SHARE

PERSPECTIVE

The Impact of Technology Policy on Health Disparities

Jorge A. Rodriguez, MD

Dr. Rodriguez (jrodri16@bidmc.harvard.edu) is a fellow in the Division of Clinical Informatics at Beth Israel Deaconess Medical Center in Boston, Massachusetts.

From patient portals to mobile health apps, patients interface with digital platforms to manage their health. Technology policy establishes the groundwork for equitable access and privacy. Recent changes to broadband privacy rules, rollbacks to the Lifeline program, and proposed changes to "net neutrality" rules will halt the progress made in achieving digital equity. Such support structures are paramount for all patients, especially for vulnerable populations who struggle with access to technology and trust in institutional structures. Without free access and ensured privacy, health technologies will fail to reach these populations. Consequently, the purported benefits of digital health may paradoxically exacerbate health disparities. Internet access, privacy, and neutrality are key policies that significantly influence patients' ability to equitably access online health tools.

Internet Access

The first step in achieving digital equity is ensuring Internet access. The digital divide has long been a barrier to developing digital health tools. In 2000, only about half of adults in the United States had access to the Internet. By 2016, 88% of adults had Internet access.[1] Despite these improvements, low-income, low-literacy, and rural populations continue to lag in their Internet use. Given their higher risk for poor health outcomes, these populations would benefit from digital health solutions. For example, some of these solutions include chronic disease self-management, online disease specific communities, and access to health services and information.

Aiming to expand technology access, the Lifeline program was established under President Reagan to provide subsidized phone service to low-income populations. Prior to the current administration, the Federal Communications Commission (FCC) had planned to extend the program to include subsidies for broadband access. However, Ajit Pai, the new head of FCC, limited these efforts by removing several Internet providers from the program. He cited legal limitations and fraud as reasons behind this change. Nevertheless, Pai has stated that narrowing the digital divide is one of his priorities. He has presented policy proposals to extend broadband and mobile Internet access, but these have yet to be realized. Without policy focused on addressing existing divides, inequities will persist and health disparities will extend to digital health.

Internet Privacy

In December 2016, the FCC introduced "Protecting the Privacy of Customers of Broadband and Other Telecommunications Services" that sought to adopt the privacy protection measures of the Communications Act of 1934 and apply them to broadband communications. Initially due to take effect in January 2017, these measures provided a privacy framework protecting consumer rights related to transparency, choice, and security while accessing the Internet via Internet service providers (ISPs). ISPs serve as the "on-ramp" to the Internet. However, in April 2017, President Trump signed into law Senate Joint Resolution (SJR) 34, which nullified these provisions. Now, consumers are left with less privacy protection and ISPs are allowed broader control over their customers' data. The current policy climate puts consumers at risk, exposing broad swaths of financial and health data.

Low health and digital literacy (the ability to use digital technologies to find and share information) complicate the nuances of broadband privacy. Vulnerable populations have opposing perspectives of overconfidence and skepticism about their privacy. While some patients cite surveillance concerns as a barrier, others do not consider this when engaging with digital health tools.[2] One patient may be hesitant to use a health app or website fearing government surveillance. Another patient may freely offer personal information, unaware of how their information is shared with other parties (e.g., ISPs). A patient-centric broadband privacy policy is critical to bridging these privacy perspectives and protecting vulnerable patients. This does not exist in the current political climate.

Although broadband privacy has declined, digital solutions continue to play a larger role in healthcare, creating a diverging path where vulnerable populations may be left unprotected. In other words, with nearly 259,000 health apps and digital health investments reaching $4.2 billion, technology's role in healthcare continues to grow.[3] However, the passage of SJR 34 puts health, a field markedly concerned with privacy, essentially at odds with the Internet, one of its most important platforms.

Furthermore, healthcare providers may be placed in difficult situations as they endorse digital health solutions to patients who may not want or be able to safely navigate the digital health space. Patients with low health literacy tend to lack trust in the media, government, and technology companies. Given current broadband privacy rules, this is not unfounded. In contrast, they place great trust in their healthcare

1

providers. Since healthcare providers are key stakeholders in promoting digital solutions, it is essential to educate them about the risks for their patients when they prescribe digital health tools.

