



Daily Bulletin

ONLINE AT [RSNA.ORG/BULLETIN](https://www.rsna.org/bulletin)

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Revitalizing the Radiology Workforce Will Require Innovation and Listening

By Mary Henderson

One of radiology's most accomplished and decorated leaders drew from her three decades of experience to deliver a plenary lecture Wednesday afternoon on the challenges facing the radiology workforce in the current environment, from staffing shortages to limited resources.

Jocelyn D. Chertoff, MD, MS, discussed the need for health care organizations to embrace diversity and innovation while building trust within the workforce.

"As of today, hospitals and health systems worldwide face a shortage of at least 10 million workers in 2030," said Dr. Chertoff, chair and professor of radiology at Dartmouth Giesel School of Medicine, in Hanover, NH. "This includes primary care doctors and specialists, including pathologists, neurologists, radiologists and psychiatrists."

AI, Streamlined Workflows and Boosting Morale Will Help

Dr. Chertoff said interest in radiologist recruitment strategies has significantly increased over the past five years, while radiology job postings on the American College of Radiology website has doubled in the past two years. According to AMN



Chertoff

Healthcare, U.S. physician supply and demand trends are driven by seven P's, including the pervasive ill health of the population and burned out, aging providers on the brink of retirement.

"Twenty-nine percent of radiologists today are 65 or older," Dr. Chertoff said. "Sixty percent of U.S. adults have a

chronic medical condition."

Physician burnout was a simmering issue long before 2020, driven by the commoditization of radiology, salaries that trailed inflation, the new RVU production model and understaffing. Postpandemic, huge financial and moral pressures have made physicians even more vulnerable to over-

working, creating high levels of anxiety, depression and sleep problems.

Staff shortages compounded by enormous pressure for productivity and shrinking reimbursements mean radiologists are in desperate need of recruitment and retention strategies.

"Rather than poaching staff from each other, work on morale by delegating authority, increasing autonomy, rewarding good work, and most importantly, by encouraging innovation," she said.

To revitalize the practice of radiology, radiologists should take advantage of remote capabilities and deploy data systems and AI to automate processes, streamline workflows and improve staff satisfaction, she said.

"We need to look at new ideas, such as opportunistic imaging—or taking full

CONTINUED ON PAGE 10

Patient Engagement with Radiology Report Content

By Mary Henderson

How patients engage with their radiology reports and what frustrates them was the subject of a study presentation during a Wednesday session.

"As the result of recent federal legislation, we're really in the age of the patient portal in American medicine," said Ryan Short, MD, assistant professor at Washington University School of Medicine in St. Louis. "Prior studies show that up to 59% of patients are actually accessing their radiology report through online portals. But there's pretty limited data exploring patient experience and interaction with radiology reports in a real-world clinical setting."

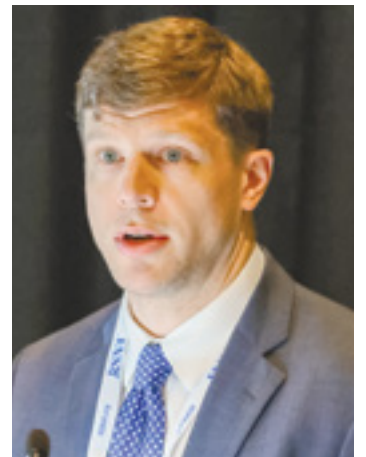
Dr. Short and his collaborators built a software platform that transforms the radiology

report into an interactive web page. The application's algorithms annotate the text of the radiology report with clickable hyperlinks that are linked to patient-centered content written by radiologists and intended for patient consumption.

"With modern web technologies, we're able to monitor and record how patients use this program in the real world," he said. "In this study we aimed to evaluate patient engagement with this radiology report content to learn more about how patients are viewing their reports."

Patients Searched Definitions Of Terms They Saw As Impactful

The web-page style reports were delivered to patients at 10 imaging centers in and around Denver. The researchers analyzed the use of the application between May 2021 and May 2022. Data collected during the study period included the number of annotated terms and phrases with clickable links in each report, how often each term was clicked and term click rates (the number of clicks divided by the number of



Short

CONTINUED ON PAGE 10

Thursday At a Glance

Plenary Session

Guang-Hong Chen, PhD
Simon R. Cherry, PhD
Lorenzo Nardo, MD, PhD
Ramsey Badawi, PhD
11 a.m. - Noon | E450A

Together We Can Make a Difference
 Panelists will explore why technological innovators and clinicians must collaborate synergistically to realize a shared goal: Enhancing patient care.



Chen



Cherry



Nardo



Badawi



7:30 a.m. - 4:30 p.m.

