

# From Today to Tomorrow: Leveraging Digital Health to Move toward Health for All



## CONCLUSION

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## ABSTRACT

*This series of papers explores the concept of essential digital health for the underserved. Several cross-cutting themes are highlighted in this paper, for example: (1) harmonizing journeys of different patient groups to understand diverse perspectives; (2) engaging health professionals in interoperability, change management and health human resource capacity building; (3) ensuring harmonization of micro, meso and*

*macro levels of health services delivery; and (4) integrating evaluation iteratively to enable continuous improvement and learning. Adopting a learning health system (LHS) approach facilitates iterative growth and evolution, incorporating concepts from the software industry, as well as participatory processes such as failing forward, developing ecosystems for collaboration and engagement of stakeholders. The example of HealthLink BC's 811 as a digital front door is used to demonstrate how an LHS approach can enable meaningful system change. We welcome further dialogues and discussion on existing and emerging examples of health system implementation approaches that can help our Canadian health systems move continuously and progressively closer toward the ultimate goal of Health for All (WHO 2023).*

## Introduction

In the series of papers showcased in this issue, we attempted to examine how digital health can help bridge gaps in services for the underserved to come closer to attaining health for all populations by extending essential health services (Ho et al. 2024).

### Canadian Perspectives: Cross-Cutting Themes

We thank all the authors for their excellent contributions focusing on the Canadian health system and how essential digital health can support the underserved in this country in a variety of contexts. Each paper concentrates on a particular perspective, from underserved populations to health policies and health human resource capacity building that can enable digital health to improve services. All the papers are united by the quest to improve equity of access to high-quality health services for all populations. It is also important to note that while each topic is discretely discussed, all the topics are intertwined, interdependent and mutually reinforcing. For example:

1. Visualizing patients' lived experiences and patient journeys can be highly motivating for health systems to create innovative digital health services through equity-based co-design principles to narrow gaps. The opportunities and challenges lie in how to harmonize the journeys of

different health system users at community, regional and national levels through the considerations of cultural safety, diversity, inclusion, geography, disability and key social determinants of health.

2. Health human resource planning needs to be linked to health professional training in academic institutions and change management in the workplace. Human factor interoperability and data interoperability will also be part of the skill sets of the future workforce. All these factors intertwine as part of capacity building for digital health to flourish and transform the health system (Ho 2022).
3. The interactions between patients and health professionals are how patients tangibly perceive the value of the in-person and digital health services to meet their needs and how the health system supports these health professionals in helping them. The quality of this *micro level* of the patient–health professional partnership is dependent upon the *meso level* of the health regions and their facilities in organizing and implementing healthcare, which, in turn, is dependent on the *macro level* of the Canadian health policies guiding the funding of these services and steering their harmonization across the different jurisdictions. Therefore, sensible and innovative

digital health design, implementation and integration with existing in-person care services need to ensure that all three levels are in harmony.

4. Integrated and regularized evaluation is important to ensure that our digital health implementation meets essential levels of services and equitably reaches all patient populations. The metrics of this evaluation need to be co-designed by stakeholder groups together to jointly define what success looks like for all of them. When done right, this joint evaluation and continuous improvement can increase trust among the stakeholder groups through collaboration and shared learning to calibrate our services to maintain effectiveness and correct deficiencies with integrity so as to reach our collective goals.

### **How Can We Ensure that We Learn and Succeed this Time?**

Meaningful and iterative evaluation to support continuing quality improvement when applied to a system is best done through the concept of learning health systems (LHSs) (Friedman 2022). Furthermore, the applications of concepts from the information technology industry may enable digital health to advance an equity agenda. The idea of learning organizations and quality improvement using iterative cycles of change was transplanted from manufacturing to healthcare in the 1990s, but the information technology industry went further, bringing in the idea of failing forward, building ecosystems to better serve customers and segmenting populations to better address their needs. The notion of “failing forward” is that the first version of a program is unlikely to work, and changes or pivots are needed based on where things went wrong so as to create scalable solutions going forward in order to succeed (Laur et al. 2021). The notion of “ecosystem” is the importance of thinking

beyond one organization because industries thrive through ecosystems of organizations in order to collaborate and build platforms that support multiple companies to serve consumers better together (Bhattacharyya and Bhatia 2015: 32). Finally, every product or service has a range of potential customers with different needs, and understanding customer segments can help identify which groups will derive the most value (Vaillancourt et al. 2014).

