



Invited Commentary | Equity, Diversity, and Inclusion

Digital Health Readiness and Health Equity

Elizabeth L. Tung, MD, MS; Valerie G. Press, MD, MPH; Monica E. Peek, MD, MPH, MS

The COVID-19 pandemic dramatically accelerated the spread and use of digital health tools, such as telehealth and patient portals. The pandemic also highlighted persistent US inequities in patients' abilities to use these tools effectively.¹ Disparity in broadband service provision—which is associated with historical redlining practices—can combine with numerous other disparities to make it possible for digital health to worsen health inequity. Prior studies examining digital health interventions among marginalized communities have described many barriers to uptake, including unequal access to technology, issues with program design and usability, low digital and health literacy, and insufficient understanding of the user population.²

Rising and colleagues³ developed a screener for digital health readiness to identify patient-level barriers that prevent optimal engagement with digital health tools in clinical settings. They define *digital health readiness* as a patient's ability in and comfort with using digital tools for health care engagement. This concept expands on existing literature describing digital health access and literacy (ie, eHealth literacy) to include factors such as health care trust, acceptance of technology, and relevance to care. While literacy-focused screening tools exist, such as eHEALS, a 2021 systematic review called for updating the tools' content to be more comprehensive.⁴ Rising and team³ used a process of qualitative interviewing (n = 32), cognitive interviewing (n = 15), and reliability and validation testing (n = 304) to develop their final screening tool containing 24 items across 2 factor domains that incorporates their expanded concept of digital readiness.

The authors describe the potential for using their digital health screening tool to reduce health inequity.³ In 2001, the Institute of Medicine published *Crossing the Quality Chasm*,⁵ which described digital health as central to designing a more safe, effective, and equitable health care system. More than 20 years later, large disparities continue to exist in the uptake of digital health tools, with growing research identifying patient-level factors beyond digital literacy that reflect deeper concerns patients have about interacting with health care systems. In one study of 2080 adult patients with a mean age of 51.1 years, more than half of the respondents (53.0%) preferred an in-person visit, with Black or African American respondents most likely to prefer in-person care compared with other racial and ethnic groups (64.1% vs 51.5%; $P = .02$).⁶ As Rising et al³ indicate, these preferences may be related to feelings of discomfort or concerns about low quality of care when engaging health care professionals via telehealth.

The authors appropriately underscore the importance of health care trust—one construct they used to differentiate digital health readiness from literacy or access. Distrust in health care, particularly among racially minoritized communities, has been a consequence of historical and contemporary experiences with medical maltreatment and unequal care. Such experiences were immortalized by the Tuskegee Syphilis study, in which treatment was withheld from nearly 400 African American men with syphilis, as well as reports of widely implemented technological algorithms referring fewer Black patients to health resources for complex needs.⁷ During the COVID-19 pandemic, rapid expansion of digital health occurred concurrently with vaccine hesitancy as an emblem of distrust in health and health care institutions, with studies further documenting the role of technology in exacerbating disparities in vaccine distribution.¹ The work of Rising et al³ contributes to a growing body of knowledge that aims to recognize this legacy of inequity and distrust and its consequences among marginalized communities.

The screener for digital health readiness developed by Rising et al³ is a practical tool that can help assess many of the reasons patients have for underusing digital health care tools. Health

+ Related article

Author affiliations and article information are listed at the end of this article.

Open Access. This is an open access article distributed under the terms of the CC-BY License.

systems may be able to use this screener to help patients navigate their individual barriers to uptake, thereby improving equitable use of digital health in a rapidly changing digital world. However, each health system will likely need to contextualize interventions to the specific barriers identified. For instance, one study examined telehealth barriers among veterans experiencing homelessness and found that complex physical and mental health disorders (eg, substance use disorder), combined with a lack of digital literacy, were primarily contributing to low uptake.⁸ Investigators then used focus groups to explore intervention candidates, finding that veterans favored motivational interviewing combined with peer-led training and support.⁸ The readiness screener is an important first step in helping health systems navigate barriers to digital health, but population-specific barriers may require structural investments to truly remedy inequities. Among racially minoritized populations in historically redlined neighborhoods, for instance, solutions will likely require economic investments in infrastructure in tandem with culturally competent patient interventions, as well as deliberate efforts to broker trust and reconciliation between health care institutions and communities.

