being felt. Many radiology professionals, including radiologists, RTs, and nurses, have lost their jobs. Others face an uncertain furlough period. Institutions struggle with their reserves as investment portfolios suffer.

At such a trying time for everyone, discussing finances is not an easy conversation to have. But not addressing the topic can bring serious negative consequences to our broader communities and the very patients we serve. There are local solutions, which are too diverse and specific to discuss here, although I do encourage the sharing of best practices within our communities such as Engage. Rather, I will discuss national programs and policy changes that apply during the COVID-19 emergency at the time of this writing, recognizing that these could change and other options could surface.

### CMS Accelerated and Advance Payment Program

In late March, CMS announced it is expanding its Accelerated and Advance Payment Program. Almost all practices are eligible, assuming they have submitted Medicare claims within the last 180 days, are not under investigation, and have not filed for bankruptcy. Practices may request a specific monetary sum — up to 100% of their Medicare amount for a three-month period. No interest is charged. Repayment begins 120 days after the

date of issuance of the funds, with 210 days available to repay the balance.

### SBA Economic Injury Disaster Loans Program

The Coronavirus Aid, Relief, and Economic Security Act (CARES Act) includes several provisions that may help radiologists. None of the provisions are radiology-specific.<sup>1</sup> The law made changes to the Small Business Administration Economic Injury Disaster Loan (EIDL) program to cover economic injury resulting from the disaster. This includes loss in revenue. The maximum amount of these loans is \$2 million, with a 3.75% interest rate and maximum 30-year note.

### The Paycheck Protection Program

The Paycheck Protection Program allows loans of up to \$10 million for businesses with fewer than 500 employees. The maximum amount is 2.5 times the average monthly payroll prior to the pandemic, with payments deferred for six to 12 months. This amount is subject to loan forgiveness provisions for amounts spent in the eight weeks after loan origination for items such as payroll, rent, and utilities.

### Funding for Healthcare Providers

The CARES Act also includes \$100 billion in direct financial support to practices providing testing, diagnoses, or care for COVID-19 patients. This funding will involve an application process through the Assistant Secretary for Preparedness and Response as part of the Public Health and Social Services Emergency Fund. The funds may be used for lost revenue due to COVID-19. On April 7, CMS Administrator Seema Verma stated that \$30 billion in funds from the Public Health and Social Services Emergency Fund, via the CARES Act, could be distributed directly to physicians based on Medicare volume as grants.

### General Payment Relief

Several changes have occurred to improve payment, which require no action by radiologists. This includes a suspension of the 2% sequestration imposed on our payments and relief for sites where the Geographic Practice Cost Index is below the 1.0 national average. Sizable expansion of telehealth coverage has taken place as well. These policies will increase overall payments. Accommodations to lessen the penalties and burden of the Merit-Based Incentive Payment System program were also provided.<sup>2</sup> **B**

#### ENDNOTES

Full list of references available in the digital edition at [ACR.org/Bulletin](https://www.acr.org/Bulletin)



The ACR's Commission on Economics will continue to monitor these changes and influence policy to help practices survive locally and share best practices nationally. I invite you to review the regularly-updated ACR COVID-19 Economic and Regulatory Updates for Radiologists available at [acr.org/COVID-19](https://www.acr.org/COVID-19).





## ***PANDEMIC RESPONSE***

Awareness, preparation, and planning set practices up to weather the COVID-19 storm and protect patients and staff.

In the fall of 2019, Adam Bernheim, MD, assistant professor of diagnostic, molecular, and IR and a team of researchers from Icahn School of Medicine at Mount Sinai in New York, traveled to China to meet with radiology colleagues in Chengdu and formed a research partnership. That meeting laid the groundwork that led Bernheim and his team to the leading edge of research into the previously undocumented illness that emerged from China shortly thereafter.

In the early stages of the COVID-19 outbreak in Wuhan and other Chinese cities, physicians used chest CT routinely to diagnose and track the disease, scanning some patients multiple times. In crisis mode, they lacked the time and the sub-specialty expertise to analyze the images systematically on their own, Bernheim says, and they partnered with his team

“We were the first in the West to have access to large numbers of COVID-19 chest CTs — well before there were significant cases in Europe and the U.S.,” says Bernheim. The team systematically tabulated the findings and published papers in *Radiology* that described the characteristic patterns and correlated them with early, intermediate, and late stages of disease based on symptom time course.

“We learned about the evolution and progression of disease and the time course of how coronavirus infection unfolds,” he says. He urged all radiologists to familiarize themselves with the characteristic imaging patterns — ground-glass opacity through the lungs often with a rounded morphology and peripheral and lower lung distribution — of COVID-19 cases on CT. “If you haven’t encountered it yet, you probably will,” he says, even on studies conducted for reasons other than diagnosis of COVID-19.

## PREPARING FOR PANDEMIC

“Awareness, preparation, and planning are key to responding to this crisis,” says Suzanne T. Chong, MD, MS, chair of the ACR Emergency Radiology Committee, and associate professor in the division of emergency radiology at Indiana University (IU). IU has three Level I trauma centers and 26 additional sites, ranging from tertiary care hospitals to community-based clinics. “The more prepared you are, the more lives you will save and the faster you’ll rebound,” she says. “We have been lucky in the Midwest; we have had more time to prepare than areas hit with early outbreaks.”

As she watched the pandemic hit China, Europe, and the U.S. coasts, Chong says this global pandemic mass casualty incident (MCI) is unlike most trauma MCIs in that healthcare professionals themselves are at risk for getting sick and dying and the timeline could extend for weeks and months.

