As the medical community’s understanding of the application of augmented intelligence (AI) in health care grows, there remains the question of how AI—often called artificial intelligence—should be incorporated into physician training. The term augmented intelligence is preferred because it recognizes the enhancement, rather than replacement, of human capabilities.

A webinar produced by the AMA Accelerating Change in Medical Education Consortium featured a presentation by Cornelius A. James, MD, assistant professor of internal medicine and pediatrics at University of Michigan Medical School. He is also the principal investigator of “Data Augmented, Technology Assisted Medical Decision Making and Diagnosis (DATA-MD): A Novel Curriculum.”

Noting the proliferation of AI in health care—and the potential shift in physicians' roles because of it—Dr. James outlined the initial steps medical educators should be taking to work AI into their curricula.

First, be prepared for challenges

“Each organization or system will have their own unique barriers, but there are some barriers that are a bit more generalizable,” Dr. James said. “Understandably, and perhaps appropriately, there is skepticism related to AI and machine learning in health care. However, it's very important for us to try to avoid cynicism related to lack of comfort or an understanding of what these technologies can offer.”

Lack of buy-in from relevant stakeholders may also be a hurdle when going from development to deployment of AI in clinical practice.
“When clinicians aren't interacting with the models and appreciating the benefits of their use in clinical practice, this may cause them to not appreciate their relevance,” he said, noting that this could affect practicing physicians and learners alike.

Learn about the AMA’s commitment to helping physicians harness health care AI in ways that safely and effectively improve patient care.

Work with what you have

“Understandably, there have also been many who have been concerned about fitting new content into already overcrowded curricula,” Dr. James said. This can include figuring out who on the faculty will take on teaching new content.

But instead of trying to carve out dedicated classes, it may be easiest to integrate AI content into currently existing curricula. There are already numerous topics that strongly relate.

“Adding this content to health systems science curricula makes sense,” he said. “One of the core domains of health systems science is clinical informatics and health information technology.”

Understanding how AI can affect patients may help learners appreciate its relevance, he noted, adding that the National Board of Medical Examiners exam now tests physicians-in-training on health systems science, and there are questions about health care AI specifically.

But AI doesn’t just relate to systems issues. It also has a home within evidence-based medicine (EBM).

“This includes addressing similar clinical questions of prognosis or therapy, screening or diagnosis,” Dr. James said, pointing out that AI and EBM have similar epidemiological and statistical concepts. “Existing EBM curricula may also serve as an excellent home for AI and machine learning content.”

What future physicians will need
“It’s going to be important for us to consider whether or not engineers and computer scientists who are developing AI and machine learning models will become as integral as the biochemist or the geneticist or the immunologist or the pharmacologist or the physician or others who have firmly established roles in medical education,” Dr. James said.

It is crucial, he added, to imagine what the doctors of tomorrow will need to know. As part of that, educators have to think about what could be handed off to computers.

For example, “will there be less emphasis placed on how much physicians can recall and maybe more attention given to teaching compassion, empathy, professionalism and communication skills?” he asked. “With a change of focus, will this lead to changes in prerequisites for medical school or residency or fellowships. Will selection-and-admission criteria change?”

The webinar also featured presentations on key terms in AI, how to manage change related to AI and the nursing perspective on AI. Presentation slides and a video recording are available in the AMA Accelerating Change in Medical Education digital community (registration required).