



# Closing The Gap: Making Digital Health More Equitable

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“Advancing health equity through technology will not happen by accident. If we are serious about identifying and eliminating those persistent inequities in healthcare that contribute to such poor outcomes for marginalized groups, we must create this future.”

- James L. Madara, MD, CEO & Executive Vice President, American Medical Association

Humans are enthralled by technology and its capacity to make our lives easier and our businesses more productive. Technological advancements over the past few years have been nothing short of staggering, especially in healthcare, where digital therapies, virtual doctors' visits, and apps that do everything from track health habits to monitor heart rates are now commonplace.

As heavily evident during the COVID-19 pandemic, access to digital healthcare is increasingly important as it becomes a more and more utilized option in the delivery of care. But not everyone finds that access easy, because not everyone has a reliable internet connection, smart devices, or a fundamental understanding of how technology and digital services work. It's this inconsistency across populations that leads to inequitable access to care.

## ADVANCEMENTS IN DIGITAL HEALTH BRINGING NEW BENEFITS, FOR SOME

The widespread uptake of health apps, wearables, online resources, telehealth, telemedicine, and more has grown exponentially in recent years.<sup>1</sup> Today, healthcare-focused organizations are leveraging the benefits of technological innovations to support consumers and patients in areas such as:

- Improved drug management and adherence
- Decreased care delivery costs
- Enhanced patient experiences
- Earlier detection and treatment
- Improved disease management and education

While the advantages of a more digitally focused health environment are compelling and worth pursuing, it's vital to be aware of the very real inequalities that technology can also create. This concern has even been identified by the World Economic Forum, particularly because of aging populations. On average, people are living longer, and by 2050 the Forum estimates the global population aged 65 or over will reach 1.5 billion – double today's total. While it can be assumed a greater proportion of individuals over the age of 65 will be more digitally literate than today, the Forum is anxious that increasing digitalization of healthcare could mean millions are left behind.<sup>2</sup>

Age is not the only factor of the digital divide. Location, socioeconomic status, race, language, education levels, and other social determinants have a direct impact on people's health, quality of life, and ability to benefit from health tech.<sup>3</sup> Today, more than a third of the world's population have never used the internet,

driven mainly by restriction to access. This statistic alone highlights the potential vast implications as care is leaning more on digital components.<sup>4</sup>

## **Innovation Doesn't Always Equal Better Outcomes for Everyone**

Even when technology is accessible, it's important to keep in mind the impact on all stakeholders during rollout. By their nature, technologies advance at a rapid pace, which can often mean the full implications of their impact are not immediately clear or easily predicted. Certain innovations, while noble in their aims, can cause unintended and harmful consequences that add to the equity gap.

Recent high-profile examples include a recent study that found sensor technology in some wearable devices is less effective on darker skin tones and people with obesity. The data showed the factors such as BMI (Body Mass Index) and skin tone could cause a loss of sensor signal between 30-60% depending on the device, which leads to inaccurate readings of health metrics available on the devices.<sup>5</sup> Another example is an AI algorithm used in US hospitals to allocate care to patients, which has been found to be systematically discriminatory against black individuals. A study conducted by *Science* uncovered that the algorithm was less likely to refer black people than equally sick white people to programs that aim to improve care for those with complex medical needs.<sup>6</sup>

While it's unrealistic to expect a new product to be designed for every possible user, many of these glaring gaps are inexcusable and could have been mitigated or avoided by more robust, diverse stakeholder input and inclusive practices throughout development and testing. Through more consideration (and perhaps taking a little extra time), many organizations would ultimately benefit by reaching and better serving a broader patient or customer base.

Conversely, it's important to recognize that organizations and innovators often need to strike a balance in proving progress to investors versus perfect solutions. The adage of striving for 'progress not perfection' applies here, but it doesn't absolve them of all responsibility in delivering more inclusive solutions.

## **FOUR BEST PRACTICES TO PUT EQUITY AT THE HEART OF DIGITAL HEALTH**

At Vynamic, we're advocates for diversity, equity, and inclusion (DEI) in healthcare. Diversity, equity, and inclusion is intrinsic to the Vynamic culture, and our team is passionate about promoting health equity across the healthcare system. We're equally optimistic about the capacity for technology to improve our health systems and patient care. We believe there are several actions those in the healthcare tech space should consider when it comes to developing products and services:

### **1. Build DEI Into Your Business Strategy, Not Just Your Talent Strategy**

Developing a well-thought-out DEI strategy has shown to not only enhance an organization's culture, but also bring extensive business benefits, including high levels of innovation and wider perspectives that positively impact decision making. This can only be realized when DEI is taken into consideration and embedded in business practices and objectives, beyond HR and Talent initiatives. For example, creating a more diverse team

through hiring but not having the programs and processes in place to promote inclusion and equity, a team will not see an overall benefit of ideation and innovation that only a diverse team can produce.