According to Chong, opening all lines of communication is critical. “We tend to be siloed in medicine, but that doesn’t work with a situation like this,” she says. “Sharing information can save lives.”

Ella A. Kazerooni, MD, MS, FACR, co-chair of the ACR Lung Cancer Screening Registry® and chair of the Lung-RADS® Committee, agrees. Her institution, the University of Michigan/Michigan Medicine, had recently established a strong system of clinical communication with a tiered huddle structure that feeds information up and down the chain quickly and helps

create bonds within and among teams. Put in place in 2019, that enhanced communication has helped the institution prepare for the ongoing pandemic.

“The key thing the institution did — and radiology played a role on the diagnostic side — was to prepare to have capacity set aside very early on,” says Kazerooni. Drawing on plans developed to respond to earlier Ebola and H1N1 outbreaks, they quickly set up a respiratory ICU that was already half full at the end of March as the Detroit area witnessed a surge of cases.

Like most hospitals, University of Michigan/Michigan Medicine also immediately worked to cancel non-urgent procedures, including imaging. Kazerooni says the radiology department used a multipronged approach to defer non-urgent procedures, beginning with deferral of screening exams, like mammography and lung cancer screening. Referring clinicians looked for any diagnostic testing that could be deferred. Radiologists listed all tests that could be safely postponed, and radiology staff communicated via their EHRs to referring providers about rescheduling patients into the future, when possible. Approaching deferrals as a partnership between radiology and referring clinicians, along with strong physician leadership, have been key, Kazerooni says.

## ADJUSTING POLICIES AND PROCEDURES

In a crisis, Chong points out, it is not business as usual. In addition to canceling non-urgent appointments, other policies and procedures must be adapted to the current environment.

Most radiology departments are taking steps to reduce risk of exposure by minimizing the number of people in the reading rooms and moving to remote reading when possible. Those not already set up for remote reading have stepped up plans to provide radiologists with home equipment or moved staff to reading rooms in satellite clinics to reduce personnel at the hospital. Even those continuing to work onsite are reducing face-to-face consultations with colleagues or radiologists — opting to videoconference even if the person is in the next room.

At most facilities, staff reporting for shifts are checked for symptoms when they arrive and wear masks and personal protective equipment (PPE) throughout their shifts. Shortages of this safety equipment are a concern, especially at smaller facilities that may have more difficulties obtaining needed supplies.

Because asymptomatic patients can spread the virus, RTs are advised to assume everyone is infected — even someone coming in for an X-ray of a broken leg — and wear PPE, says Chong. “Our RTs are on the front lines; they are the ones who risk exposure,” she says. Chong has been tracking how other facilities have changed policies and procedures, looking for ideas to maintain efficiency and ensure safety in the face of COVID-19.

Kazerooni notes that the University of Michigan/Michigan Medicine worked with its infection control and environmental services departments to evaluate and reduce the cleaning time for their machines, while still adhering to CDC standards. In some cases they were able to reduce the cleaning time by half, depending on the airflow in the room and the time it takes to recirculate

### READ A STORY. LEAVE A STORY.

The COVID-19 pandemic is having a profound impact on radiology practices across the country. We Are ACR is available to you, your colleagues, your patients, and patient advocates to contribute uplifting stories and personal testimonials of how you’re battling the effects of the pandemic. These stories are meant to inspire you and exemplify just how important your work is. While you’re here, take a moment to submit your picture and written story, a soundbite or short video clip — share how COVID-19 has impacted your practice. Please write a short piece, 1,000 words or less, or record a brief video to share your thoughts and action items so that your ACR community can learn more about work. Visit [acr.org/WeAreACR](https://www.acr.org/WeAreACR) to share your story today.

— significantly reducing downtime and increasing throughput, especially for CT scanners and radiography suites.

## ADAPTING APPROACHES

ACR and other radiological associations have issued guidelines for using CT scans and reporting results in the diagnosis of COVID-19, recommending against routine use of CT and highlighting the importance of using standard language in reports. But sometimes things don't play out as planned, notes Daniel Ortiz, MD, a general radiologist with Summit Radiology Services, PC, an independent private practice of 20 radiologists serving eight hospitals in rural northwest Georgia.

Ortiz found himself on the front lines of an early outbreak in one of the communities served by his practice, Summit Radiology. After a large church event where people gathered from around the area, patients started showing up at the local ED in early March with a mixture of lower respiratory symptoms and atypical presentations. Several of these patients were imaged and had atypical pneumonia appearance. There was no history of travel to China or northern Italy, making it difficult to connect the dots to COVID-19. Even once physicians made the connection, patients did not meet the then-current CDC criteria for testing. And those who were tested often waited up to two weeks for polymerase chain reaction (PCR) results.

In this situation, Ortiz says, CT was a viable and accessible means of assessing patients — even though a large portion of patients who have negative scans may still be infected. In the absence of PCR test results, the CT helped physicians stratify patients and adjust their level of suspicion — helping to build a story that pushed the treatment in the right direction, Ortiz says. Once the outbreak was recognized, ED staff added an item to their screening questionnaire asking about attendance at large gatherings — and specifically the identified church — to speed up the identification of COVID-19 cases and increase pretest probability.

According to Bernheim, the positive swab reverse transcriptase polymerase chain reaction (RT-PCR) test is the cornerstone of diagnosis at Mount Sinai, with chest imaging serving as a complementary tool. “It's not practical to scan large numbers,” he says. “Patients are scanned selectively when there are complications or there is suspicion for other processes such as pulmonary embolism in COVID-19 patients.”

