

Why Radiologists are Key to Maximizing AI's Potential in Healthcare

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On March 29, 2023, Elon Musk and other tech leaders issued a letter calling for a pause on the “dangerous race” to make artificial intelligence (AI) as advanced as human intelligence. While AI is not new, perceptions and misconceptions are being accelerated thanks to ChatGPT, which has thrust AI into the mainstream spotlight, bringing accessibility, excitement and, in some cases, fear to all kinds of industries.

Two points are worth noting in terms of this letter that generated worldwide attention.

First, dialogue from influential leaders like Musk is concerning because it begins to generalize AI as one thing when the distinction between generative AI, ChatGPT, is significantly different from healthcare AI, which has been on a fundamentally different trajectory for some time. Second, the human versus AI debate is the wrong discussion about AI's value – especially in healthcare. With the massive challenges facing health systems today, hospitals must work smarter, not just harder, and AI provides that opportunity.

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While AI should not be viewed as a savior for healthcare, it is one of the few technologies that helps health systems directly address financial, performance, and resource limitations on day one. For example, a study from Cedars Sinai Medical Center in Los Angeles, California, found clinical AI aiding a reduction in inpatient length of stay (LOS) of 11.9% for patients with intracranial hemorrhage and a 26.3% LOS reduction for those with pulmonary embolism.¹

Radiology's Role in Driving AI Success

Yet results like these are not guaranteed. They are the byproduct of a strategic and scalable approach to AI. Enter radiology – a specialty uniquely positioned to serve as a trusted and needed AI navigator to health systems for two primary reasons.

First, radiologists sit at the center of several crucial patient care milestones with significant downstream impacts. Second, radiologists have long been early adopters and innovators of new approaches to efficient healthcare, including PACS and healthcare AI. In fact, numerous studies have already demonstrated how AI-assisted radiologists benefit from downstream financial

and quality improvements. Consider some of the following impacts:

- 26% decrease in interpretation time for malignant lung nodules.²
- 40% improvement in radiologist read time for low suspicion 3D mammograms.³
- 7-hour decrease in time from imaging to thrombectomy.⁴

To be that valuable resource, however, radiologists need to look beyond the reading room.

If every department implemented AI in a silo – such as radiology AI to radiologists or stroke AI to neuro-endovascular surgeons – it would require more information technology (IT) resources and fragment facility-wide return on investment potential. Physicians would encounter obstacles that may delay clinical care, radiologic throughput, and overall efficiency.

If we look at the studies demonstrating AI's positive cross-department benefits, they leverage technology orchestration that brings disparate systems together. In other words, they prove the value in moving from a single AI solution to an enterprise-wide strategic approach that leverages an AI platform, otherwise known as an AI operating system (aiOS).

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Guiding Facilities from a Point Solution to a Platform

An aiOS is a tool that efficiently coordinates the flow of data between different points within a healthcare network, allowing physicians to optimally use multiple AI-based tools for their own clinical needs in an interoperable fashion while eliminating the need to rework the IT infrastructure for every new integration.

Each time a new solution designed to detect a different pathology is integrated, an aiOS orchestrates the algorithms of the integrated solutions to ensure that they do not conflict, but rather complement, each other when possible.

In a scenario where two solutions can technically detect the same pathology, an operating system can make automated decisions to optimally apply the right algorithm to match the suspected pathology. This principle extends beyond the reading room and well into other segments of direct patient care, as well.

The aiOS can be key to a successful AI strategy because it is NOT purely focused on one department. Indeed, an ideal aiOS is:

- All-encompassing, providing the ability to integrate applications across specialties versus managing separate solutions requiring different platforms.

- Scalable, capable of managing from 1 to 50 solutions at the flip of a switch.
- Seamless, integrating within native workflow and IT infrastructure (PACS, electronic health record, scheduling, etc.).
- Highly measurable, with the ability to show value to myriad stakeholders.

In care coordination scenarios, an aiOS could improve communication between caregivers within a health network with automated alerts, delivering relevant information for timely review by, for example, an interventional radiologist or an endovascular surgeon.

Becoming a Champion

Healthcare AI is no longer in its infancy; it continues to be refined and adapted as lessons are learned and more adept solutions are developed. By addressing the challenges and pitfalls that historically have hampered the adoption of AI, health systems can fully harness the power of AI to bring about meaningful and lasting change in the industry.

Developing a comprehensive AI strategy that includes an enterprise approach, an integrated aiOS and a robust change-management process can be a game-changer for

health systems, driving growth and improving patient care for the short and long term.

Radiology will have a key role to play in leading this evolution.

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