These concepts are increasingly being applied to the healthcare sector, particularly in the area of digital health (Bhattacharyya et al. 2019). If most programs are unlikely to work well or at all when they are first launched, they need to test early hypotheses about efficacy, engagement and scalability to see what is going wrong. In healthcare, the ecosystem can be interpreted as both the continuum of care – primary care, acute care and community care – as well as all of the technology platforms that work within and between these institutions. A thriving ecosystem would be able to identify gaps in services and collaborate to fill them. In addition, programs have differential impacts on various subgroups in the population and, in some cases, have the least impact on those with the greatest need. Health for All, as espoused by the World Health Organization (WHO 2023), could be achieved by designing programs and tools for people on the margins, which may also be effective for the average person. Collectively, these tactics can shift attitudes and processes that increase the chance that digital transformation can lead to improvements in equity.

### **Engaging and Harmonizing between Stakeholder Groups**

Another key concept of LHSs is the formation and continuing engagement of a range of stakeholders who are passionate about attaining health for all and sharing information

about design and effectiveness so as to create an external pressure to act on the findings that may not exist within an organization. It is important to recognize that stakeholders have a range of interests. Some may derive benefits while others incur costs, and they do not necessarily value potential outcomes in the same way. Negotiating alignment on key value propositions of a program is an essential part of determining what success will look like.

How to prevent public consultation that results in underrepresentation and groups not included being underserved? We know that engaging underserved and structurally marginalized groups is essential to the stakeholder process. A representative sample of system stakeholders is likely to perpetuate the marginalization of specific subgroups that you observe at baseline. Sophisticated governance processes and robust accountability frameworks as outlined in the article titled “Learning Health Systems: A Paradigm Shift in What We Can Do about Digital Health Inequities” (with a watchdog, a resource broker, a community developer, a partnership developer and an advocate) are needed to ensure that underserved groups are given a voice, and new programs can help those who need it the most (Cressman et al. 2024).

### **A Case Study for Consideration: 811 as a Digital Front Door?**

Programs such as the HealthLink BC’s 811 service in British Columbia (Ho et al. 2021) provide an example of a platform with an accessible entry point (the 811 call line) to which a growing number of services can be plugged in. This project helped identify segments of the population that derived greater value and strategies to maximize its impact. Assessing and improving the entry points for health systems for different groups is key to enabling equitable access. The design of these services is important, considering the

range of services available through one entry point (such as 811) and how individuals are funnelled to the right level of care given their needs. At a time of declining access to care, applying an LHS approach to digital health, with iterative testing, building ecosystems of care and designing for marginalized groups is a big opportunity. The idea of digital front doors with a wide range of services is gaining currency and most provinces are building out similar types of 811 services (Young et al. 2023).

While every person is unique, their health needs and constraints cluster in ways that can be addressed through targeted approaches. They could be considered in terms of increasing complexity, with different capacities to manage communication channels. The most basic needs could be met through information available on a website that they can look up and readily understand, while others may need to speak to a clerk on the phone to address their needs. The next level of need could be addressed by using an online symptom checker (which was widely used for COVID-19 self-management) or through a phone or video conversation with a nurse. If they require a prescription medication, people could be directed to a nurse practitioner or pharmacist to address minor ailments. One step up from this would be to have a family physician or emergency medicine specialist either advise the nurse or take the call themselves. The highest level of remote support would involve using computer vision or remote monitoring tools to collect ongoing health information to diagnose and treat more complex cases at a distance. Such a system with easy access, such as calling 811, or through a website could efficiently triage people to the right intensity of service and facilitate access to in-person services when needed, making care more equitable if designed appropriately.

