National Collaborating Centre for Determinants of Health

Centre de collaboration nationale des déterminants de la santé

nova scotia health

DIGITAL EQUITY IN HEALTH SERVICES:
PRACTICE BRIEF


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As digital channels are increasingly used across the health care continuum, questions remain about who is benefitting and who is being left behind.... It cannot be assumed that everyone will benefit equally or fairly, and [there are questions] as to whether these efforts, without mitigation, are increasing inequities or creating unfair or unjust pathways to care.[1(p3)]

Digital equity "seeks to ensure that everyone—especially groups who are historically underserved or underrepresented—has the information technology capacity needed for civic and cultural participation, employment, lifelong learning, and access to essential services." (Canadian Commission for UNESCO, as cited in Media Ethics Lab[2])

Digital divide "is about equity, not infrastructure.... Issues of digital equity are deeply rooted, connected, and systemic.... It is essential to respond to divides with care; they existed prior to current technologies and can be exacerbated by new ones.... Innovation that isn't inclusive becomes the agent of further inequity."[3]

Why digital equity?

The arrival of COVID-19 brought an increased reliance on digital channels to deliver health information and services to communities across Canada and across sectors, due in part to public health restrictions to reduce risk and transmission of disease. However, COVID-19 had an inequitable impact on populations already experiencing lack of social and economic resources as well as lack of health care access and other forms of inequities.[4] The shift to digital health services represented "a double-edged sword … [where] socioeconomically and medically vulnerable populations that could stand to benefit most from telehealth may be the least ready to use it."[5(p354)] Because the uptake of digital health services reflected the intersection of individual, community and structural barriers, it quickly became obvious that "widescale implementation of telehealth during the COVID-19 pandemic may reinforce disparities in health access in communities that stand to benefit most from its use."[5(p360–1)]

As the pandemic landscape shifts, the digital determinants of health will become increasingly important as the use of digital health technologies grows[6] to deliver health and community services in an effort to reach more people with more services across the care continuum. However, an overall policy climate focused on addressing individual behaviour creates an environment where digital health strategies can worsen inequities,[7] including the risk of widening the gap[8] between those who are healthy and those who are not.

Use this practice brief to:

- identify key dimensions of digital equity;
- develop a digital equity strategy or framework that can be applied to virtual services;
- design digital health interventions that meet the needs of people who live in circumstances of marginalization and vulnerability; and
- bring evidence to decision-makers about the necessity of taking an equity approach to digital health services.

Equity considerations for digital health services

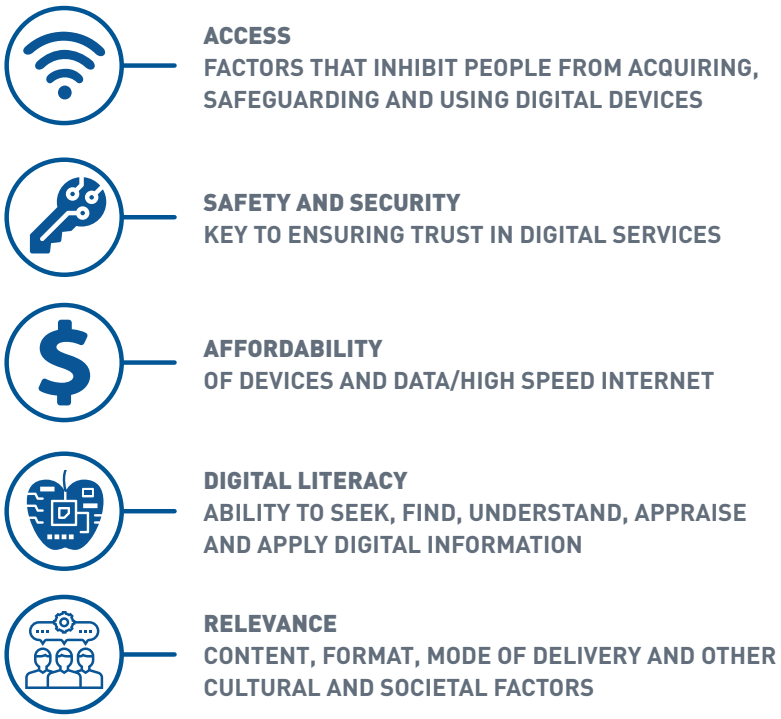
Recognizing the potential equity implications of digital strategies, the Mental Health and Addictions Program of Nova Scotia Health conducted a situational assessment to inform decision-making around digital equity in mental health and addiction services in Nova Scotia. Goals for the situational assessment included identifying barriers and opportunities for equity-informed e-mental health strategies and exploring digital equity as a catalyst for decision-making to take action to reduce health inequities. The project included a review of literature, key informant interviews and focus groups with service providers, and identification of resources and examples to support digital equity for mental health and addictions strategies.