The Art of Imaging Exhibit
 Learning Center

8 a.m. - 9 a.m.

Science and Education Sessions

9 a.m. - 9:30 a.m.

Poster Discussions
 Learning Center

9 a.m. - 3 p.m.

Learning Center Theater Presentations
 Learning Center Theaters

9:30 a.m. - 11 a.m.

Science and Education Sessions

12:15 - 1:15 p.m.

Poster Discussions
 Learning Center

1:30 p.m. - 4 p.m.

Science and Education Sessions

View the full program and add sessions to My Agenda on the RSNA 2023 App or at Meeting.RSNA.org.

Daily Bulletin

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Future RSNA Annual Meeting Dates

Starting in 2027 and continuing every other year, the RSNA annual meeting will be held in Chicago two weeks earlier, ending the week before the U.S. Thanksgiving holiday (the fourth Thursday of November). The meeting will continue to follow the same Sunday to Thursday schedule.

Here's a helpful tip: RSNA's annual meeting will be held before Thanksgiving during the odd-number years (2027, 2029, 2031, etc.) and post-Thanksgiving during the even-number years (2028, 2030, 2032). This decision comes after careful consideration and feedback from our annual meeting community.

Today's Press Releases Highlight Science at RSNA 2023

Explore these press releases that highlight some of the innovative medical imaging research and new technologies that are being presented at RSNA 2023. Press releases are distributed to the media throughout the week to increase public awareness of radiology and its role in personal health care. To read all the releases distributed during the week, visit RSNA.org/Media.

AI May Aid in Diagnosing Adolescents with ADHD

Using AI to analyze specialized brain MRI scans of adolescents with and without attention-deficit/hyperactivity disorder (ADHD), researchers found significant differences in nine brain white matter tracts in individuals with ADHD. The study applied deep learning to identify markers of ADHD in the multi-institutional Adolescent Brain Cognitive Development (ABCD) Study, which includes brain imaging, clinical surveys and other data on over 11,000 adolescents from 21 research sites in the U.S.

Common Headaches Tied to Neck Inflammation

Researchers have identified objective evidence of how the neck muscles are involved in primary headaches. However, no objective biomarkers exist for myofascial involvement in these headaches. The researchers investigated the involvement of the trapezius muscles in primary headache disorders by MRI and explored associations between muscle T2 values and headache and neck pain frequency.

AI Model Predicts Breast Cancer Risk Without Racial Bias

A deep learning AI model was developed using only mammogram image biomarkers to accurately predict both ductal carcinoma in situ (DCIS) and invasive carcinoma. To accurately determine breast cancer risk, foster early detection and improve patient survival rates, it is important that risk models are developed that are applicable across different populations. The study sought to assess the performance of an image-based deep learning risk assessment model in predicting both future invasive breast cancer and DCIS across multiple races.

Studies of Cardiac Imaging Utilization Shows Unexpected Results

By Melissa Silverberg

Understanding recent trends in imaging, including utilization of cardiac CT and MRI among the Medicare population, can help radiologists understand overall specialty trends and predict future workforce needs, according to a Wednesday session.

“Heart diseases have been a leading cause of morbidity and mortality, and their prevalence has been increasing with age. Because of the aging population, more cardiac testing is being performed, especially among the Medicare population,” said Mustafa Al-Ogaili, MD, research scholar at the Mayo Clinic in Phoenix.

Cardiac CT Usage Increased In Proportion To Population

Dr. Al-Ogaili’s study evaluated the utilization of cardiac CT among the Medicare population from 2013 to 2020, overall, and by provider type. In 2013, 38,806 cardiac CT exams were performed, a number that increased by 190% to 112,909 exams performed in 2020.

This period also saw a shift in who was evaluating cardiac CTs. In 2013, cardiologists interpreted 19,913 (49.2%) of exams, followed by radiologists 17,306 (42.8%). In 2020, that statistic flipped with radiologists interpreting 69,552 (58.4%), followed by cardiologists at 44,165 (37.1%).

Dr. Al-Ogaili said the increase in services provided is proportional to the increase in the Medicare population, but there is a need



Al-Ogaili



Beizavi

for more radiologists to keep pace with demand, especially as more radiologists, as opposed to cardiologists, are interpreting the scans.

“Increase in utility of these services will likely increase waiting times and ultimately impact health care,” Dr. Al-Ogaili said. “This increase in demand could be accounted for if it was met by a proportional increase in workforce along with the implementation of AI to assist in interpretation services and better cardiac illness prevention.”

Drop in Cardiac MR Observed During COVID-19

As cardiac CT imaging was increasing, cardiac MR imaging began to decrease in this same population.