Brent P. Little, MD, assistant professor of radiology at Massachusetts General Hospital (MGH), points out that even though PCR testing is the gold standard for diagnosis, the testing can take time and more than one test may be required to confirm the diagnosis. He notes that in mid-March chest radiography was still MGH's first-line diagnostic tool for selected patients presenting at the hospital with respiratory symptoms, just as it was before the pandemic hit. Although he underscores that normal radiographs cannot exclude infection, findings suspicious for COVID-19 on chest radiography can elevate clinical suspicion and help guide clinical decisions while lab testing is underway. According

to Little, while COVID-19 can have a range of appearances at radiography, many of the cases have a bilateral, peripheral distribution. Radiographs can also provide valuable information about severity of lung findings, or suggest alternative diagnoses.

Meanwhile, at University of Michigan/Michigan Medicine — which has developed its own in-house rapid turnaround testing for COVID-19 — outpatients who suspect they may have COVID-19 contact a specialized nurse triage line. Depending on the severity of their symptoms, patients are either escalated to video triage or sent to a drive-up testing site organized as an extension of a clinic facility. People with milder symptoms are sent home to quarantine; those with more serious symptoms are sent to the ED. Chest CT scans are not a routine part of the diagnostic process, while chest X-rays may be used up front to differentiate COVID-19 infection from other causes of respiratory syndrome, Kazerooni says.

In February, few U.S. radiologists had any experience with COVID-19. Now, many are finding it's their main focus.

“This is a fluid situation that is changing rapidly,” Bernheim says. “As radiologists, we have the responsibility to equip ourselves with knowledge and information. It's critical in taking care of patients.” **B**

By Emily Paulsen, freelance writer, ACR Press

## LEADING DURING A CRISIS

To help radiology leaders guide their practices, departments, and institutions through this unprecedented national health hazard, the ACR has collected radiology-specific materials at [acr.org/COVID-19](https://acr.org/COVID-19).

- » **Free RLI Leadership Town Hall:** In the face of unprecedented health, social, and economic turmoil, five radiology leaders share their perspectives of what's happening on the ground in their locations, how they are leading, and their strategies for coping.
- » **Free JACR® Webinar on COVID-19 and Your Practice:** Radiology leaders discuss how to address practice management challenges stemming from the COVID-19 pandemic.
- » **Taking the Lead Podcast:** In uncertain times, strong leaders are more important than ever. Find inspiration and wisdom in these leadership conversations.
- » **Optimize Your Team Performance During a Crisis:** During the recent RLI course, “Maximize Your Influence and Impact,” ACR BOC Chair Geraldine B. McGinty, MD, MBA, FACR, shared how radiology middle managers can optimize contributions during the COVID-19 pandemic.
- » **Crisis Leadership:** Frank J. Lexa, MD, MBA, FACR, explores the importance of leadership and team management skills in managing crises — and strategies to build effective team relationships with administration and physicians in other disciplines.

# Answering the Call

## Radiology residents and fellows at Massachusetts General Hospital volunteer for clinical service in response to COVID-19.

Hospitals across the nation are taking extraordinary measures to ramp up capacity as they receive an increasing number of COVID-19 patients. As part of these efforts diagnostic and IR residents and fellows at some hospitals, including Massachusetts General Hospital (MGH), are taking the unusual step of volunteering to provide clinical care to COVID-19 patients in the wards. “I can’t recall any other time that radiology residents and fellows have been asked to step in like this,” says Efrén J. Flores, MD, officer of radiology community health improvement and equity at MGH. “It really cements the idea that we’re all in this together.”

At MGH, leadership issued a request for volunteers among its radiology trainees — and more than a dozen diagnostic and IR residents and fellows have answered the call. The move comes at MGH and other hospitals as the number of confirmed COVID-19 cases has surged in the U.S., recently surpassing all other nations in the world and threatening to overwhelm hospitals across the country. “As Thomas Paine famously said, ‘The times have found us,’” notes Samantha G. Harrington, MD, MSc, former chief radiology resident (R3/PGY4) at MGH who is among the residents and fellows who have volunteered for clinical duty. “This is a once-in-a-hundred-years flood; the standard rules don’t apply.”

In the coming weeks, most of the radiology residents and fellows who have volunteered for clinical service at MGH will join COVID-19 surge teams as internal medicine interns on day shifts. According to Harrington and Flores, they will be admitting and discharging patients, providing treatments and administering tests — all under the supervision of an internal medicine attending. “As doctors, we took an oath that into ‘whatsoever house I enter, I will enter to help the sick,’” Harrington says. “Our radiology residents have been truly amazing for stepping up. I am just so unbelievably proud of how they’ve responded in this crisis.”

Residents and fellows who have more extensive clinical experience and training, including Dania Daye, MD, PhD, IR fellow at MGH, will serve as junior medical residents on night shifts. “We will be the responding clinician taking all of the primary calls from the nurses about any issues that come up with the patients and try

to address any of their needs,” Daye explains. “As radiologists, this is a tremendous opportunity to show that we are first and foremost physicians and that we care about patients coming first.”

### Learning Protocols, Staying Safe

The volunteers are drawing upon training from their medical school intern year and rotations to help in the wards. Additionally, MGH’s department of medicine has provided training materials and online sessions to help familiarize radiology residents and fellows with COVID-19 treatments and protocols. “All of us residents and fellows who have volunteered have spent time reviewing the training information from the department of medicine, reading materials received from colleagues, and working together with internal medicine resident volunteers to optimize our electronic medical record skills, so we can hit the ground running,” says Mari Tanaka, MD, an integrated interventional and diagnostic radiology resident (PGY-3) and current chief resident who volunteered for clinical duty.