The full report, *Digital equity for mental health and addictions in Nova Scotia: A situational assessment,*[1] includes detailed findings and implications, and can be found HERE.

Dimensions of digital equity

The project team identified five core dimensions of digital equity[9,10] and used them as a framework to guide the situational assessment as well as to map the findings.[1] Figure 1 provides an overview of these dimensions.

FIGURE 1: CORE DIMENSIONS OF DIGITAL EQUITY



Using these dimensions, the following text presents key findings from academic and grey literature under the heading "In the literature" and findings from the situational assessment described above under the heading "In the community."

Access

Until we can treat these symptoms of marginalization, then, the perception that technology can "level the playing field" and increase transparency and governmental accountability will remain more of a myth than a reality.[11(p23)]

IN THE LITERATURE

From an equity perspective, availability of technology and digital health services may not be sufficient to ensure access.[12] In addition to access to hardware, software and internet connectivity,[9] higher levels of internet use (digital inclusion) are associated with age (younger), high levels of trust, employment, higher income and education, and geography.[13] Older adults, those with limited

English capacity, women, and those who do not have a consistent location for health care are less likely to use the internet for health services.[14]

Communities who live with disadvantage due to lack of income and resources, or increased risk of disaster and disease, also experience inequity in digital health services.[5] Promoting digital options in areas affected by socioeconomic disadvantage that also have limited access will contribute to reproducing current inequities or creating new risks for equity-seeking groups.[15] For example, disadvantaged communities may have to make choices about what app or service to use based on cost or safety even though better opportunities are available to others.[16]

Failure to address these issues means that "digital solutions intended to increase health care access and quality often neglect those that need them the most."[17(p1116)] Meaningful relationships with communities to address the digital divide and incorporating equity considerations into the development of health technologies and policy are also important elements of access.[18]

IN THE COMMUNITY

Delivering services virtually has the benefit of overcoming geographical distance and creating opportunities that did not previously exist. However, lack of reliable internet access and devices is a significant barrier to full participation in digital services and disproportionately impacts populations already living with other inequities:

"There is a segment of the population, including those who are homeless, disabled, or very low income, who may not have access to any digital means of communication. These very vulnerable people will need to know that such a service exists, and a private place and access to the digital means to use these services, and potentially assistance to access them as well, including transportation and instruction or physical assistance to use the digital equipment."
(focus group participant)

Even in households that can afford a device or internet connection, there are often competing access demands such as children doing school at home or completing homework, parents working from home, limited data plans and mobile service that only allows calls or access during certain times of the day. COVID-19 public health guidelines that resulted in closures to many public spaces further reduced access to free Wi-Fi because libraries and other community spaces were closed.

INNOVATIVE IDEA: Organizations can leverage one-time funding to extend Wi-Fi access from inside buildings to outside spaces such as parking lots for people walking or sitting nearby. Future pandemic planning should consider safety-oriented solutions for access and ensure they are "ready to go" as needed.