The COVID-19 pandemic irrevocably changed life in the US, rapidly transforming our use of and reliance on digital technology. It is possible that few of us were truly ready for the changes the pandemic would bring, but we can actively work to construct systems of equity that support improved readiness for all patients moving forward.

ARTICLE INFORMATION

Published: September 10, 2024. doi:[10.1001/jamanetworkopen.2024.32733](https://doi.org/10.1001/jamanetworkopen.2024.32733)

Open Access: This is an open access article distributed under the terms of the [CC-BY License](https://creativecommons.org/licenses/by/4.0/). © 2024 Tung EL et al. *JAMA Network Open*.

Corresponding Author: Elizabeth L. Tung, MD, MS, University of Chicago, 5841 S Maryland Ave, MC 2007, Chicago, IL 60637 (eliztung@uchicago.edu).

Author Affiliations: Section of General Internal Medicine, University of Chicago, Chicago, Illinois (Tung, Press, Peek); Center for Health and the Social Sciences, University of Chicago, Chicago, Illinois (Tung); Center for Chronic Disease Research and Policy, University of Chicago, Chicago, Illinois (Tung, Press, Peek).

Conflict of Interest Disclosures: Dr Tung reported receiving a career development grant from the National Heart, Lung, and Blood Institute (NHLBI) and grants from the National Institute of Diabetes and Digestive and Kidney Diseases and the Eunice Kennedy Shriver National Institute of Child Health and Human Development outside the submitted work. Dr Press is supported by funding from the National Institutes of Health and the Agency for Healthcare Research and Quality and has received consulting fees from Humana outside the submitted work. Dr Peek is supported by a grant from Kaiser Permanente and reported receiving a grant from the National Institute of Diabetes and Digestive and Kidney Diseases and personal fees from Abbott, MedScape, and Pfizer outside the submitted work.

Disclaimer: The views expressed in this commentary do not necessarily reflect the views of the US government or any aforementioned organizations.

REFERENCES

1. Press VG, Huising-Scheetz M, Arora VM. Inequities in technology contribute to disparities in COVID-19 vaccine distribution. *JAMA Health Forum*. 2021;2(3):e210264. doi:[10.1001/jamahealthforum.2021.0264](https://doi.org/10.1001/jamahealthforum.2021.0264)
2. Mayberry LS, Lyles CR, Oldenburg B, Osborn CY, Parks M, Peek ME. mHealth interventions for disadvantaged and vulnerable people with type 2 diabetes. *Curr Diab Rep*. 2019;19(12):148. doi:[10.1007/s11892-019-1280-9](https://doi.org/10.1007/s11892-019-1280-9)
3. Rising KL, Guth A, Gentsch AT, et al. Development and preliminary validation of a screener for digital health readiness. *JAMA Netw Open*. 2024;7(9):e2432718. doi:[10.1001/jamanetworkopen.2024.32718](https://doi.org/10.1001/jamanetworkopen.2024.32718)
4. Lee J, Lee EH, Chae D. eHealth literacy instruments: systematic review of measurement properties. *J Med Internet Res*. 2021;23(11):e30644. doi:[10.2196/30644](https://doi.org/10.2196/30644)
5. Institute of Medicine Committee on Quality of Health Care in America. *Crossing the Quality Chasm: A New Health System for the 21st Century*. National Academies Press; 2001.

6. Predmore ZS, Roth E, Breslau J, Fischer SH, Uscher-Pines L. Assessment of patient preferences for telehealth in post-COVID-19 pandemic health care. *JAMA Netw Open*. 2021;4(12):e2136405. doi:10.1001/jamanetworkopen.2021.36405
7. Obermeyer Z, Powers B, Vogeli C, Mullainathan S. Dissecting racial bias in an algorithm used to manage the health of populations. *Science*. 2019;366(6464):447-453. doi:10.1126/science.aax2342
8. Garvin LA, Greenan MA, Edelman EJ, Slightam C, McInnes DK, Zulman DM. Increasing use of video telehealth among veterans experiencing homelessness with substance use disorder: design of a peer-led intervention. *J Technol Behav Sci*. 2022;1-12. doi:10.1007/s41347-022-00290-2