In addition to training the radiology volunteers for the clinical response, MGH’s department of medicine provided training every hour about how to properly don and doff personal protective equipment (PPE). PPE access has been a concern among hospitals, healthcare providers, and state legislators nationwide, with many reporting too little PPE for everyone responding to the pandemic. Daye says that MGH has a disaster stockpile of PPE, so she feels confident that the hospital has enough PPE for everyone. “The most important issue with PPE is knowing how to don and doff it without infecting yourself,” she says. “The risk of infection to healthcare workers remains low as long as you know what you’re doing, and the training has prepared us for that.” Still, Flores says that provider health and well-being remains a concern. “We’re proud of the volunteer residents and fellows for doing this, but we are absolutely praying for their safety,” he says. “It shows how much radiologists are committed to patient care.”

Tanaka takes comfort in the daily emails that MGH sends to all employees about the care they are providing to COVID-19 patients in the hospital. She says she feels well-informed about the risks of working on the frontlines to care for patients with the virus. “I have read the outcomes data and compared this against my specific health risks. I thought carefully about this and am very much at peace with my decision,” she says, noting that she is taking every precaution she can to protect her health. “I follow all guidelines about washing my hands and avoid touching my face. I deal with my daily stresses



Radiologists are playing a critical role in the national COVID-19 pandemic response. The case studies at [acr.org/Imaging3-COVID](https://www.acr.org/Imaging3-COVID) highlight how radiologists are contributing to the response and outline actionable steps for others to follow.



Perry J. Hampilos, MD, and Samantha G. Harrington, MD, MSc, are pictured together after finishing their stint on a COVID-19 unit.



▲ Mari Tanaka, MD, (left) and MGH senior resident Monica K. Johnson, MD, MPH, are pictured after finishing a brief rotation on a COVID-19 ward.



◀ Dania Daye, MD, PhD, celebrates completing her first night on the COVID-19 ward at MGH with a selfie.

from ongoing uncertainty by optimizing my mental and physical well-being any way that I can. I try to eat healthily, exercise at home, check in and chat with my family and friends, and decompress with my fantastic co-chief residents.”

## Lending a Hand

As the numbers of COVID-19 cases rise, more hospitals across the nation might look to radiology and other specialty areas for help in responding to the pandemic. Tanaka says that radiology trainees and others should consider it a privilege to have the choice about whether to serve in the wards. Many other providers, she points out, don't have a choice. “My advice for potential volunteers is to review available data about outcomes for patients affected by COVID-19 based on age and co-morbidities, figure out what your risk profile is, and determine if you can accept that,” she says. “Next, have a clear discussion with your loved ones about the reality of the situation and why you want to help. Listen to their concerns and address them to the best of your ability with data, if possible. If, for whatever reason, you cannot clear all these steps and volunteer for the wards, support your colleagues who can.”

Radiologists can support their colleagues who volunteer for the wards by taking over caseloads, stepping in to teach medical students, and regularly reaching out to the volunteers. “They can check in on the residents and fellows with text messages, offer to provide groceries

or other supplies, support wellness initiatives such as online workout classes or Zoom hangouts, and continue to contribute to the radiology department through clinical work or medical student education,” Harrington says. Providers and staff in radiology and across MGH are expected to do whatever they can to help ensure continued delivery of quality patient care. “Our hospital president has equated it to wartime,” Flores says. “It's all hands on deck. Your job description today may not be your job description tomorrow.”

Whatever role they play, radiologists have the expertise necessary to improve the response and help patients in need. “This is a global problem that has affected all of us,” Tanaka says. “It will require all of us doing our part and stepping out of our comfort zone to address this together in a way that results in the least amount of lives lost. Radiologists, first and foremost, are physicians. Through all of our years of training, we developed skills that can be polished quickly and that are needed now. Others are asking for our help. As doctors and human beings, if we can help, we should.” **B**

By Jenny Jones, Imaging 3.0® managing editor, ACR Press



## Maintaining Wellness During a Pandemic

A longtime believer in staff well-being shares his tips for minimizing healthcare personnel stress during the COVID-19 outbreak and beyond.

**A**s physicians and healthcare teams around the world find themselves facing the unprecedented challenge of COVID-19, the topic of how we care for ourselves and our colleagues has never been more important. The influx of patients in need of emergency services as a result of the pandemic is taxing the entire healthcare system and its workers. Medical professionals who may have been experiencing feelings of burnout prior to the pandemic are now particularly vulnerable. The current crisis illustrates the benefits of developing a culture of wellness to support staff as a core practice philosophy.

Robert J. Min, MD, MBA, FACR, chair of radiology at Weill Cornell Medicine and president of the Weill Cornell Physician Organization, spoke with the *Bulletin* to discuss some of the innovative wellness strategies and successes he has led over the years — and how the changing environment brought about by the current pandemic goes to the heart of staff well-being.

### What advice do you have for radiology groups in the early stages of developing a wellness program?

Practices should realize that it will take time to see results from wellness efforts. In no way do you start these things and suddenly everyone is doing great and there is no burnout. If you look at places where there has been success, you would be surprised at how slowly improvements to well-being came along.

### How do you build a culture of wellness?

I've been really involved with our residents throughout the years. I meet with them as a group for two hours every month and we always spend some time on well-being. We let them know we are committed to creating an environment that enables faculty, staff, and trainees to do what they love — and to free them up from things that might be barriers to that. You want them to know

they are valued, and that they are offering value. As much as we want them to love what they do, we have adopted the philosophy that loving who they do it with is just as important.

