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CAN DIGITAL THERAPEUTICS HELP DELIVER HEALTH CARE EQUALITY?

By Neveen Awad, Dharmesh Syal, Stephanie Marton, Lauren Wood, and Shuo Jiang

DIGITAL THERAPEUTICS ARE POISED to become a major health care pathway, promising to improve outcomes and reduce the cost of care in the US. But huge disparities in health care laid bare by the COVID-19 crisis threaten to prevent underserved populations from accessing and benefiting from the new therapies.

To address these disparities, companies developing digital therapeutics need to rethink their approach to product development, from ideation and design to realization and commercialization. This means taking into account how the members of various demographic groups might use a particular product in their daily lives and testing potential solutions with those who are currently living with disease. Integrating digital therapeutics into clinical workflows and pursuing unconventional partnerships across the health care ecosystem will also be critical.

Such an approach will help ensure that digital-therapeutic products are tailored to the latent needs of diverse populations. It will

also encourage local health institutions to embrace them, which will help drive broader adoption. And it will give digital-therapeutics companies the opportunity to take the lead in addressing larger health issues while expanding their customer base.

Steady Growth in Digital Therapeutics

A subset of digital health solutions, digital therapeutics are software products that deliver personalized interventions to prevent, manage, or treat medical conditions on the basis of clinical evidence and real-world outcomes. Designed to promote changes in behavior, they can work on their own or in combination with traditional therapies like drugs or medical devices. Digital therapeutics are scalable and broadly available to people with internet access and a smartphone.

After growing steadily for the past decade, digital therapeutics received a big boost from the COVID-19 pandemic because of their potential to help people in ways that

are low cost and compliant with social-distancing guidelines. Stakeholders—individuals, providers, payers, regulators, and investors—have all signaled their support for these products.

Health care systems, for example, have expedited deployment of technologies that enable remote delivery and automate traditional care processes. More and more payers, including the Centers for Medicare & Medicaid Services, are covering digital therapeutics. The Food and Drug Administration has relaxed the approval process for therapeutics that address mental health issues and for those that enable remote monitoring of various medical conditions. Investors—who pulled back from digital therapeutics when COVID-19 first hit—have now doubled down on their investments. According to BlackRock Health, 2020 is on track to see the largest amount of investment in digital therapeutics yet.

We expect these developments to help expand the number of digital-therapeutic products on the market, as well as the breadth and impact of their functionality and their rate of adoption once the crisis ends. Unfortunately, however, a large portion of the population does not have access to many of these innovative therapies right now.

An Underserved Population
The disparities in US health care are largely driven by the "social determinants of health," defined by the World Health Organization as "the conditions in which people are born, grow, live, work, and age." Social determinants include educational opportunity, access to health care services, income, employment status, access to healthy food, discrimination, residential segregation, access to mass media, and health insurance coverage.

These determinants can have a significant impact on people's health literacy—their ability to obtain and understand the health information they need in order to make health care decisions. The social determinants of health can also affect people's dig-

ital literacy, their access to and ability to take full advantage of digital technologies. (See the exhibit.) For example, studies show that because of high cable costs, as many as 42 million people in the US lack high-speed internet access, making it nearly impossible for them to access critical health care information. And although smartphone use has expanded over the years, it has yet to bridge this gap.

Consequently, the digital-therapeutics opportunity is bypassing millions of Americans—and arguably those who need it most. The key to expanding access is to design products that meet these people's needs while making adoption easy.

Design More Inclusive and Relevant Products
Digital-therapeutics companies should focus on designing products and clinical trials that take into account the diverse needs of end users. Design that considers how the disease being targeted affects different population groups is critical to patient engagement and therefore has the potential to differentiate a therapeutic from others on the market.
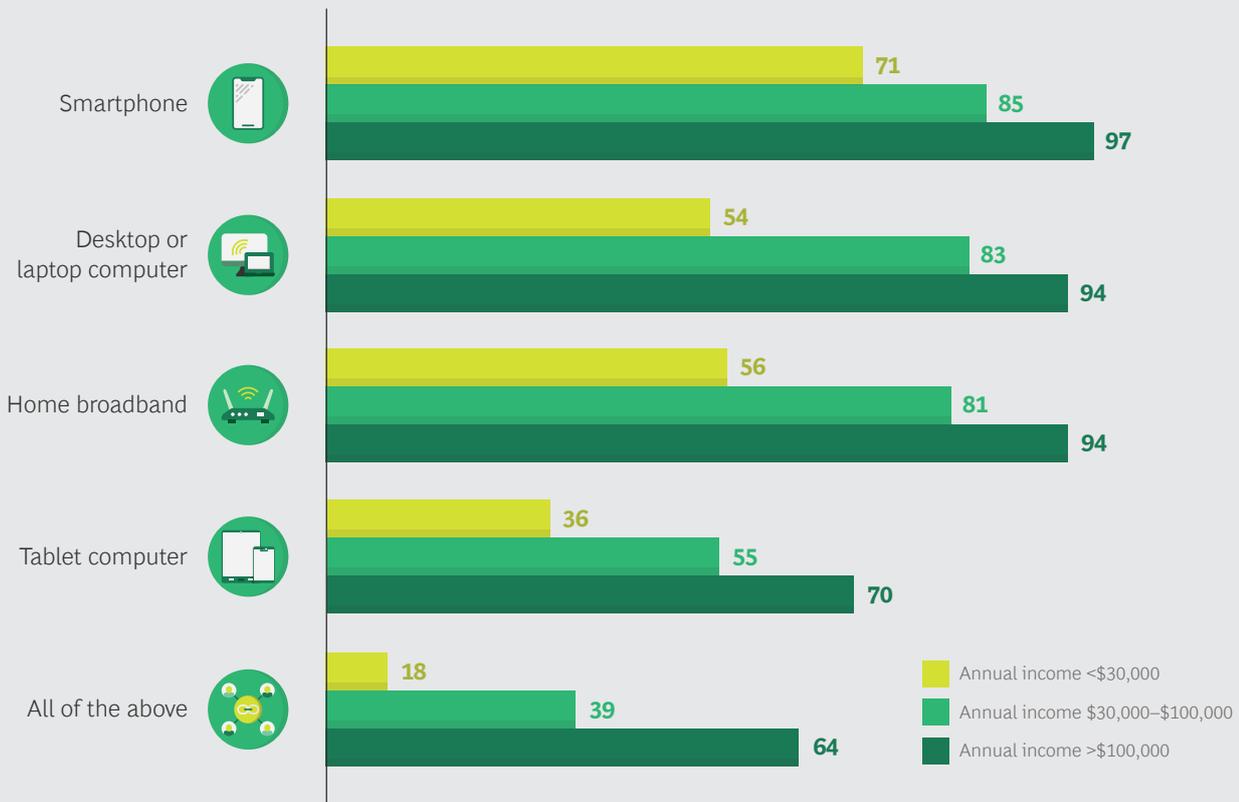
Take social determinants into account.
Companies need to understand how the social determinants of health may influence the way their products will be adopted and used. During the design process, it's critical to work closely with a diverse group of people who are experiencing the health problem that the product is intended to address. Treating people as codevelopers rather than as end users is essential to designing a product that meets the needs of those living with disease.

