



The 'Brave New World' of AI in Health Care Karen Domino, MD, MPH

In mid-January, I was privileged to attend the Federation of Medical Boards Symposium on Artificial Intelligence (AI) in Health Care and Medical Regulation held in Washington, DC. AI has been so prominent in the news since last year with the release of Chat GPT. AI use in health care is increasing at an exponential rate. The WMC wants to understand how AI in medicine is evolving and how recommendations by the AI device or algorithm may result in misdiagnosis or an adverse outcome.

The conference was incredibly exciting and illuminating with presentations by national regulators from The Office of the National Coordinator for Health Information Technology (ONC), AI developers, physician AI superusers, and attorneys/regulators. I was not aware radiologists already extensively use AI to improve diagnosis and prioritize workflow when on call in busy emergency rooms with mostly negative studies. Having shared the "Seeing Waldo" books with my children, I have always been impressed at how difficult it is to see Waldo, but once you find him, it is easy. Now I can easily understand how AI helps alert radiologists to a potential abnormality, for which they can then focus using their clinical judgement. In addition, predictive models for sepsis, need for critical care after surgery or medical admissions, and prediction/treatment of hemodynamic instability use AI. Other reputed benefits of AI include:

- 1) better and earlier diagnosis;
- 2) personalized treatment beyond oncology;
- 3) better prediction of diseases and need for more intensive hospital care;
- 4) management of time consuming tasks including billing, scheduling and documentation/charting;
- 5) remote monitoring and telehealth;
- 6) improved patient engagement;
- 7) cost reduction and resource optimization, and
- 8) improvements in medical education, research, and drug discovery and development.

However, other messages from the conference were concerning. There is limited precedent in regulation in health care related AI for clinical predictive models and devices that predict hemodynamic instability and recommend treatment. In addition, FDA regulation of the devices may be insufficient due to device approval without peer reviewed publication and treatment as an approved "similar" device without AI would need. AI incorporates all "published" literature on the internet, without regard to quality of the research. Most AI results do not prioritize higher levels of evidence. Therefore, a case report or an opinion without peer review on a website has the same impact for AI recommendations as a guideline based on systematic review published in a journal after peer review. More concerning, AI may treat medical misinformation similar in quality to published, peer reviewed scientific evidence.

Physicians and physician assistants using current open market AI technologies for diagnosis and care of patients lack a comprehensive understanding of the building blocks that produce AI recommendations. Future health-related AI will improve dramatically with adoption of quality safeguards. Health care systems and providers should carefully evaluate their AI technologies to avoid unnecessary risk to their practice and the patient. Please continue to use your clinical experience and judgement in addition to any device, diagnostic, or predictive AI model. If you have an open complaint with the WMC, where you relied upon devices that utilize AI technologies, please let your investigator know so we can factor this into our assessments.