### What adjustments have you made since the pandemic?

We are fortunate to have valuable resources available to our faculty, staff, and trainees here at Weill Cornell, including members of the department of psychiatry who act as liaisons to assist with stress management. They have conducted Zoom sessions that serve as a forum to openly discuss concerns and feelings about the pandemic — and to share what may be effective coping strategies.

### Can a sense of fairness and feeling valued contribute to this type of open exchange?

COVID-19 has been extremely challenging, particularly for those of us in New York City at the epicenter of the crisis. Naturally, everyone is dealing with various levels of anxiety, stress, and fatigue. We have relied heavily on our core principles of transparency, fairness, and open communication. I have twice weekly Zoom meetings with all faculty and trainees. I do my best to let everyone know the current state of things, answer any questions or concerns as best I can, and try to recognize the many people who have shined in the midst of such darkness.

### What are some things that promote a sense of value and fairness within your group?

I have always been guided by a few general principles, including parity and transparency, even with things like salary. We don't have incentives or bonuses based on volume or how many relative value units an individual generates. I understand that money does matter, but I don't want it to create perverse incentives. Everyone gets treated equally — we don't have differences based upon subspecialty, gender, etc. We've really been a group that has excelled in terms of inclusion and gender diversity.

### How does the patient experience align with your wellness philosophy?

Patient care must be an overriding principle. We encourage our radiologists to interact directly with patients — which is so important to their own feelings of value. It goes to the heart of feeling good about yourself. When your mission is to churn out as many cases as possible, that is probably not something you're going to feel good about. Everyone understands the value of providing the best experience for our patients. Our department may not be the place where you'll make the most money, but it is a place where you will be allowed to excel, you will be supported, and you will enjoy the people you sit next to. We recruit people who value those things above dollars.

### How important is promoting your emphasis on staff well-being during the hiring process?

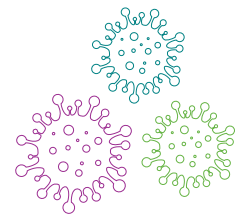
I interview every person who applies for a position with us — faculty, residency candidates, nurses, RTs, etc. I meet every senior patient coordinator, every call center representative — everyone. This may seem crazy, but I do it because those are vitally important positions. We consider them a major part of the healthcare team; all are healthcare providers. If you look at the patient experience, it's not all about the physician. It is about everyone who interacts and communicates with our patients. Spending time meeting the individuals who are interested in joining our team is the best investment of my time. When people think, "Oh, you're meeting with me," it emphasizes the importance of the role and the expectations. They know their position is valued before they take the job. That is how you get the best people at all levels, and I'm astounded that more leaders do not take this approach.

### What are some positive things you can do to build a strong team and reduce burnout rates?

Our trainees are the foundation on which we were built. They get to know us, we get to know them, and so there is low-risk in ensuring a good fit when staying as fellows or joining our faculty. We emphasize developing leaders so people coming on board feel like we are going to help them create a desirable and attainable career path. Team-building is critical. For years, like many other places, we have funded social events, like a happy hour every month; however, we do that not just for our own radiology residents but for residents from other departments. Similarly, we fund dinners for our faculty and encourage them to involve individuals from other divisions and other departments. Building such relationships not only helps in getting things done, particularly during challenging times or situations, but has also been shown to decrease burnout.

Taking a mental and physical break from the work makes for a stronger team as well. We fund something called "class pass" for all trainees. It gives them unlimited access to any sort of workout session they are interested in. It could be yoga or weights, but also other things that contribute to well-being — like a healthy cooking class. We supplement these by bringing in experts to speak on topics such as mindfulness, meditation, or nutrition. For the past few years, we have also supported a retreat for our radiology residents. These resident-run retreats have many benefits including team-building and developing trust, not just within a particular class but amongst the different years.

We have several social events scattered throughout the year, including welcome parties, holiday celebrations



### Resources for Self-Care

Self-care is a critical part of well-being, but how do you make time for yourself in the middle of a pandemic? Visit [acr.org/wellbeing](https://www.acr.org/wellbeing) to find a list of resources, activities, webinars, podcasts, and more to combat the toll of COVID-19. If you have a resource you'd like to share, please contact [copllstaff@acr.org](mailto:copllstaff@acr.org).

*continued on page 20*

# All Hands on Deck

**A radiology resident shares his experience working on the front lines in the battle against COVID-19.**

**A**s the number of COVID-19 cases rises across the nation, the day-to-day has changed drastically for Justin S. Shafa, MD, chief resident at Jacobi Medical Center in New York City, and his colleagues. Instead of reading images and spending time in the radiology department, Shafa and his co-residents are now taking on a variety of roles. The *Bulletin* spoke with Shafa about what it's like to be on the front lines at the epicenter of the pandemic and how his team is adapting to meet the hospital's needs.

### **What does your day-to-day as a radiology resident look like now?**

Essentially, we're no longer radiologists — we're more like medical interns and residents. We're doing whatever we can to help the internal medical department. The four of us who are Early Specialization in IR (ESIR) have formed a procedure team that goes around to the medical ICU, the cardiac care ICU, and the oncology ICU — all of which are filled with coronavirus patients at this point. We do whatever procedure we can to free up those nurses, residents, and attendings so they can spend time on other patients and provide high-level care to those coronavirus patients. We do things within the IR realm — like placing central lines, US-guided IVs on hard sticks, and even some blood draws. We're doing whatever we can to help.

### **How are you dealing with the daily stress of so much uncertainty?**

It's hard. Most of the ways I typically relieve stress — the gym or my boxing classes — are closed right now. I try to work out with whatever limited equipment I have in my house and give myself down time by playing video games.