Zahra Beizavi, MD, a resident physician at Columbia University in New York and

previously a research scholar at the Mayo Clinic in Phoenix, found outpatient utilization of cardiac MR among the Medicare population abruptly contracted in 2020 as the pandemic took hold.

Her study found that 13,354 cardiac MR exams were performed in 2013, with the amount increasing each year of the study period up to 31,662 in 2020. However, between 2019 and 2020, the total number of cardiac MR exams performed dropped by more than 7%.

Dr. Beizavi said this data is just one way to look at the overall detrimental effect of the pandemic on other parts of health.

“Decreased imaging, preventive services and elective care all occurred due to the COVID-19 pandemic,” Dr. Beizavi said. “Also, patients experienced delays in care, delayed diagnoses and worse outcomes, particularly older patients and those with cancer or cardiovascular disease.”

Between the buildup of those conditions and the possible long term cardiovascular effects of COVID-19 infection, understanding cardiac imaging trends will be important going forward.

“Cardiac imaging plays a pivotal role in predicting, preventing, and diagnosing cardiovascular pathologies,” Dr. Al-Ogaili said. “Studying the prevalence of services provided for the Medicare population would certainly portray a picture that can help us clear the obstacles in the way of meeting the requirements for a high quality of service and a workforce that matches the increasing demand.”

Access the presentations, “Trends in Medicare Utilization of Cardiac CT,” (W7-SSCA08-1) and “Trends in Medicare Utilization of Cardiac MRI,” (W7-SSCA08-2) on demand at *Meeting.RSNA.org*.

“Cardiac imaging plays a pivotal role in predicting, preventing, and diagnosing cardiovascular pathologies. Studying the prevalence of services provided for the Medicare population would certainly portray a picture that can help us clear the obstacles in the way of meeting the requirements for a high quality of service and a workforce that matches the increasing demand.”

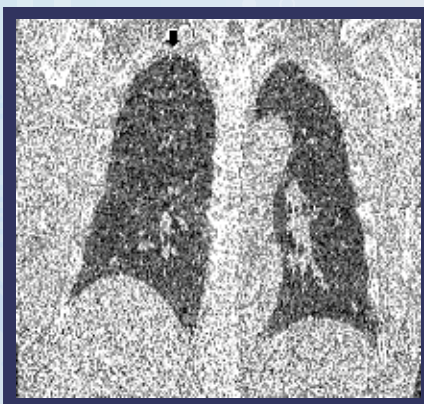
Mustafa Al-Ogaili, MD

Clariπ Pioneers AI for Imaging Safety Population Health Opportunistic Screening

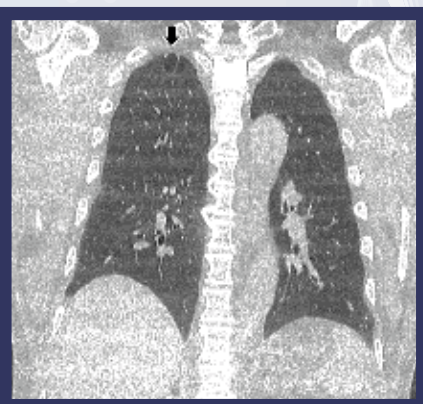
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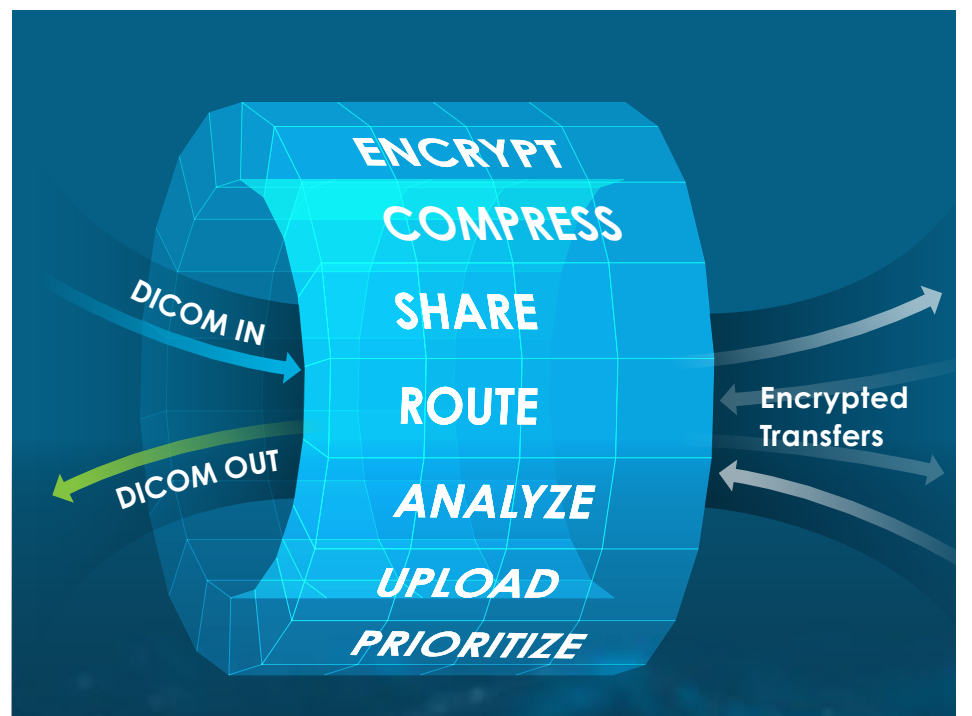
AI Theater: Tues., Nov. 28th, 1:30pm