Gaining insights from advocacy groups and local community organizations is also crucial. This input can help determine, for example, whether large numbers of people with an illness are unlikely to have access to newer models of smartphones and tablets—in which case, it might make sense to create solutions in which the features that provide educational information to patients are compatible with older devices.

Technology Adoption Is Lower Among Low-Income Americans

% of US adults with access to these devices/technologies

Device	<$30,000	$30,000–$100,000	>$100,000
Smartphone	71	85	97
Desktop or laptop computer	54	83	94
Home broadband	56	81	94
Tablet computer	36	55	70
All of the above	18	39	64

Annual income <$30,000
Annual income $30,000–$100,000
Annual income >$100,000

Source: Pew Research Center survey, 2019.

No less important, companies need to engage with providers that treat people from a wide range of socioeconomic groups. This will give them a deeper and more nuanced understanding of latent needs and the technological constraints that should be considered in the product design process.

Design products to be easily integrated into providers' workflows. Ensuring that the product can be integrated seamlessly into existing clinical-practice workflows is essential to increasing the likelihood of adoption. Digital therapeutics that require additional work, such as inputting unnecessary data, will have the opposite effect. But seamless integration, which requires the cooperation of health care providers and systems providers such as Epic, is no easy task.

Digital-therapeutics companies therefore need to convince health care providers that the therapeutic solves an unmet need; these stakeholders will then be able to convince systems providers to allow access to the product. In our view, the best way to identify the product features most important to health care providers is to give them a seat at the development table.

Include a diverse population in clinical trials. To develop digital therapeutics that can be used by the broader US population, clinical trials must include a racially and socioeconomically mixed group of people with varying levels of digital proficiency. Defining the primary trial objective, the study endpoints, the approach to site selection, and the criteria for recruiting participants will be essential to reducing trial bias.

Build More Diverse Partnerships

Forced by the urgency of the COVID-19 crisis to break down traditional silos, pharma companies, technology players, providers, and payers are forging unprecedented partnerships. Digital-therapeutics companies should use this opportunity to explore new kinds of collaborations that could provide the expertise needed to develop and launch innovative products more efficiently. Two partners are especially important:

- **Community Clinics.** Digital-therapeutics companies are accustomed to launching new products in collaboration with large academic medical centers. But since these institutions are out of reach for many individuals, whether for geographic or insurance reasons, companies should consider partnering with community clinics as well. This will allow them to support resource-constrained clinics while expanding access to their own products.

- **Government Organizations.** Partnerships with government organizations already experimenting with public-health interventions and new policies on a large scale can help companies increase a product's speed to market while strengthening ROI.

Make Social Benefits a Criterion for Investment

When deciding what type of digital therapy to develop, companies should consider the potential benefits to society. The same applies to investors. Large biopharma companies and venture capital firms should take into account the digital-therapeutics company's total societal impact—the intrinsic social value created by its offerings. Studies suggest that companies that rank high on this measure exhibit better financial performance in the long run. This alone can be a reason to invest, but if a company can demonstrate that those who use its product experience better health outcomes, the value proposition will be much more apparent to shareholders and potential investors.

DIGITAL THERAPEUTICS HAVE the potential to significantly improve health care delivery to underserved populations. But a lot of hard work lies ahead. Companies will need to invest in understanding the unmet needs that perpetuate health disparities across the US and develop solutions to address them. And stakeholders need to reimagine an environment in which digital therapeutics play a more prominent role in public health and safety. Working together, they can do much to alleviate one of health care's greatest challenges.

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