What really stresses me out isn't the work or the hours, but how bad things are in New York City. I take the subway every day to get to the hospital, which is 12 miles away. It's packed. I'm still seeing people around here playing basketball and hanging







“In a larger sense, I’ve learned that medicine is a family, and I’ve seen us all come together during this time of need. There are no more turf wars – just many amazing people doing whatever they can to help.”

◀ Justin S. Shafa, MD, is pictured on his first day of redeployment in his PPE at Jacobi Medical Center in New York City.

out in groups. If it continues like this, it will get exponentially worse. When I walk home, people don’t observe the six-foot rule because in the city, that’s hard. I hope other major cities, like San Francisco, Chicago, and Los Angeles, do a better job than New York.

#### Why is it important that the radiology community steps up at a time like this?

We have to do our part. Yes, we’re radiologists, but that means we are also doctors. All of us have done a medical internship or, as in my case, a surgical internship. All hospitals in the area have nearly 100% coronavirus cases. We can’t have 16 residents sitting on their hands while radiology volume is low. We’re not going to have 10 residents at home waiting to be called in. We’re going to help out where we need to help out, using whatever skills we have to do so. All hands on deck.

#### Is personal protective equipment (PPE) access a concern right now?

NYC Health + Hospitals has established conservation measures for PPE to ensure staff is protected given the global supply shortage, but we’ve always had access to the PPE needed. The hospital system follows all CDC and NYS/NYC health department guidelines on PPE. Conservation measures include reusing N95 masks, unless they became soiled, by putting a simple surgical mask over it to shield it. Then, we throw the top mask out and we hold on to the N95 mask.

#### What is your best advice for radiology residents right now?

Volunteer your services in areas you feel comfortable. Try to recall those skills you had maybe a very long time ago after a surgical internship or after medical school. A lot of opportunities are available. We’re doing medical intern tasks, like e-consults with patients and helping out in research and data collection. If you can perform a procedure in an IR suite, you can perform it in the ICU. Get your US machine and free up an ICU fellow or nurse to take care of other patients. The entire medical community is stressed out, so do whatever you can to help.

#### What have you learned about medicine during this crisis?

I’ve learned that the radiologist is first and foremost a clinician. We are so much more than a person behind the computer screen in a dark, quiet room looking at images all day. I’m proud of my team of residents who have stepped up to help, most of them using their clinical skills to act as internal medicine residents, while myself and three other ESIR residents have been using our interventional skills to help place lines throughout the ED, ICUs, and floor. In a larger sense, I’ve learned that medicine is a family, and I’ve seen us all come together — attendings, residents, nurse practitioners, physician assistants, registered nurses, and hospital support staff — during this time of need. There are no more turf wars — just many amazing people doing whatever they can to help. **B**

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#### Training Resources for Residents During COVID-19

The ACR is here to support radiology residency programs during the COVID-19 outbreak with free online residency training resources at [acr.org/COVID-Resident](https://acr.org/COVID-Resident).

# Fostering the Future

## The ACR's PIER internship program for first-year medical students connects underrepresented groups and women with the radiological professions.

*This article is the second of a three-part Bulletin series. Readers will accompany Ragni Jindal, MD, as she highlights inspirational stories from radiologists around the country.*

The importance of mentoring medical students and connecting young talent to radiology continues to be top of mind for the ACR. The College's goal is to introduce medical students to the field early — particularly those from backgrounds underrepresented in the specialty and women, who might not otherwise be informed about or consider radiology or radiation oncology.

Knowing that medical students represent the future of our specialty, the College is prioritizing the education of students about what radiology has to offer and how radiologists contribute to our communities. The ACR Commission for Women and Diversity founded the Pipeline Initiative for Enrichment of Radiology (PIER) mentoring program in 2016 to increase minority and women medical student exposure to and preparation for radiology postgraduate training. In each of the last three years, five PIER scholars were selected to work side-by-side with experienced radiologists in both academic and private practice environments. As part of the program, PIER scholars prepared and presented a research paper, enhancing both their understanding of the radiological sciences, as well as the competitiveness of their residency applications.

Ragni Jindal, MD, a radiology resident at NYU Winthrop Hospital, spoke with Johnson B. Lightfoote, MD, MBA, FACR, chair of the ACR Commission for Women and Diversity, to discuss how through the PIER program, the Commission is ensuring that the diversity of the radiology community reflects the increasing diversity of the U.S. population.

### How did the Commission launch the PIER program?



COVID-19 resulted in unanticipated institutional restrictions, including eliminating many in-person internship programs for medical students. As a result, ACR staff and the PIER Steering Committee have formulated a virtual program which has different, unique, and important advantages for scholars and preceptors, while meeting the current imperative for social distancing. For more information, visit [acr.org/PIER](https://acr.org/PIER).

The PIER program was launched with the help of Nth Dimensions™, an educational nonprofit striving to increase diversity in orthopedics and other underrepresented medical specialties. The PIER internship attracts young talent that not only diversifies our physician workforce, but also increases effective communication, improves patient compliance, develops professionals originating from and sensitive to needs of our diverse service population, and enhances quality of care. In March, two PIER scholars from our inaugural class matched into radiology, and we expect those numbers to grow each year as the College's medical student outreach and engagement intensifies.