“Could DL-Based CT Denoising Further Improve Image Quality of PCD-CT?: An Experience at Tübingen University Hospital”

Booth: #4147, South Hall, AI Showcase



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Focus Groups on Health Equity Speak to Need For Change

By Melissa Silverberg

Years ago, Esteban Barreto, PhD, was a first-generation college student in the U.S., navigating the health care and educational system and the inequities within both. That experience led to a lifelong passion for diversity and inclusion work and his recent efforts to develop a health equity curriculum for radiology professionals.

“My experience provided me with a unique lens I can use to tackle health disparities,” said Barreto, who is director of Research Evaluation at Massachusetts General Hospital (MGH) in Boston. He also knew that he was not alone in this experience and was interested in learning other perspectives. He presented the results of a large multi-institutional qualitative study at a Wednesday session.

Focus Groups Drilled Down Into Awareness and Empathy

The project, a collaboration between MGH and Vanderbilt University Medical Center in Nashville, TN, convened four community-based focus group discussions between December 2022 and April 2023 with participants from large academic medical centers, community organizations, medical schools and radiology trainee programs. The groups included 19 medical students, six radiology residents and 14 community members, who were patients themselves,



Barreto

representing underserved communities in the Boston area.

The conclusions of the focus groups fell into three major categories: awareness of health inequities; bridging the gap between knowledge and practice; and leading with empathy.

One of the first questions asked in the focus groups was how the participants define health disparities. The team heard a variety of answers related to implicit bias and unequal treatment, including patients not feeling heard or seen when receiving medical care. Participants also discussed health care access and its inequities, and the importance of ensuring equitable care access for all patients.

In conversations with medical students and radiology residents, there was a senti-

ment that there was a lot of talking about equity in the classroom, but a disconnect between what they learned and actual practice.

“How do we make sure students have the tools they need to care for patients experiencing barriers to accessing care?” Dr. Barreto said.

When asked about what information providers need to understand health equity, focus group members pointed to a lack of empathy in health care. In particular, community members noted that providers often seem rushed and not able to give their full attention to a patient’s needs and perspectives.

“Many community members emphasized the need for patients to be heard and seen when being cared for based on their lived experiences. Radiology residents and medical students also emphasized the importance of considering the social determinants of their patients’ health to provide equitable care,” Dr. Barreto said. “We concluded that it is crucial to partner with diverse communities and hear from underserved patient populations to

understand their health needs, which in turn can help us develop educational resources to bridge knowledge and practice.”

New Generation Passionate About Change

After 15 years of working in the diversity and inclusion space, Dr. Barreto said he knows this is a complex issue, but he was surprised by the urgency he heard from medical students and radiology residents about the importance of including health equity as part of the educational curriculum for future professionals.

“Maybe it is a generational thing,” he said. “Their sentiments echoed an impatience in wanting to see change happen and a real sense of urgency and frustration at ‘why has this taken so long?’”

Access the presentation, “Community-Based Qualitative Study to Inform a Health Equity Curriculum for Radiologists: Project HEALTH (Health Equity Assessment Learning & Training Hub)” on demand at [Meeting.RSNA.org](https://www.rsna.org/Meeting/SSNPM03-4). (W1-SSNPM03-4)

Physics Quiz



Q A large increase in hospital Medicare patients may cause what type of drift that decreases AI diagnostic accuracy?
[Answer on page 10.]

Radiologists Can Help Reduce Patient Cancellations/No-Shows

By Lynn Antonopoulos

Cancellations and no-shows are more common in certain sociodemographic subgroups and can lead to disparities that have devastating consequences in patient outcomes.

Radiologists can play a role in mitigating the negative impact of these occurrences by creating and enacting interventions that address disparities and ensure all patient groups receive timely and necessary diagnostic imaging.

“It’s important that interventions are made to limit the number of cancellations via an imaging center/ordering provider checklist, or even through addressing important health-related social risks,” said Arham Aijaz, BS, first author of a study conducted under Gelareh Sadigh, MD, director of health services and comparative outcome research at the University of California, Irvine.

