

How should specialist physicians prepare for the AI revolution?

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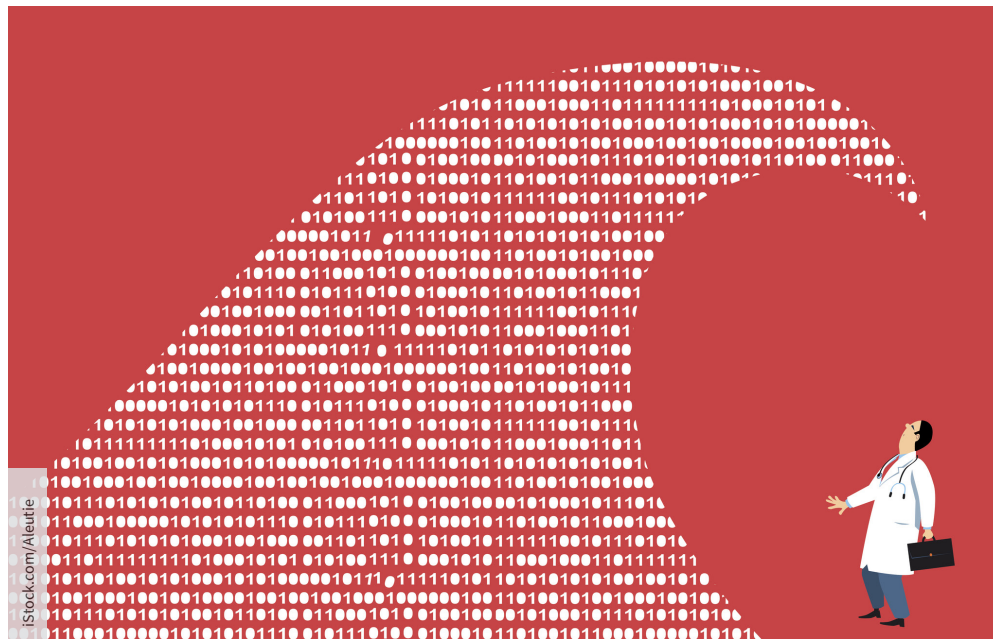
Artificial intelligence won't replace specialist physicians, but it will fundamentally change their training and work, according to a task force struck by the Royal College of Physicians and Surgeons of Canada to study the issue.

In a recent report, the Royal College's Task Force on AI and Emerging Digital Technologies recommends against changing the numbers and types of specialists trained in Canada. According to chair Dr. Richard Reznick, the task force concluded that advances in AI won't render human specialists obsolete, even in fields like radiology, where algorithms have proven to be equally good or better diagnosticians.

However, keeping up with the pace of change will require doctors to develop a new "fundamental competency" in digital literacy, Reznick says. "They have to understand how AI works." According to the report, this includes a stronger background in math and statistics, and the ability to find and understand health information from electronic sources.

Understanding the social, ethical and legal implications of AI is essential, Reznick adds. "What if the machine makes a mistake? Whose responsibility is it? Many of those legal and ethical issues are still being worked out because we're still in the very early days," he says.

According to the task force, frequent retraining and "career transitions" will become more common, and new technology-oriented roles will emerge. "It is unlikely that physicians will remain in the same area of practice for their whole careers," they predict. The report urges all specialties to develop processes to help their members adapt.



Specialists will need new skills to ride the wave of change coming with advancements in artificial intelligence, according to a Royal College task force.

Among other recommendations, the report calls for the creation of a working group to review how the Royal College should use AI, and for the development of a strategy for ongoing monitoring of new technologies.

Leaders in AI welcomed the report but called for greater collaboration between health organizations and researchers to advance the field. According to Hamid Tizhoosh, an engineer who leads the Laboratory for Knowledge Inference in Medical Image Analysis at the University of Waterloo, access to clinical data remains a challenge for developers.

The task force recommendations are "all necessary, but none of them will help the advancement of AI in health care as much as the availability of data," Tizhoosh says. "What we need to see is a large number of

large-scale initiatives and collaborations between hospitals, companies, and academic units to create the clinical data, look at the actual needs of doctors in hospitals, and then use AI to get things done."

Such collaborations require "more practice-oriented AI people who are willing to get their hands dirty and go into hospitals and work with clinicians," he adds.

Milos Popovic, Director of Knowledge, Innovation, Talent, Everywhere (KITE), the research arm of the Toronto Rehabilitation Institute, echoed the call for collaboration between clinicians and researchers. "If the government would like to boost AI in the healthcare system, the best avenue is to target these institutes [like KITE] that are attached to hospitals."

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