If technology is to improve health equity, it won’t happen by accident

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It is often said that technology will be the great equalizer in medicine, improving access to care to marginalized and rural communities by breaking down the traditional walls of the exam room. The worsening COVID-19 pandemic—and the devastating consequences it poses for the elderly, the chronically ill and minoritized communities—has added new urgency to this mission.

But advancing health equity through technology will not happen by accident. If we are serious about identifying and eliminating those persistent inequities in health care that contribute to such poor outcomes for marginalized groups, we must create this future. We must be strategic in our planning and purposeful in our execution. This work is too important to leave it to chance, because now more than ever, technology is only as good as the data and planning behind it.

In other words, improved health technology has the potential to improve outcomes and the patient experience—but it can also exacerbate the longstanding inequities found throughout our health system and our nation. In my ongoing series examining the pre-competitive needs in health care that we will need to address regardless of the kind of system that emerges after COVID-19, I wanted to take a look at the near limitless potential of technology to shape the future of medicine and our world.

Potential threat within health care AI

One such technology is augmented intelligence, or AI, which promises revolutionary capabilities to improve how care is delivered in-person or remotely, while also bolstering the patient-physician relationship. But a threat exists within AI to amplify existing biases when this evolving technology is used to support clinical decision-making, diagnostic results, predictive analytics and similar functions.

Implicit or otherwise, bias can be found in nearly every aspect of health care AI, from training data set collection and interpretation, to the creation of machine learning algorithms—written by humans, of
course—to the modeling conclusions provided to physicians for diagnosing disorders and implementing courses of treatment.

The severely disproportionate impact of COVID-19 on marginalized communities is beyond question. We must ensure that we do not compound that inequity with an AI-driven health care model that exacerbates bias. From inception onward, information technology experts must collaborate with medical ethicists and clinicians to uncover all potential sources of algorithmic bias, and refine the model process through more accurate and comprehensive data collection. Developers and clinicians should have a shared understanding of not only what an algorithm does and to whom it applies; they must also know what it cannot do and to whom it should not apply.

**What research has found**

A study completed in 2019 by Obermeyer et. al. illustrates this issue. In short, the researchers determined that a widely used commercial health care algorithm reflected a serious racial bias. The risk score calculated by the algorithm used health care expenditures as a proxy for health status. The researchers found that Black patients were consistently and significantly more sick than White patients with the same score.

“The bias arises because the algorithm predicts health care costs rather than illness, but unequal access to care means that we spend less money caring for Black patients than for White patients,” the study’s authors concluded. Equity in health care must extend to all of the systems and methods used to deliver it, and it is an economic imperative every bit as much as a moral one. Eliminating bias and other sources of inequity in our health care system—based on race or ethnicity, age, gender, socioeconomic status, location, disability status, sexual orientation or any other consideration—opens the door to greater efficiency and better health outcomes. And the first step to eliminating bias in AI lies with better identification of it, in all the forms it takes. The AMA is working hard to ensure that the full potential of AI is realized in four key areas:

- Enhancing the patient’s experience and well-being.
- Improving overall public health.
- Reducing the cost of health care while expanding the value it delivers.
- Support the professional satisfaction of physicians and the entire provider team.

As innovators press forward with advances in AI, we must ensure that the technology supporting it, and supporting all other aspects of U.S. health care delivery, does not automate racism or implicit bias, or perpetuate existing inequities. Directly addressing and protecting against these biases will instill confidence that the transformative nature of AI and other technology-driven health care solutions will fully meet the needs of all patients.
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