Speaking to an engaged audience during a Wednesday morning session, Aijaz shared the results of a study he and his colleagues developed to identify sociodemographic factors associated with cancellations and no-shows in an outpatient radiology setting. Because these events can lead to delayed care and worsened outcomes, the researchers also sought to evaluate the prevalence of these events.

Using clinical data from an urban academic health center, the team identified

“Providing education on the consequences of no-shows to these sociodemographic subgroups also remains important to limit the likelihood of no-shows. By enacting these interventions, we can benefit patient outcomes.”

Arham Aijaz, BS

adult patients who either canceled or did not arrive for outpatient imaging appointments between January 2022 and January 2023. The study examined 19,262 missed encounters, predominantly women (67.1%), with a mean age of 60.8 years.

They identified a cancellation prevalence of 22.3% and a no-show prevalence of 2%. Among cancellations, 70.19% were patient-initiated, 18.68% were provider-initiated and 11.03% were imaging center-initiated. They also assessed and compared the sociodemographic factors associated with no-shows versus cancellations.

Social Factors Play a Role in No-Shows

Factors associated with increased likelihood of being a no-show as opposed to a cancellation included being Black, Hispanic, single, divorced/separated, without commercial insurance (i.e., Medicare, Medicaid, self-pay) or those living in the most disadvantaged neighborhoods. Older adults, women, Asians, English speakers, and those undergoing any other modality than CT were less likely to have no-shows.

“Our research highlights an increased

number of cancellations for imaging appointments in our study. It also highlights potential disparities with regards to certain sociodemographic subgroups having an increased likelihood of no-shows,” Aijaz said.

The results support findings in some prior studies, yet Aijaz noted that the study revealed some surprises. “One finding that was quite unexpected was how elevated our institution’s cancellation rates were (22.3%) compared to previously reported literature (8%),” he said. “However, it’s possible that this elevation is due to the flexibility of self-scheduling and being able to cancel and reschedule your appointments.”

Aijaz added that at his institution, mammography, as compared to CT, was associated with a decreased likelihood of no-show, a finding he said was also different from prior studies.

Despite the results, Aijaz noted that identifying the specific reasons for no-shows remained a challenge in this study. “We were not aware of the exact reasons for patient no-shows as they were not recorded. This is something we aim to address in the future with a prospective survey study assessing reasons for no-



Aijaz

shows,” he said.

“Providing education on the consequences of no-shows to these sociodemographic subgroups also remains important to limit the likelihood of no-shows. By enacting these interventions, we can benefit patient outcomes,” Aijaz said.

Access the presentation, “Assessing the Role of Patient Social Factors on Radiology Cancellations and No-Shows” on demand at [Meeting.RSNA.org](https://www.rsna.org/Meeting/SSNPM04-04). (W1-SSNPM04-04)



Physics Tip

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Visiting and host faculty from RSNA's Global Learning Center in Tanzania capture a happy moment.



Attendees enjoy one of Chicago's hometown treats during the Exhibit Hall Happy Hour.



The AI Theater showcased impactful advances in imaging AI innovation.



Crowds gather in the main concourse for a photo opportunity to capture their RSNA 2023 experience.



The redesigned Connections Center offered attendees comfortable seating and live entertainment.



2024 RSNA Board of Directors (left to right): Secretary-Treasurer Jeffrey S. Klein, MD; Richard E. Heller III, MD; Jorge A. Soto, MD; Sanjeev Bhalla, MD; Cynthia S. Santillan, MD; President Curtis P. Langlotz, MD, PhD; Carolyn C. Meltzer, MD; Pari V. Pandharipande, MD, MPH; Jinel A. Scott, MD; Chair Umar Mahmood, MD, PhD; Adam E. Flanders, MD.



All week long, attendees helped design a one-of-a-kind, interactive string art installation representing the unity and diversity of the RSNA community.



New networking spaces in the Connections Center were convenient for informal meetings.



The LEARN letters highlight the endless learning opportunities at RSNA 2023.

Powerup Your PACS Game Using Gaming Devices

By Nick Klenske

Not only is your standard PACS setup of a mouse, keyboard and dictaphone ‘old school’, it’s grossly inefficient. In fact, a study conducted by the University Hospital Basel estimated that the average radiologist mouse travels nearly 1.5 miles in a single eight-hour shift!

“From changing windows to measuring a lesion or region of interest and toggling between image sets, many PACS functions involve multiple clicks or movements of the opposite hand to engage keyboard shortcuts,” explained Puneet Bhargava, MD, director, Gastrointestinal Radiology at the University of Washington (UW), Seattle.