Affordability

IN THE LITERATURE

"Internet inequity" based on differential availability due to socioeconomic deprivation is a public policy issue.[19] However, lowering the cost of home and mobile internet will not necessarily decrease the digital divide. Communities who have higher socioeconomic status benefit more from digital interventions,[20] and therefore decreasing the cost of Wi-Fi would actually increase the equity gap if costs are lowered for those who can already afford it. As well, communities of lower socioeconomic status may get referred to less effective digital interventions because they are less costly, and lose access to in-person services when they are needed.[20] Related to this, there need to be mechanisms to ensure that, when people don't have access or cannot afford technology devices, there are other options for them to receive appropriate services.[21]

IN THE COMMUNITY

The high cost of devices, internet and cellular data plans is a barrier in Canada compared with other countries. The non-profit sector has taken on considerable responsibility in trying to bridge these gaps through device lending or short-term data plans. These expenses drain their already tight operating budgets. Securing funding, managing device distribution, updating or expanding data plans, and supporting the public to know where to access free Wi-Fi safely adds significant financial burden to community organizations. Programs are available to subsidize purchases for devices and internet service, but the public are often not aware of them.

"We raised funds, realigned budgets to send phones, tablets to patients and community members most marginalized — tools went out fast — a Band-Aid solution outside of organizational budget."
(focus group participant)

INNOVATIVE IDEA: Organizations can work to increase capacity within communities through strategic partnerships, including with government departments, and collaborating with community organizations that work with racialized groups to secure funding for laptops, tablets and refurbished computers for loan.

Digital literacy

The prevailing notion of "if you build it, they will come" discounts the experience of individuals with limited tech competencies and limited access to digital learning opportunities.[22(p10)]

IN THE LITERATURE

Self-efficacy and social support in the use of technology is a digital equity challenge separate from the issue of cost.[23] People who live with inequities often lack confidence in using a digital intervention and have limited health literacy to help them understand what it has to offer and how to use it.[24] Factors that affect digital literacy (the ability to effectively use digital health services) include prior access to e-health,[23] technical skills and knowledge[22,25] as well as age, education and living circumstances.[26] "Those who experience high levels of social disadvantage are at risk of experiencing the worse health outcomes, yet may also lack the access, digital skills and knowledge to make sense of digital health systems."[7(p34)]

People who are meant to be empowered by the availability of digital health options frequently feel overwhelmed if they do not have the necessary digital literacy[7] on top of having to take on this task while also balancing the reality of other socioeconomic inequities. Access, affordability or type of home internet plan does not influence digital literacy,[26] which must be included in the development of digital health strategies in order to improve health equity.[8]

IN THE COMMUNITY

Having a connected device and access to the internet does not ensure digital inclusion. Individual capacity for the effective use of digital services varies and is influenced by intellectual challenges, cognitive impairment, disability, mental illness, age, access and exposure to prior learning opportunities. With so many applications, platforms, operating systems and interfaces, many people experience challenges in navigating unfamiliar online spaces. Service providers are also challenged with learning how to connect and relate to people in online spaces and transition face-to-face programming to virtual formats that still meet people's needs.

"We cannot make assumptions about digital literacy. There are many levels of literacy — general literacy, health literacy, digital literacy, and all are factors to be considered."
(focus group participant)

INNOVATIVE IDEA: Connect community workers with youth, older adults and caregivers for training on how to use digital health services. Offer caregiver and clinician training to use digital technology for health service delivery.

Relevance

Acontextually developed innovations may largely benefit health outcomes in one sector of society while inadvertently creating, sustaining, or increasing health disparities in another. This can further perpetuate health inequities through the creating of a new configuration of the digital divide—a paucity of culturally informed or culturally useful health informatics or digital health interventions.[27(p2)]

IN THE LITERATURE

The relevance of digital health has a greater influence on the digital divide than cost.[26] Relevance encompasses more than content[26] and includes factors that influence the acceptability and use of digital technologies in low-resource settings.[6] Making culturally relevant content[9] available in diverse cultural settings[28] and addressing the social determinants of health in underserved communities[18] are essential.

Important aspects of relevance include cultural safety and appropriateness of digital services for Black, Indigenous and People of Colour;[29] content tailored to structural beliefs;[30] meaningful involvement of users in the development of digital interventions;[31] consideration of language and immigrant status of the user;[32] and strategies based in community[33] and Indigenous values.[31,34] Digital health is contextual within the socioeconomic inequities that individuals and communities live with.[35] Consideration of systemic inequities and historical circumstances[36] and meaningful involvement of community members in decisions about digital technologies in public health[37] need to be an integral part of digital health programs.