Incorporating DEI best practices allows for more open conversations regarding access and equity when developing new products or services. Focusing on servicing all populations in product and service design opens paths to all possible revenue streams and can boost company reputation, while the opposite is true if all populations are not considered.

[Find out more](#) about how to embed DEI into an organization.

## **2. Hire Diverse Talent**

By its nature, innovation requires new and different ways of thinking. Having a diverse team with diverse backgrounds and life experiences, and providing a safe, supportive environment where they're actively listened to and valued, gives you the varied ideas necessary to support the development of your digital product or service. It also contributes towards a greater consideration of the needs of a diverse audience and the barriers they face when it comes to product designing, testing, marketing, and use. An example of the importance of diverse talent is highlighted in examining bias in AI systems. Recent studies have shown bias in race, age, and gender in facial recognition AI that can be tied back to the data being used to train the systems to emulate human behavior. With lack of diversity in the teams developing these systems, the more opportunity for bias arises as the systems are built on specific precedents that don't account for the whole of populations.<sup>7</sup>

Data has shown that a diverse workforce and inclusive cultures are likely to be four times more innovative than workforces that don't have those characteristics.<sup>8</sup> Additionally, organizations that have an ethnically diverse executive team are 33% more likely to generate more profit compared to organizations with less diversified leadership.<sup>9</sup>

## **3. Understand Your Audience and the Barriers They Face**

When developing a product or service, it is critical to create diverse and detailed user personas. If an organization only plans for a specific persona to represent the entirety of the target market, it's highly likely there will be missed populations, creating gaps in access and usability. By creating robust, diverse personas that capture a range of different identities, it allows you to consider access needs, social determinants of health, and specific disparities that certain populations may encounter with your product or service. An example of the importance of this exercise is evidence in a recent survey by *AFB*. The survey interviewed 488 US adults that identify as blind, have low vision, or are deafblind. The study found that 70% of visually impaired patients tried to use telemedicine, but 57% reported problems accessing the platforms.<sup>10</sup> Ensuring that these patients have a clear path to care is critical to ensure access for all.

It's also important to remember that it's not just patients who may struggle with accessibility; healthcare providers and professionals may also have specific needs or face barriers that should be carefully considered.

## **4. Provide the Right Support**

Once you have a more comprehensive understanding of your target users, what additional accessibility features, training, or auxiliary services might they need to overcome barriers to participation?

When Stanford Cancer Center switched to virtual care appointments due to the pandemic, it launched a support taskforce to help less tech-savvy patients access the internet and take part in online screenings. As a result, patients that may have not been able to get critical care were able to continue their treatment journey.<sup>11</sup>

While you may not be able to provide support on such a large scale, you might be able to set up a dedicated team or taskforce to ensure you're addressing the needs of all users and those who don't fall into your typical user personas. It may be something as simple as creating a training guide or dedicated helpline, broadening accessibility settings, or offering in-person support.

## INCLUSION DOESN'T HAPPEN BY ACCIDENT AND EQUITY CAN'T BE AN AFTERTHOUGHT

By putting DEI at the heart of your business strategy and health tech product or service, and considering the accessibility and usability needs of your audience, you can better serve your stakeholders. You'll widen your customer or patient base, improve adoption and scalability, generate good PR, and ultimately narrow the health equity gap.

If you'd like to find out how Vynamic can help you create and embed a DEI strategy, as well as support your product design, user journey, and launch thinking, [please get in touch](#).

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### END NOTES

1. <https://www.hhs.gov/about/news/2021/12/03/new-hhs-study-shows-63-fold-increase-in-medicare-telehealth-utilization-during-pandemic.html>
2. <https://www.weforum.org/agenda/2021/10/how-can-we-ensure-digital-inclusion-for-older-adults/>
3. <https://health.gov/healthypeople/priority-areas/social-determinants-health>
4. <https://www.theguardian.com/technology/2021/nov/30/more-than-a-third-of-worlds-population-has-never-used-the-internet-says-un>
5. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8713672/>
6. <https://www.nature.com/articles/d41586-019-03228-6>
7. <https://www.techtarget.com/searchhrsoftware/news/252462002/Diversity-in-hiring-a-key-to-eradicating-AI-bias>
8. [https://www.conference-board.org/pdf\\_free/councils/TCBCP014.pdf](https://www.conference-board.org/pdf_free/councils/TCBCP014.pdf)
9. <https://www.mckinsey.com/capabilities/people-and-organizational-performance/our-insights/delivering-through-diversity>
10. <https://www.fiercehealthcare.com/health-tech/make-telemedicine-work-visually-impaired>
11. <https://catalyst.nejm.org/doi/pdf/10.1056/CAT.20.0262>