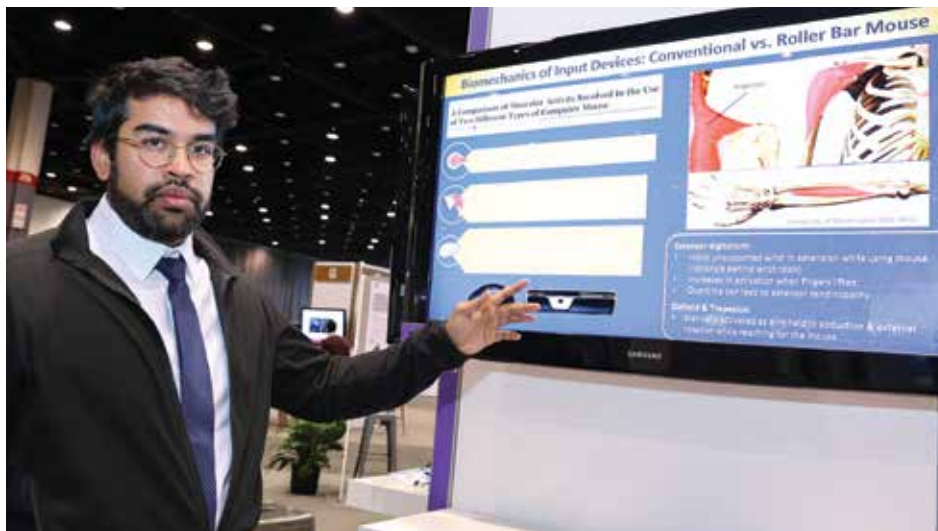
But more than being inefficient, today’s PACS setups are also bad for your wrists.

“All those repeated mouse tasks require radiologists to shift their focus away from the diagnostic image and impose cognitive and physical strain, as well as result in fatigue and a higher probability for errors,” added Nitin Venugopal, MD, a radiology resident at UW.

Drs. Bhargava and Venugopal decided it was high time to rethink the PACS paradigm, and to do so, they drew inspiration from today’s gaming devices.

“Computer gamers and video editors have all kinds of interesting devices that they use to augment their workflow and make it more efficient,” Dr. Bhargava said.

According to Dr. Venugopal, the radiology workflow is similar to that of video editors and graphic designers. “Whether they know it or not, many radiologists



Bhargava

already have a gaming mouse and keyboard at their workstation, they’re just not using these devices’ advanced features,” he said.

Hacked for PACS

The two colleagues showcased some of these devices—and what they can do—as part of an Imaging Informatics Education Exhibit.

“We want radiologists to know how easy it is to program a gaming mouse, keyboard or macro pad and instantly boost its efficiency,” Dr. Bhargava remarked.

Take for example the gaming mouse. Although designed for playing video games, these high-end devices are customizable—meaning they can be easily hacked for PACS.

Dr. Bhargava also recommended investing in a ‘hyper-scroll’ enabled mouse. “This allows the mouse to move freely and can make it easier to review cross-sectional imaging,” he said.

Time to Take Advantage of Advanced Peripheral Devices

Drs. Venugopal and Bhargava say their goal is to see peripheral devices designed specifically for radiologists on the market.

Until then, the two encourage radiologists to discover how easy it is to program shortcuts onto their own devices and try it out for themselves.

“I feel like we’re leaving a lot of efficiency on the table by not taking advantage of advanced peripheral devices,” Dr. Venugopal said.

“Don’t limit yourself to the traditional mouse, keyboard and dictaphone set up,” Dr. Bhargava added. “There are plenty of interesting and useful peripheral devices out there that can fit your individual needs as a radiologist.”

Access the presentation, “Improving Workstation Ergonomics and Productivity with Input Devices: Saving Time and Your Wrists,” (INEE-17) on demand at Meeting.RSNA.org.

Generative AI May Improve Radiology Report Clarity

By Nick Klenske

Large language models can improve the readability of radiology reports by simplifying medical jargon and eliminating unnecessary words, according to research presented Wednesday.

The increasing complexity of imaging and the trend toward higher-level structured reporting have made radiology reports difficult for referring clinicians and patients to comprehend. The recent advances of large language models provide an opportunity to address this problem, said study lead authors Ghulam Rasool, PhD, and senior radiologist Les Folio, DO, MPH, from the Moffitt Cancer Center in Tampa, FL.

“The timing is right to apply evolving large language models to improve the conciseness and structure of radiologist’s reports that tend to be verbose, often with unnecessary language that does not contribute to the clinical question,” Dr. Rasool said.

For the study, Dr. Rasool and Dr. Folio used GPT-4 to improve the signal-to-noise ratio (SNR) in radiologist reports. “Signal” in this context refers to content contributing to the communication, while “noise” means unnecessary words that do not help convey meaning.