Internet Neutrality

Net neutrality allows the Internet to be an equitable platform. It maintains that ISPs should treat the transfer of all data equally. ISPs cannot: (1) block content or data based on the user, source, or type of data, or (2) create paid prioritization or "fast" lanes on the Internet. In 2015, the FCC adopted Title II of Communications Act of 1934 to place broadband and mobile Internet in the same regulatory category as public utilities, thus preventing discriminatory practices. This commitment to digital equity designated the Internet as a necessity rather than a commodity. However, on May 18, 2017, the FCC voted on the proposal "Restoring Internet Freedom," taking its first steps towards reversing these regulations. Without net neutrality, ISPs could block content or give preference to entities willing to pay for fast lanes. Essentially, it could allow ISPs to control what patients see on the Internet and how fast they see it, creating a biased online environment.

For low-income Internet users, reversing net neutrality means that the freedom offered by the Internet would be lost. The Internet experience would vary from ISP to ISP, depending on which content is prioritized. ISPs could charge consumers premiums for an Internet connection with less throttling (slowing of Internet service) or blocking. Internet service could become similar to cable access where different packages with different content create a different experience. Without net neutrality, low-income patients could experience a limited digital interface. Their ability to use the Internet to access health information, patient portals, and mobile apps would be dictated by ISPs.

For a system that is increasingly asking its patients to go online for their healthcare, this presents several challenges. Meaningful Use policies require healthcare centers to provide patients access to their data through patient portals. However, patient portal uptake has been particularly low among vulnerable populations.[4] Patients already identify Internet access and technical skills as prohibitive. Placing further barriers on their Internet access and experience exacerbates existing digital disparities.

The rise of mobile first Internet users, or those who rely on their mobile phones for Internet access, has narrowed the digital divide. Mobile phones are also platforms for mobile health apps. However, with 23% of smartphone owners canceling their service due to cost, paid prioritization could lead to further financial burdens on patients.[5] How are we to see the beneficial impacts of digital health if the platform itself is inequitable?

Net neutrality regulations provide not only a safety net for patients, but also can foster health innovations. As burgeoning technologies like telehealth, virtual reality, artificial intelligence, and machine learning begin to play a role in healthcare, inequitable policies may cause new developments to stagnate.

Opponents of net neutrality argue that it places excessive regulations on ISPs. These regulations limit market competition, ultimately hurting consumers. With the income accrued through paid prioritization, ISPs could reinvest in extending Internet infrastructure. However, this argument assumes ISPs will have consumers' best interest in mind.

Along with the recent reversal of broadband privacy rules, which gives ISPs control over consumer data, ISPs are becoming the self-serving gatekeepers of the Internet.

To be an active citizen, Internet access is *indispensable*. To be a digitally engaged patient, Internet access, privacy, and net neutrality are all essential. The Internet is a platform for civic engagement, education, economic advancement, and healthcare. We cannot allow it to become yet another place where the vulnerable are left behind. For technology to be the driver of health equity, the technology must itself be accessible for all.

References
1. Demographics of Internet and home broadband usage in the United States. Pew Research Center. http://www.pewinternet.org/fact-sheet/internet-broadband/. Accessed May 17, 2017.
2. Mackert M, Mabry-Flynn A, Champlin S, et al. Health literacy and health information technology adoption: the potential for a new digital divide. *J Med Internet Res*. 18, 1–16 (2016).
3. Health App Developer Economics. https://research2guidance.com/product/mhealth-developer-economics-2015/. Accessed October 31, 2017.
4. Perzynski AT, et al. Patient portals and broadband internet inequality the Metro-Health System and 6 Center for reducing health disparities, the MetroHealth System. doi:10.1093/jamia/ocx020
5. U.S. Smartphone use in 2015. Pew Research Center. http://www.pewinternet.org/2015/04/01/us-smartphone-use-in-2015/. Accessed September 14, 2017.

SGIM