IN THE COMMUNITY

Focus group and interview participants pointed to the need for digital mental health services across the care continuum. How relevant a digital health service is depends on how it is received by an individual. Language, culture, learning style, age, abilities, mental health status and preferences all influence the relevance of a particular digital service. When people do not see themselves represented in the service or the health system, they are less likely to engage. A very clear message was that no one solution fits all — people need to be provided with options so they are able choose what they are comfortable with (e.g., texting, phone or video call). As well, the need to embrace digital technologies seems to be unavoidable.

"The convenience of virtual is not always best, when we're dealing with human interactions, and people suffering from depression who need to summon the mental fortitude to also deal with technology … challenges with (muting and unmuting), background noise, etc. Layer those on to someone trying to access support for depression, and it becomes an insurmountable obstacle…. The human connection is challenged in digital forums."

(focus group participant)

INNOVATIVE IDEA: Develop and provide services such as interactive websites that can tailor search results to user needs, 211 phone/text/chat options, telephone helplines and online peer support that are available in multiple languages and that are culturally safe.

Safety and security

IN THE LITERATURE

Privacy may be a concern for people impacted by socioeconomic disadvantage who need to share mobile devices with family or friends or borrow a device from an organization,[16] or whose access to technology devices is controlled by someone else.[21] In addition to recognizing privacy concerns,[26] building trust between digital health service providers and community members is an important aspect of the safety and security of digital health strategies.[25] Credibility based on what the community perceives as trustworthy is essential.[30] Racialized and other communities may mistrust the health system due to exclusion, lack of representation, stigma and discrimination.[38]

Meaningful relationships with communities who have experienced discrimination are important to establish the safety and security of digital health platforms. Failure to address power dynamics will maintain or worsen the status quo of communities who live with inequities.[37] This creates a "significant risk of worsening or creating new fissures in trust between the users of technologies and those creating and using the data they produce."[38(p216)] People who have health conditions that are stigmatized may have particular concerns about privacy and safety of digital health technologies.[6]

IN THE COMMUNITY

What stops certain people from engaging online may not necessarily be a lack of access and infrastructure but rather power, privilege and concerns related to being surveilled. The physical spaces where people use their technology for mental health care need to align with the purpose of that use. Meeting virtually with a clinician requires a private, quiet room that is not always possible when a person is engaged in childcare or eldercare responsibilities at home, in small homes with large extended families living together, or in cases where there is partner violence and it is not safe to meet or access supports digitally. It is commonly reported that clients access care from vehicles, parking lots or libraries as there is no safe access spot at home. Even when people are able to find access in public spaces, they face stigmatization:

"Free Wi-Fi offered outside libraries and schools assumes that people have transportation to get there. Without access to a vehicle and stoppage of public transportation, clients were walking to access Wi-Fi. We have a client who walked a substantial distance to access Wi-Fi in a school ground and was challenged by the police for loitering."
(focus group participant)

