screening for antibodies against HDV and for HDV RNA in hepatitis B surface antigen (HBsAg) carriers; we proposed reflex testing only for the antibodies in order to identify persons exposed to HDV. The clinical guidelines of the European Association for the Study of the Liver suggest that reflex antibody testing would increase awareness and reduce the risk of inadvertent transmission to HDV-negative persons with HBV infection.[1] Reflex testing for antibodies against HDV in all HBsAg carriers seems to be the most reliable means of recognizing unexpected HDV infections. Given the residual high prevalence of HBsAg carriers in Taiwan, such testing may also be appropriate in that country.

Mario Rizzetto, M.D.
University of Turin
Turin, Italy
mariohdv89@gmail.com

Since publication of his article, the author reports no further potential conflict of interest.

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Artificial Intelligence in U.S. Health Care Delivery

TO THE EDITOR: Sahni and Carrus (July 27 issue)[1] assert that benefits of artificial intelligence (AI) in health care are unquestionable and that adoption has been too slow. They provide anecdotes and cite several single-institution, preliminary, or case studies but do not cite any of 39 randomized, controlled trials that were identified in a 2022 systematic review.[2] Moreover, they do not discuss ethical concerns about the use of patient data to inform AI or such risks as displacing clinicians as the locus of health care decision making, despite expert acknowledgment of these problems.[3,4] Their list of reasons for "lagging" adoption includes data problems, patient confidence, regulatory issues, and other challenges but notably does not mention the lack of demonstrated (as opposed to potential) benefit to patients. Would a new drug with a similar lack of evidence of efficacy be adopted?

In business, "optimal" means producing the greatest income most efficiently. Not so in medicine. If the goal is improving clinical outcomes, the optimal pace of AI adoption is unknown. High evidentiary standards in medicine are not barriers — they are guardrails. Can the authors provide support for their proposition that AI unquestionably improves health and that faster adoption would be better?

Michael S. Broder, M.D., M.S.H.S.
PHAR
Beverly Hills, CA
mbroder@pharllc.com

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TO THE EDITOR: Sahni and Carrus highlight the potential benefits and challenges of applying AI in health care. However, it may be a struggle for even sophisticated AI technologies to be adopted in the complex and multifaceted nature of clinical practice,[1] with a major obstacle being fragmented health data. This fragmentation does not provide a holistic view of individual factors — environmental exposures, public health issues, and their interactions — to account for the uncertainties in AI-driven decisions. Therefore, clinician intuition and judgment are required to ensure patient safety and in-flow integration during this transition period of AI application in health care by establishing practice-aligned AI calibration.[2] A potential solution could be realized by referencing the interaction between the virtual representations (i.e., digital twins) of the patient and multiple digital twins, including health care professional twins, administrator

twins, and others.[3] Do the authors think that the use of such digital twins could lay the groundwork for a sustainable AI-assisted health care system?[4]

Yi-Chun Chen, M.S.

EverFortune.AI
Taichung, Taiwan

Hsiu-Yin Chiang, Ph.D.
Chin-Chi Kuo, M.D., Ph.D.

China Medical University Hospital
Taichung, Taiwan
chinchik@gmail.com

No potential conflict of interest relevant to this letter was reported.

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THE AUTHORS REPLY: The questions raised by Broder represent an important discussion we should have about AI. He makes important points about the risks of replacing human judgment or introducing bias, which are both well documented. Our article attempts to address these concerns. For example, we do not advocate that AI should replace human judgment, especially in clinical-use cases in which AI would be better viewed as a "member of the team," as we state. In addition, we recommend a focus on "mission value," a combination of financial and nonfinancial factors such as quality improvement, patient safety, patient experience, clinician satisfaction, and increased access to care. In addition, breaking down the use of AI into domains of health care delivery shows that not all domains are created equal. For example, the need for a randomized, controlled trial may be an unnecessary level of scrutiny in an administrative functional-use case such as accounts-payable optimization, detection of payment fraud, and resume screening — all of which have been well honed through use in many other industries. A less-than-nuanced view of the use of AI in health care will continue to slow adoption and impede the positive effects that this technology can have for all stakeholders, especially patients.

In response to Chen and colleagues: the use of digital twins has been a successful tool beyond health care, although we acknowledge that this model is only one method for augmenting clinical and human judgment. Given the paramount focus on patient safety in medicine, a critical step toward ensuring long-term adoption and efficacy of AI hinges on clinician buy-in. The use of digital twins to show potential results for such uses as clinical decision making could help accelerate responsible AI adoption in lieu of traditional randomized, control trials.

Nikhil R. Sahni, M.B.A., M.P.A.-I.D.
Brandon Carrus, M.Sc.

McKinsey's Center for U.S. Healthcare Improvement
Boston, MA
nikhil_sahni@mckinsey.com

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