Emerging From Behind the Workstation

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INTRODUCTION
With the evolving role of medical imaging in patient care, radiologists are positioned to offload routine tasks to automation. Moreover, radiology will provide not only initial diagnoses but also prognostic insights for myriad disease processes. As such, the future role of radiologists is shifting from the reading room to the forefront of patient care teams with increasing importance and potential heightened economic value through patient-centered communication.

OUR SHIFTING ROLE
The past decade has seen exponential progress in the utility and effectiveness of artificial intelligence (AI) in multiple medical imaging domains, matching and surpassing the detective abilities of radiologists. AI has the potential to replace many of the routine detection and characterization tasks currently performed by radiologists. Moreover, with the increasing intricacy of medical imaging data sets, AI has shown promise in the field of radiomics, extracting not just diagnostic but also prognostic information from medical images imperceptible to the human eye. This paradigm shift will augment our technical abilities and shift the emphasis toward more high-value activities such as effective communication and forging meaningful relationships with our patients. AI will unburden radiologists from being solely image analysts and allow us to redefine our role as physicians at the forefront of the patient care team.

As a result, the future value proposition of radiologists will be driven primarily by our most human abilities of connecting and communicating with our patients.

Increasing use of telemedicine may more immediately augment radiology’s patient-centered role. Videoconferencing, ubiquitously used during the coronavirus disease 2019 pandemic, is likely to linger for years to come because of its flexibility and accessibility. For radiology, videoconferencing is limited to consultations, because patients must be physically present at the practice to be imaged or undergo image-guided procedures. Radiologists will continue to consistently provide in-person encounters to patients, lending to better opportunities to physically build rapport. For some patients, in particular those without symptoms presenting for routine screening, the radiologist may be among the sole physicians with whom the patients will meet over the course of a year. The educational opportunity this affords radiologists is significant, increasing our responsibility to holistically educate on health maintenance and provide general access to medical care.

VALUE-BASED CARE
With the recent passing of the 21st Century Cures Act, which provides immediate radiology reporting to patients, radiologists have an opportunity to increase value added as well as compensation. Patients’ direct receipt of complex radiologic reports and recommendations may result in misunderstanding and anxiety. Redirecting to more patient-facing care with the aid of AI, radiologists can provide imaging consults to patients by reviewing imaging findings and their clinical implications. Such visits could garner increased compensation. The provisions in existing radiology Current Procedural Terminology codes for consultation preceded the 21st Century Cures Act; therefore, new demand for prompt patient communication and consultation is set to provide an untapped opportunity for patient consultation reimbursement, similar to the model of time-based billing used in other medical specialties. It may thus be prudent to begin launching radiologist-direct-to-patient consultation services, the tangible patient care benefits of which will justify such reimbursement.

COMMUNICATION SKILL TRAINING
Recognizing the benefits of patient-centered communication and planning for the future of our field, societal organizations need to further emphasize the importance of patient-centered communication in training the next generation of radiologists. The ACGME introduced effective communication as a radiology core competency in 2012, requiring graduating trainees to show competence in communicating “complex and
difficult information…and bad news” [1]. Societal initiatives, such as RSNA Cares and ACR Imaging 3.0®, provide resources and tool kits for successful patient communication. Nonetheless, communication skill training in radiology appears to be sporadically provided. In a 2019 survey by the Society of Breast Imaging, two-thirds of breast imagers, arguably the most patient centered of the radiology subspecialties, would seek additional communication training [2], whereas a 2018 survey of radiology residents, 6 years after the inclusion of communication as a core competency, revealed that 84% of residents still had no communication training [3].

As radiology redefines itself in the face of increasing automation and shifting care paradigms to be more patient centered, it is imperative that communication skill training in residency, fellowship, and continued education be deliberate and consistent. This will ensure that the future generation is equipped to increase the value it provides to patient care and is not displaced, but rather augmented, by emerging technologies.

