# Guiding principles to address bias in health care algorithms

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A paper published in *JAMA Network Open* addresses bias in health care algorithms and provides the health care community with guiding principles to avoid repeating errors that have tainted the use of

algorithms in other sectors.

The paper, titled "Guiding Principles to Address the Impact of Health care Algorithms on Racial and Ethnic Disparities in Health and Health care," also links to an accompanying podcast interview of panel co-chairs Marshall Chin, MD, MPH, and Lucila Ohno-Machado, MD, Ph.D., MBA.

This work, conducted by a technical expert panel co-chaired by Marshall Chin, MD, MPH, the Richard Parrillo Family Distinguished Service Professor of Health care Ethics at the University of Chicago, supports the Biden Administration [Executive Order 14091](link), "Further Advancing Racial Equity and Support for Underserved Communities Through The Federal Government," issued on February 16, 2023.

President Biden calls for Federal agencies to consider opportunities to prevent and remedy discrimination, including by protecting the public from algorithmic discrimination.

The technical expert panel was supported by the Agency for Health care Research and Quality (AHRQ) and the National Institute for Minority Health and Health Disparities at the National Institutes of Health (NIH) in partnership with the HHS Office of Minority Health and the Office of the National Coordinator for Health Information Technology.

"Health care algorithms, including those developed by [artificial intelligence](link), have potential for great benefit and great harm. We know that biased algorithms have harmed minoritized communities in other fields such as housing, banking, education, and criminal justice," Chin said.

The use of algorithms is expanding in many realms of [health care](link), from diagnostics and treatments to payer systems and business processes.

Every sector of the health care system is using these technologies to try to improve patient outcomes and reduce costs.

The panel developed a conceptual framework to apply the following guiding principles across an algorithm's life cycle to address the problems of structural racism and discrimination, centering on health care equity for patients and communities as the overreaching goal:

1. Promote health and health care equity during all health care algorithm life cycle phases.
2. Ensure health care algorithms and their use are transparent and explainable.
3. Authentically engage patients and communities during all health care algorithm life cycle phases and earn trustworthiness.
4. Explicitly identify health care algorithmic fairness issues and trade-offs.
5. Establish accountability for equity and fairness in outcomes from health care algorithms.

The technical expert panel reviewed evidence, heard from stakeholders, and received community feedback. Although algorithms are widely used and can offer value in diagnostics and treatments, not all individuals benefit equally from such algorithms, creating inequities. This is due primarily to biases that result in undue harm to disadvantaged populations, which perpetuates health care disparities and may violate civil rights protections.

To rectify these issues, the health care community and the public must understand how using algorithms may lead to unintended biased outcomes, how to identify biases before implementation, and what to do with biases discovered after implementation.

"Algorithmic bias is neither inevitable nor merely a mechanical or

technical issue. Conscious decisions by algorithm developers, algorithm users, the health care industry, and regulators can mitigate and prevent bias and proactively advance health equity," Chin said.

**More information:** Guiding Principles to Address the Impact of Health care Algorithms on Racial and Ethnic Disparities in Health and Health care, *JAMA Network Open* (2023). DOI: 10.1001/jamanetworkopen.2023.45050. jamanetwork.com/journals/jaman … tworkopen.2023.45050

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