“Our goal is to maximize signal-to-noise ratio, much like a radio signal that is easier to hear and understand,” Dr. Rasool said.



Rasool

Using Prompts to Remove Redundant Text

The researchers first prompted GPT-4 to remove redundant words and information not useful for downstream diagnosis, treatment planning and patient reporting. Among the removed words and phrases were “there is” and “at this time.” Then they prompted GPT to convert the higher signal-to-noise-ratio report text to active voice plain English in a manner for general public understanding.

Content signal-to-noise ratio was doubled following the removal of unnecessary words while maintaining meaning for physicians in a more inviting and easier-to-read structured format.

For example, GPT cut a 37-word block of text filled with medical jargon related to a kidney stone down to two brief, easy-to-understand sentences.

“We leveraged prompt engineering best practices on already trained AI models to optimize large language models’ output, resulting in reports that are less than half of the original word count,” Dr. Rasool said.

Initial comparison of the resultant shorter reports with more “signal” demonstrated ease of understanding by referring providers, Dr. Rasool said. The improved signal-to-noise ratio of the radiology report also has the potential to improve radiology’s service to patients.

“Though we have not tested the

patient’s perspective on improved understanding of more concise reports, we believe further study and additional tools to include interactive multimedia reports will help patients understand radiology reports with less noise,” Dr. Rasool said.

While there are significant challenges toward implementing more concise and structured radiologist reports in practices, Dr. Rasool is optimistic that the new research provides a path forward.

“We believe our iterative approach, starting with continuous sampling report signal-to-noise ratio in the background, will

pave the path for other centers to follow in quest of the ideal concise report that is easily digestible by providers and patients alike,” he said. “We are now anonymously sampling volunteer radiologists’ reports as part of a quality measure and sharing with other university medical centers that also would like to do this sampling.”

Access the presentation, “Toward Patient-consumable Radiology Reports—Improving Content Signal-to-Noise Ratio While Converting Medical Jargon to Plain English via GPT-4,” (M5B-SPIN) on demand at Meeting.RSNA.org.



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Making the Case for Prostate MRI's Role in Active Surveillance

By Nick Klenske

Active surveillance is a conservative management approach that is increasingly being used for patients with low- and intermediate-risk prostate cancer.

“With active surveillance, patients are closely followed up to identify if and when cancer progression occurs,” said Cameron Englman, MD, a clinical research fellow and PhD student in the Imaging Department at the University College London Hospital (UCLH). “Unlike active treatment, active surveillance avoids unnecessary treatment for clinically localized disease and identifies progression to trigger deferred procedures without losing the window of curability.”

With this in mind, one has to ask, why aren't more health care providers—and patients—pursuing active surveillance?

“To work, patients must comply with the active surveillance follow-up protocol, which has proven to be challenging,” added Dr. Englman, who made his remarks during a Wednesday session.

Improving Compliance Starts with Decreasing the Burden

Active surveillance usually involves a combination of serial prostate-specific antigen (PSA) tests, digital rectal exams, imaging

and prostate biopsies.

“It's the latter, which can be invasive, uncomfortable and have significant side effects, that tends to be the reason many prostate cancer patients decide to discontinue surveillance,” Dr. Englman said.

Thus, it stands to reason that to improve compliance, one must first decrease the burden—and that means reducing the frequency of biopsies. This is where MRI could help.



Englman

The Benefits of MRI Monitoring

A recent UCLH study suggests that patients on active surveillance can be safely monitored with MRI, with the decision to biopsy being based on imaging findings and PSA kinetics.

The study was based on an MRI-led active surveillance cohort run by UCLH.

“The central strategy of this cohort was not to perform predetermined biopsies, but to base follow-up on PSA and MRI, with further sampling only in cases of radiological change or unexplained PSA fluctuations,” Dr. Englman explained.

The rates of survival and initiation of treatment of the MRI-led active surveillance cohort, which includes over 1,100 patients, are comparable with published

