Artificial intelligence and family medicine: Better together

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Attention all family medicine physicians: Identify a computer scientist with expertise in artificial intelligence (AI). Pick up the phone. Make a connection. This is your chance to shape the future of the AI revolution. Dr. Winston Liaw, a researcher at the University of Houston College of Medicine, is encouraging fellow family medicine physicians to actively engage in the development and evolution of AI to open new horizons that make AI more effective, equitable and pervasive.

Liaw collaborated with Ioannis Kakadiaris, a Hugh Roy and Lillie Cranz Cullen University Professor of computer science, to co-author a commentary published in the *Annals of Family Medicine*. The researchers advocate for a synergistic relationship between AI and family medicine.

The AI revolution in medicine has been underway for decades. Computers already process data to detect disease and predict health outcomes, but the researchers see a unique opportunity to steer the current AI advances so they can deliver on the original promise of electronic health records (EHR). Introduced in 2009 to make health care more efficient and effective, EHRs have created more data entry work while lessening quality time with patients—a doctor's "most precious resource," according to the authors. About half of family physicians experience symptoms of burnout, and one major reason is the increase in administrative duties, according to studies.

To be fair, said Liaw and Kakadiaris, electronic health records have led

to some improvements in [population health](link) and quality, but the failures are blamed on a lack of engagement in design and implementation from those who actually use them every day—the doctors. Liaw wants to make sure the voice of family medicine is "amplified" as AI evolves.

No one questions the power and capability of artificial intelligence. Machines can collate many sources of information— imaging, labs, data from previous visits—on a patient's chart much faster than humans. AI chatbots can help facilitate care and monitor patients between office visits. But only with evidence-based recommendations from the physicians on the front lines of patient care can AI truly elevate the practice of family medicine, the researchers contend.

"Computers are not the most important tool in [medicine](link)—personal relationships are and always will be," said Liaw and Kakadiaris. At the same time, "Computers can facilitate human interactions and make the time we have with patients more meaningful. But first, we need to recognize that computers are our partners and not our adversaries."

The new UH College of Medicine is focused on improving primary care specialties, and as chair of the Department of Health Systems and Population Health Sciences, Liaw said their innovative curriculum will incorporate informatics, or how to use data to improve patient care. The first class starts this summer.

With a joint appointment in the department, Kakadiaris is learning about the questions that medical school faculty are passionate about answering and is applying computer science methods to critical health problems. He and Liaw hope their partnership will move their respective fields forward and encourage other [family medicine](link) and computer science scholars to connect.

"We know that if we don't figure out how to use AI effectively, patient

care will suffer, and our students' jobs will be harder because they'll have so much data that they won't know how to process it," said Liaw. "Our specialty has to figure out how to better use tech."

More information: Winston Liaw et al, Artificial Intelligence and Family Medicine: Better Together, *Family Medicine* (2020). DOI: 10.22454/FamMed.2020.881454

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