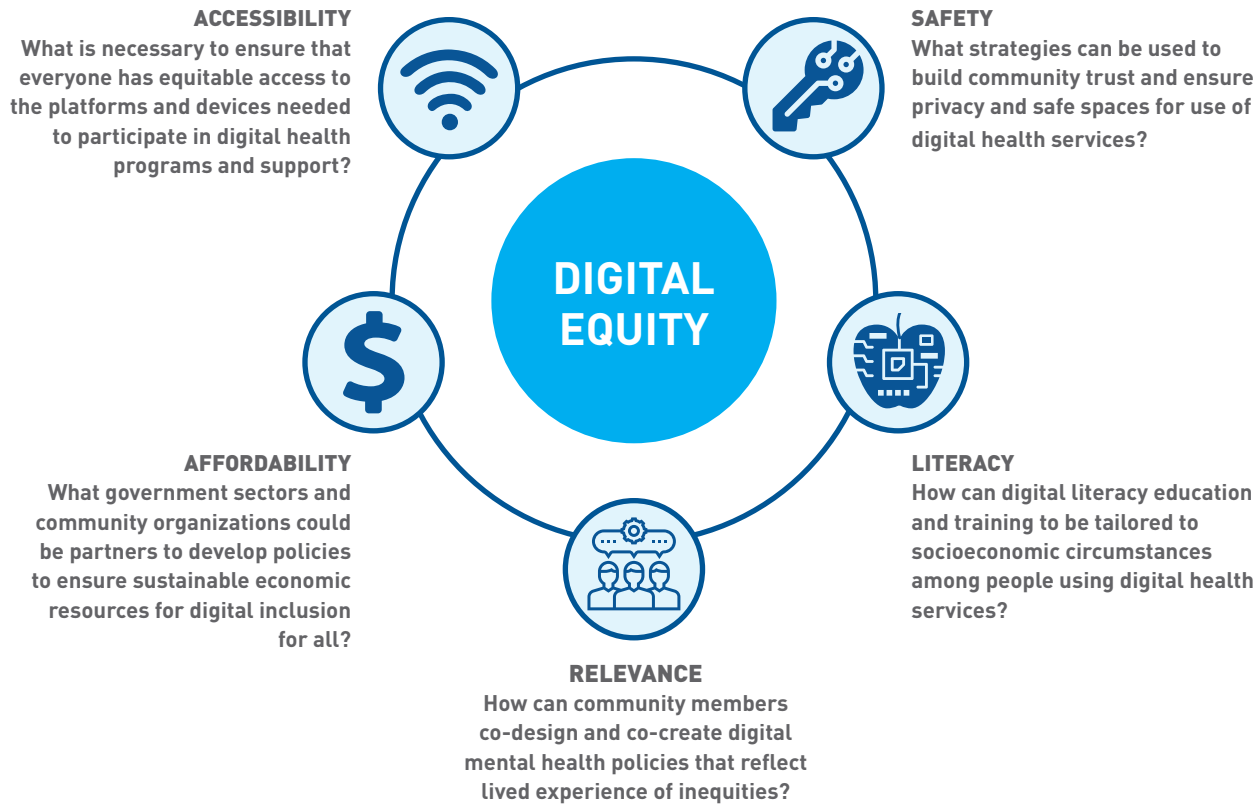
INNOVATIVE IDEA: Organize home visits by a digital navigator who is a trusted member of the community to support safety and security in using digital platforms for isolated communities and individuals.

Taking a health equity approach to digital health services

Equitable implementation of digital health services "requires developing a deep understanding of the relationship between technology and the intersectional disadvantage the worst off face on an everyday basis."[39(p262)] **Health equity** means that all people (individuals, groups and communities) have a fair chance to reach their full health potential and are not disadvantaged by social, economic and environmental conditions[40] based on socially assigned factors such as race, gender, sexuality, religion or social status.[41] Achieving **health equity** means acknowledging unequal starting places for certain groups to attain health and correcting the factors that create the imbalance.[42] Health inequity is the opposite of this — inequities happen when there is a decision not to do something about the disadvantage or imbalance of power and resources.

Action can correct the modifiable and unfair circumstances that people live in every day. The World Health Organization's *Global strategy on digital health 2020-2025*[6] calls for digital health interventions that incorporate integrity, trust-building, equity, ethics, capacity-building and literacy. The strategy also calls for digital health policies that assess impact on socioeconomic factors so that health technologies do not worsen inequities, are developed through public participation in digital health decision-making processes, and are available equally to everyone.

FIGURE 2: CONSIDERATIONS FOR DEVELOPING EQUITABLE DIGITAL HEALTH SERVICES



It is important to ensure that providing digital opportunities does not expand the disparity and inequality between the "haves" and the "have nots," and thus, continuing and carefully targeted efforts need to be devoted to closing digital divides.[15(S140)]

Additional resources to support digital health equity

- "Digital health equity as a necessity in the 21st Century Cures Act era" (2020)[43]
- "The language of equity in digital health: Prioritizing the needs of limited English proficient communities in the patient portal 2.0" (2021)[44]
- "Advancing digital health equity: A policy paper of the Infectious Diseases Society of America and the HIV Medicine Association" (2021)[45]

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