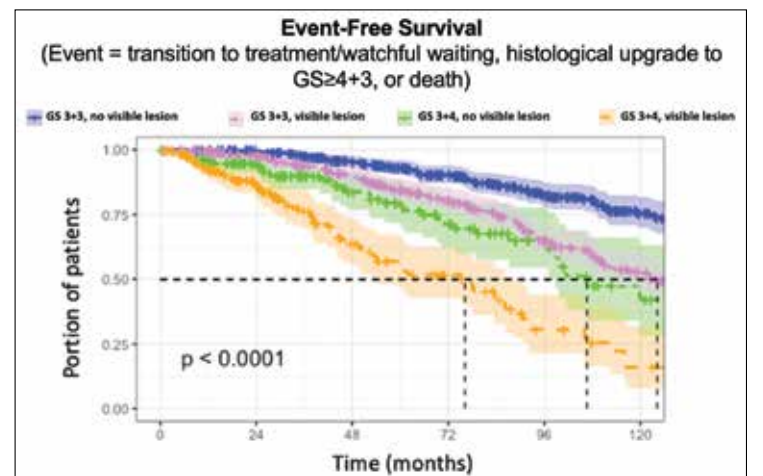
data from surveillance cohorts following mandated protocol-based biopsy. Furthermore, the UCLH cohort dropout rate is less than 1%—significantly lower than the 25% rate for patients with stable disease on normal surveillance.

More MRI Could Mean Less Biopsies

According to Dr. Englman, this data indicates that, by expanding the role of prostate MRI, active surveillance can be delivered without the need for regular, intrusive biopsies.

“With regular MRI, prostate biopsies based on predetermined intervals may not be necessary for active surveillance, which could increase compliance and decrease patient drop-out,” Dr. Englman concluded.

The UCLH research team also found that patients with a visible prostate cancer lesion on MRI were more likely to have worse clinical outcomes, meaning they could require more biopsies yet gain less



Results: Kaplan-Meier Curve

benefits or even die quicker than patients with no MRI-visible lesion. This too could help reduce the number of intrusive, but ultimately unhelpful, biopsies.

Based on this research, UCLH is now working to develop a personalized risk-stratified approach to active surveillance.

Access the presentation, “Magnetic Resonance Imaging-Led Active Surveillance for Prostate Cancer: Outcomes From a Large Cohort Study,” (W3-SSGU05-3) on demand at Meeting.RSNA.org

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Revitalizing the Radiology Workforce Will Require Innovation and Listening

“As leaders we have to rebuild the trust in the people who work with us, and restore their jobs to something that’s meaningful. We have to listen to them, recognize their autonomy, elevate their voices and build a civil culture. There’s a real business case for this.”

Jocelyn D. Chertoff, MD, MS



Chertoff

advantage of the imaging we do—hybrid practices and building and listening to diverse teams who are practicing at the top of their licenses,” she said.

Dr. Chertoff said it’s also imperative for health care organizations to continually work to create a supportive workplace that reduces the micro-stressors that drain capacity and deplete emotional resources.

“As leaders we have to re-build the trust in the people who work with us, and restore their jobs to something that’s meaningful,” Dr. Chertoff concluded. “We have to listen to them, recognize their autonomy, elevate their voices and build a civil culture. There’s a real business case for this.”

Access the plenary, “Understanding and Revitalizing the Radiology Workforce,” (W6-PL06A) on demand at Meeting.RSNA.org.

Answer



A [Question on page 4.]
Data drift refers to a loss of diagnostic accuracy as the input data (e.g., patient data) differs from the data used to train the AI model. The shift to more Medicare patients likely also indicates a shift in patient age and thus demographics of the patients being assessed.

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Patient Engagement with Radiology Report Content

“This is further evidence that patients want to understand their radiology report. They are clicking on hundreds of thousands of terms. This is a really great opportunity for radiologists to continue to engage a captive patient audience.”

Ryan Short, MD

annotations). Medical terms were also categorized according to the RadLex Tree Browser.

Over the year, there were 60,572 unique report views with 70 annotated terms per reports for a total of 4.26 million annotated terms. Of those terms, 7,000 were unique. The average click rate per report was 6.3 words for a total of 380,798 total clicks in the corpus of radiology reports over the year for an overall click rate of 8.9%.

The most annotated or most frequently seen term was ‘findings.’ The term with the highest click rate was chondromalacia (50.2%). Other terms with high click rates included anterolisthesis, chondral and joint effusion. Terms that were clicked at rates less than 7.5% included examination, millimeter, mass and lumbar spine. The RadLex categories with the highest click rates were clinical findings (e.g. hemangioma, cyst, pneumothorax) (16.7%) and imaging observation (lesion, nodule mass) (13.2%).

“Patients are pretty savvy when it comes to identifying terms and phrases in their reports that are potentially impactful for their health,” Dr. Short said. “Our data suggests that patients are most interested in the potential pathology reported rather than the anatomical area or the technical details of the study.”

“This is further evidence that patients want to understand their radiology report,” he continued. “They are clicking on hundreds of thousands of terms. This is a really great opportunity for radiologists to continue to engage a captive patient audience.”

Access the presentation, “Patient Engagement with Radiology Report Content: A Retrospective Analysis of 60,572 Radiology Report Views,” (W1-SSNPM03-3) on demand at Meeting.RSNA.org.



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