### How has the program evolved since it began? Have there been obstacles along the way?

The PIER program's primary goal is both well-defined and aspirational — we want to increase the enrollment of underrepresented minorities and women in radiology and radiation oncology residencies. Now, how do we get there? The initial Nth Dimensions program served as a great starting point, but ACR needed to adapt it to become more radiology specific, and to increase our enrollment. In 2019, we decided to bring the program in-house, and now manage PIER as an internal ACR program, leveraging all the College's extensive educational resources and experience. Over 30 applications were received for the summer 2020 radiology internship program — more than the previous three years combined. With such an impressive pool of candidates, Dr. McGinty and myself reached out to radiology department chairs nationwide. Several chairs enthusiastically volunteered to sponsor PIER scholars at their institutions so that more deserving students could be afforded this valuable internship opportunity. With the support of these chairs, the PIER team was able to offer the program to a total of 11 talented young people for summer 2020 (see sidebar).

### What is your advice to medical students and radiology residents who are just starting out?

Passion, preparation, and active involvement are very important for medical students and residents who want to improve the diversity, inclusion, and representativeness of our specialty. And the diversity of our professional workforce matters increasingly as radiologists seek to effectively serve our more diverse population. We are blessed to practice a profession and science that profoundly benefits humanity. The writer William F. Gibson noted, "The future is already here; it's just unevenly distributed." The PIER program is one way the ACR is working to make the practice of radiology more inclusive. And that can only benefit the College, the specialty, and our patients. **B**

# Less Is More

## Radiology-led efforts drive decline in patient radiation doses.

**N**o single change agent is responsible for a 15 to 20% reduction in medical radiation doses to U.S. patients, but this significant stride — over a 10-year period — can be largely credited to greater awareness and reporting efforts led by the radiology community.

In November 2019, the National Council on Radiation Protection and Measurements (NCRP) issued Report No. 184, “Medical Radiation Exposure of Patients in the United States.”\* The report revealed that most medical imaging doses are stable or decreasing — in stark contrast to a previous NCRP report showing a six-fold increase in radiation doses from the early 1980s up to 2006.

That report spurred a spate of initiatives, including the Dose Index Registry (DIR), Image Wisely® and Image Gently® — and increased radiation dose awareness overall, according to Mythreyi Chatfield, PhD, ACR EVP for quality and safety and a member of the NCRP committee that authored the report.

Practices in nuclear medicine had the biggest impact on the dose reduction — where the radiation dose per person decreased by more than 50% — largely because of fewer procedures within cardiac nuclear medicine. On the other hand, the number of CT scans increased by 20% over the 10-year period, but the average dose to the patient per CT exam went down by 6%.

Facilities use the DIR to compare their CT dose indices to regional and national values. The facilities then receive quarterly feedback reports comparing their results to aggregate results by body part and type of exam.

“The new report shows the average radiation dose per person has decreased,” says Mahadevappa Mahesh, MS, PhD, FACR, chair of the ACR Commission on Medical Physics (who also served as vice chair of the NCRP committee that authored the report). “We need to build on this moving forward. We have to keep up awareness of the need to optimize imaging protocols to minimize radiation risks — at the same time maintaining high image quality.”

The report notes technological advances that provide higher-quality images at lower doses. “If you look at scanners from, say, 10 years ago, some of those delivered four times the dose,” says Fred A. Mettler Jr., MD, FACR, chair of the NCRP committee tasked with completing NCRP 184, and clinical professor of the department of radiology and nuclear medicine at the University of New Mexico School of Medicine.

“As that equipment is getting replaced, those doses

are coming down,” Mettler says. “By the College having registries — more than 5 million entries in the CT registry, for instance — we can now see the state of practice regarding dose,” he says. “This registry data empowers radiologists to really have an impact on patient care.”

“Efforts to increase dose awareness among the medical community and the public are having a strong effect in terms of dose optimization and reduction,” Mahesh says. These initiatives include raising awareness of appropriateness guidelines, increasing access to dose registry data, and implementing mandatory accreditation of imaging facilities.

There is still more to learn when looking forward. “While we have more data on dose indices for CT from the DIR, working on this report exposed huge knowledge gaps in how we track some of the other procedures with ionizing radiation,” says Chatfield.

To fill these gaps, the ACR is piloting an IR/fluoroscopy and computed and digital radiography component of the DIR. “This will provide better information on the dose indices for the next refresh of the NCRP report,” Chatfield says. Interventional doses are difficult to quantify, with different patients getting different doses for different scans.

“Data on the number of procedures in IR — collected in a way that is meaningfully applicable to the national exposure measures — is simply not available. We need to work on systematic and coordinated tracking of data if we want to improve reliability of our estimates,” Chatfield says.

“It is encouraging to see that, 10 years later, initiatives to manage radiation exposure have largely been successful,” Chatfield says. The new report notes, however, that factors such as payment models, new regulatory guidelines, and technological advances should be assessed further to ensure the accuracy of dose estimates in future reports.

While the news is good, it is important not to become complacent, Mahesh says. All radiologists are encouraged to access and read the report at [bit.ly/NCRPReport\\_No184](https://bit.ly/NCRPReport_No184).

Moving forward in keeping doses low — or reducing them further — requires close interactions between radiologists, medical physicists, and RTs. Mahesh says, “Members should put to use the tools ACR offers to monitor and improve upon radiation dose — and its dedication to an overall reduction of radiation doses to patients in the future.” **B**

By Chad Hudnall, senior writer, ACR Press

\* NCRP Report No. 184 is a 10-year update to an NCRP report published in 2009. The current report updates medical radiation exposure information with data collected between 2006 and 2016.

“We have to keep up awareness of the need to optimize imaging protocols to minimize radiation risks — at the same time maintaining high image quality.”

— Mahadevappa Mahesh, MS, PhD, FACR

## Maintaining Wellness

*continued from page 15*

and family events. We had a really popular one last fall where we sent everyone and their families to a baseball game. This year, we are going to host something at the zoo, encouraging people to bring their families to meet each other. We started a parental group where parents get together and talk about the issues that are important to them, and we have brought in outside speakers in that area as well.

