Cover Story:

Reimagined Hospitals
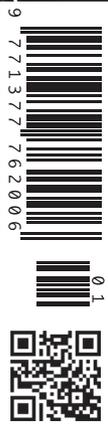
RSNA 2019: Radiologists Can Be Optimistic About AI

Summary: The technological advances showcased at RSNA 2019 pointed to a positive turning point for a leading radiologist who has seen the rises and falls of the profession over five decades.

When traveling to my nearly 45th Radiological Society of North America (RSNA) meeting in November 2019, I felt mixed emotions. As my career is moving towards its close, I feel privileged and excited that I have been fortunate to witness many of the most significant developments in modern radiology. I personally have been able to participate in the development of new radiology subspecialties such as ultrasound and the fields of health sciences research and quality improvement as it applies to radiology. In addition, I have been a witness to the onset of CT, MRI and PET scanning.

Yet in recent years when leaving the meeting, I have been saddened by the sense of burnout and dissatisfaction among colleagues and friends. I came home concerned about the lack of available jobs for radiologists and, then in time, the inability to fill openings because of the lack of interested candidates. On my return, I acknowledged the challenges radiology faces from other specialties as a result of point of care ultrasound or from competition from other competitive specialties. Most importantly, in recent years when attending the RSNA, I have been disturbed by the lack of major new developments and innovations compared to earlier meetings I attended. The excitement seemed to be gone.

This year, however, I was impressed that a new innovative atmosphere and spirit was underway involving the introduction of artificial intelligence into diagnostic radiology. In the past I have heard many friends and associates bemoaning that computers would replace radiologists or that computer innovations only made radiologists' work life more stressful and tedious. In contrast, at RSNA 2019, it appeared that AI could help practicing radiologists efficiently analyse plain films, ultrasound and CT. A whole floor of commercial entrepreneurs showcased new software applications. While of course, there will be shakeout, reduction and merger of many companies, it was obvious that a new revolution of innovation was underway. It appeared to me that if used and developed correctly, AI could be an antidote for the diagnostic volume overload, sense of weariness and lack of control that many radiologists decry and complain about. I saw in AI the ability to innovate and change the everyday practice of radiology as well as to restore some freedom to the professional life of radiologists. New opportunities and applications seem possible and feasible. I almost felt the same excitement as when I saw my first real-time US study or when CT and MR were introduced.

This time, I came away from the RSNA happy that I had attended; happy that I could envision a new era of innovation for radiologists and imagine that a less stressful form of practice was possible. I came away thinking that it is possible for the field of radiology to seize control of its future. It is up to radiologists to imagine how they want to practice and harness AI to achieve those goals. I saw applications that measured and graded thyroid nodules which many currently find tedious. I saw how nodule detection on chest CT and plain films could help tired radiologists. I imagined that in the future, many more applications would be developed such as liver nodule measurement and assessment. I saw options for radiologists to advocate positively for change and make their needs understood.

I came away optimistic for the future of radiology. I came away happy that we have forums such as RSNA where ideas can be exchanged and amplified. Here's to radiology of the future. ■

RSNA 2019 showed me that, if used and developed correctly, AI could be an antidote for the diagnostic volume overload

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