



For Immediate Release

Newly published ethical guidelines for when a computer makes a clinical diagnosis

Team of AI, ethics, and legal experts publish evaluation rules for the safe and ethical implementation of autonomous artificial intelligence (AI) in healthcare

(CORALVILLE, Iowa) April 30, 2020 – A team of AI, ethics, and legal experts have built an ethical foundation for autonomous artificial intelligence (AI), resulting in a new framework for assessing autonomous AI. Such autonomous AI makes a clinical decision without physician involvement. The paper, “Lessons learned About Autonomous AI: Finding a Safe, Efficacious, and Ethical Path Through the Development Process,” was [published online](#) last week in the American Journal of Ophthalmology.

The paper’s authors, Dr. Michael Abramoff, Dr. Danny Tobey, and Dr. Danton S. Char’s ethical foundation provide additional support for physicians and health organizations. Organizations such as the [American Diabetes Association](#) and [American Telemedicine Association](#) are adopting autonomous AI diagnostics for diabetic retinopathy as a new standard of care.

“The use of AI in medicine has significant ethical implications, given the risks of safety and equity. These concerns grow when humans are not involved in making the diagnosis,” said Dr. Danton Char, MD, an anesthesiologist and renowned AI ethics expert and researcher at Stanford University. “As the demand for remote diagnosis continues to increase, it is critical to establish a framework for safe and ethical implementation.”

Abramoff, Tobey, and Char reviewed existing bioethical principles for AI, ultimately deriving a framework, and illustrating the process with a case study of IDx-DR, currently the only FDA-authorized autonomous AI system in healthcare. The autonomous AI system, which detects diabetic retinopathy and macular edema, is currently in use at a rapidly growing number of large health systems.

“Safety, equity and liability are key for patients and the public to feel comfortable with the growing use of autonomous AI for remote health management, even beyond the current pandemic. An ethical framework allows physicians and other decision makers in healthcare to fully understand the potential risks and benefits,” said Michael Abramoff, MD, PhD, Founder and Executive Chairman of IDx, the company behind IDx-DR. “The evaluation rules we propose in this paper can help them assess the design, data use, validation, and liability implications of autonomous AI systems design and trials.

About IDx

IDx is paving the way for automated diagnosis to become the new standard of care. Founded in 2010 by Dr. Michael Abramoff, a physician/scientist and computer engineer, IDx has developed a unique, patented biomarker-based approach to build algorithms to “think” like a physician. These algorithms are integrated into easy-to-use systems that can make clinical decisions without human intervention, removing the diagnostic burden of common diseases from specialists.

IDx received FDA clearance for IDx-DR, its first diagnostic system for diabetic retinopathy and diabetic macular edema in 2018, which is rapidly gaining adoption among the largest and most prestigious health systems in the U.S. and globally.

IDx

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