A digital front door, promoting universal healthcare at a time of severe human resource constraint, would have to be overseen by a range of stakeholders to ensure that the access is broadly publicized, can be navigated easily and addresses the needs of those who have difficulty accessing services otherwise. The journeys of different groups (e.g., parents of young children, frail elderly, homeless people, recent immigrants and remote rural residents) would need to be mapped to understand the range of needs, generating the most inclusive designs. To be efficient, a system like this should have access to patient health records and be able to do tests, follow up and book appointments and share information with family doctors or emergency departments to facilitate triage of in-person care. Different providers who are co-located would share responsibility for warm handoffs back and forth between nurses, pharmacists, general practitioners and specialists, allowing for everyone's scope of practice to increase over

time as they learn together. This system would need to be evaluated on an ongoing basis, recognizing that the service may not reach those with the greatest needs, that people fall through the cracks during handoffs, that the demand is overwhelming, that the information technology platform is underwhelming and that many other things could go wrong before they go right.

### Conclusion

This series of papers is intended to stimulate considerations, dialogues and actionable ideas on the guiding concept of essential digital health for the underserved but is not meant to be prescriptive in nature. We welcome our readers to have further discourse on this topic and share ideas with us so that the existing and future models of care and approaches to advance our healthcare in Canada can move continuously and progressively closer toward Health for All (WHO 2023).

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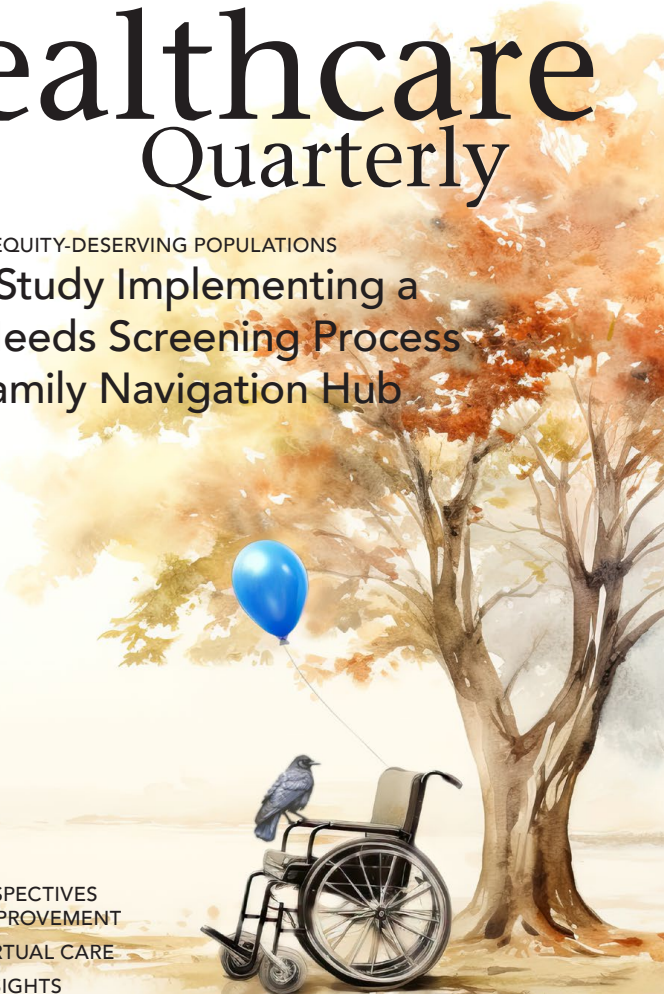
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# Healthcare Quarterly

SUPPORT FOR EQUITY-DESERVING POPULATIONS

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