**BENEFITS TO PATIENTS**

As a field that encompasses screening, diagnoses of clinical conditions often eluding preimaging identification, and utilization of complex imaging procedures, radiology stands to benefit its patients most with patient-centered communication.

Effective communication has been shown to increase adherence to screening mammography guidelines [4]. This association is even stronger in urban communities and among underrepresented minority populations [5]. Increased radiologist communication to relay screening recommendations and engage in patient education may help mitigate socioeconomic barriers to health, an imperative component of our role as physicians. Furthermore, consultation during patient imaging encounters can provide a powerful opportunity for patient education of modifiable disease contributors against the backdrop of patients’ own imaging, such as smoking cessation during lung cancer screening.

Beyond screening, the field continues to increase in technical complexity of diagnostic imaging and interventions. Direct communication by radiologists can increase understanding of abstruse diagnoses, thus augmenting patient engagement in shared medical decision making. Procedural patient communication is also vital. Radiology involves minimally invasive procedures and otherwise sensitive imaging such as vaginal ultrasound, prostate MRI, and image-guided biopsies. Directly discussing what to anticipate from an upcoming procedure or imaging examination leads to improved patient satisfaction, decreased anxiety, and decrease in procedural pain [6].

Furthermore, with growing reliance on medical imaging (often preceding patient evaluations by referring clinicians) and the near immediate availability of radiology reports to patients, radiologists are faced with the challenge of relaying difficult diagnoses to patients. Although historically sharing difficult news with patients was not considered in the purview of “consultant” physicians, the increasingly fragmented relationship between patients and primary care physicians leaves a gap in patient communication. Failure to promptly and effectively communicate a difficult diagnosis may significantly affect a patient’s disease course and well-being, because honest, prompt, and effective communication of one’s diagnosis leads to better emotional adjustment and adherence to treatment [7]. Thus, on an individual basis, radiologists should not shrink from direct patient encounters but rather leverage the increasing patient need, in particular with the projected rise in cancer diagnosis due to the coronavirus disease 2019—induced halt of nonurgent imaging, by embracing and seeking out opportunities to convey diagnoses and educate patients.

**BENEFITS TO RADIOLOGISTS**

Radiologists’ mental health burden, augmented by the recent pandemic, further highlights the importance of patient-centered communication to the future health of our profession. Radiologists experience one of the highest rates of burnout, are more likely to feel undervalued, and are less likely to find work meaningful. There is a direct association between physicians’ levels of satisfaction with their jobs and their ability to build rapport with patients [8]. Specifically, good rapport contributes to relationship building, which decreases depersonalization, one of the three key contributors to physician burnout. Additionally, successfully creating connections with patients increases physicians’ sense of personal accomplishment [8], a mitigating factor for burnout.

Anxiety related to challenging patient interactions can manifest as physical fatigue that, if repeated, can lead to exhaustion and ultimately burnout. This anxiety is more likely to occur if physicians are infrequently faced with such situations and feel ill equipped in their role to effectively communicate a challenging diagnosis. Therefore, placing increasing importance as well as creating initiatives and opportunities for patient-centeredness at an institutional level will embolden radiologists to connect with patients,
increasing value not just to patient care but to radiologists’ self-perceived worth.

CONCLUSIONS
The radiologist’s role is shifting from behind a workstation to being more patient facing than ever before. In a field that spans from screening to complex treatment interventions, effective patient-centered communication improves patient care and outcomes. The continued development and implementation of AI will further enable us to offload routine tasks to automation while opening the door to new high-value radiologist-patient interactions. To better position our increasing impact on direct patient care, we need to focus more resources on improving communication skills beginning in radiology residency. A continued focus on these “soft skills” are a prerequisite for inspiring radiologists to benefit both professionally and economically in the emerging area of personalized medicine.

REFERENCES
1. Accreditation Council for Graduate Medical Education. The diagnostic radiology milestone project. Available at: http://www.acgme.org/Portals/0/PDFs/Milestones/DiagnosticRadiologyMilestones.pdf.