We have always had a liberal parental leave policy to ensure that every parent is allowed and encouraged to take the time they need to be with their new families. We cover their complete salary over 14 weeks. We are now installing breastfeeding pods so residents don't have to go far when they need them, and we are buying breast pumps that can be used discreetly virtually anywhere so attending lectures or continuing read-out can be done more easily. Things like this are important. They require relatively small dollars, but they remove stresses that individuals commonly face. It's about promoting well-being by removing barriers to wellness.

### What would you say about the stigma associated with burnout?

Open communication is so important. You have to create an environment in which people don't feel embarrassed to bring up the fact that they need help or are feeling overwhelmed. Everyone is going to struggle at some point. There are studies showing that healthcare providers, particularly physicians, who spend 20% of their work time doing something that they really love have significantly lower rates of burnout. That differs for everyone. Some people love doing research, others education, and others may be passionate about global healthcare, as examples. I tell people to be thoughtful in figuring out what would make them the happiest. I make sure they know that I will do my best to enable them to pursue it. This concept is more than offering encouragement. You need to formalize this kind of thinking and continually provide support.

### Can you make a business case for having a strong wellness program?

I often hear that our department can support wellness because we can "afford it." Let me offer an example of a common challenge,

how to make it into a positive, and why it pays. We were one of the first places that went to attending coverage 24/7, seven days a week. Our outpatient facilities are open from 7:30 a.m. to 11:00 p.m. at night, seven days a week. Now people might think, "How do you staff that? That is a recipe for burnout." We don't have much mandatory off-hour call coverage. We offer the outpatient evening, night, and weekend coverage as optional "moonlighting." The fact is our radiologists fight for those additional hours. It allows those who can or want to earn extra money the ability to do so and allows me to cover those slots in a positive rather than negative manner. Staff find it to be a huge perk.

Radiology practices have particularly large fixed costs including expensive equipment leases and warranties, and building costs (rent). Being able to extend hours to evenings and weekends is particularly valuable to our practices because of this. Any additional such receipts to offset our fixed costs have a greater contribution to the margin — that is, the profits of off-hours imaging are higher, so it more than pays for the additional variable costs such as moonlighting pay for radiologists, or additional pay for staff. It's also great for patients because they do not have to take off from work or miss school. In fact, these appointments have the lowest no-show rates compared with other time slots. This is how you can take what people might consider to be a hassle, a negative, and make it into a positive for everyone, including the business.

Overall, I think that there is no better return on investment than making wellness a priority. The returns you will see will be profound. It results in higher quality of care delivered, greater job satisfaction, and lower turnover — all of which are key to running a good business.

### What is the team you helped build demonstrating now during the crisis?

I spoke with the *Bulletin* before COVID-19 and we discussed the investment that we have made over many years in creating a positive, supportive, caring environment, and recruiting the best people that valued these things. We could never have anticipated the magnitude of this global crisis, but staying unified and keeping our morale up are proving to be the most important factors in surviving this. I believe that, and I believe we will emerge even stronger as a team. **B**



## JOB LISTINGS

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**Tennessee** — A practice covering a community owned hospital/outpatient center near Kentucky Lake is offering a flexible schedule with 26 weeks of coverage and 26 weeks of vacation. The position covers all modalities with no IR coverage required. After hours/weekend coverage is provided by nighthawk service with final reads. The position offers full/part-time employment or locum option, and a salary of \$325,000, plus benefits.

**Contact:** Email [ma-burt@hotmail.com](mailto:ma-burt@hotmail.com)

# What has being a radiologist during the COVID-19 pandemic taught you?



**“As a first-year radiology resident at the heart of the COVID-19 pandemic in New York, I have been privileged to help patients – both as a radiologist in my radiology department and as a deployed resident working on a coronavirus unit. Provider and patient safety are top priorities in the radiology department. They have been enhanced during the current pandemic through proper use of PPE, enhanced cleaning guidelines at scanners, and improved communication with providers. We are helping to triage non-urgent studies, avoiding nuclear medicine ventilation scans, and tailoring US exams to minimize exposure to RTs.”**

– Mohammad Mansouri, MD, MPH, radiology resident at Montefiore Health System in New York



**“I’ve learned how important it is to advocate for RTs, patient transporters, and the radiology department in general. There were many major changes in the hospital that happened very quickly and so it was important to make sure leaders knew what it was really like for us and what we needed. There was a lot of focus on preparing the ICUs and we needed to make sure respiratory precautions were taken among our department, too. The ICUs were exposed to the known positive cases and we were very vulnerable. The most important thing I learned was from our chief quality officer: to maintain a charitable mindset that assumes the best intentions of others.”**

– Crystal L. Piper, MD, MS, radiology resident at Yale School of Medicine in New Haven, Conn.

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The ACR® Foundation (ACRF) sincerely appreciates those who generously contributed to the successful 2019 \$100,000 Health Policy Research Match Challenge. The ACRF received \$100,000 matching gifts from both a generous radiology practice and the ACR Board. We are pleased to announce that 100% of the ACR Board of Chancellors and Council Steering Committee members contributed to the Match Challenge.

ACRF Health Policy Research, including work done through the Harvey L. Neiman Health Policy Institute® (HPI), is critical to informing evidence-based imaging policy to improve patient care and support the value and role of radiology. Your donation will fund research evaluating the role of radiology in emerging alternative health care models, support the Health Economics and Analytics Lab (HEAL) and provide valuable data to support legislation like the rollback of the Multiple Procedure Payment Reduction (MPPR).

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