

DIGITAL HEALTH LITERACY TOOLKIT

GDHP Clinical and Human Engagement Work Stream



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Please note that the information presented in this document does not necessarily represent the views of the individuals or organisations mentioned.

ABOUT THE GLOBAL DIGITAL HEALTH PARTNERSHIP

The Global Digital Health Partnership (GDHP) is a collaboration of governments and territories, government agencies and the World Health Organization, formed to support the effective implementation of digital health services.

Established in February 2018, the GDHP provides an opportunity for transformational engagement between its participants, who are striving to learn and share best practice and policy that can support their digital health systems. In addition, the GDHP provides an international platform for global collaboration and sharing of evidence to guide the delivery of better digital health services within participant countries.



Digital Health Literacy Toolkit

GDHP Clinical and Human Engagement Work Stream

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1 GLOSSARY

Table 1: Terms Used in This Toolkit

Term	Definition
Caregiver	Individuals who provide support to another individual, including interacting with health care delivery services on their behalf (in some countries, the term <i>carer</i> may be used more frequently).
Digital health	The use of electronic information and technologies to manage health and deliver care.
Digital health literacy	The ability to find, understand, and apply health information, and to manage one's own health, by using electronic tools and information sources such as apps, video conferencing platforms, online portals and web sites.
Digital inclusion	The activities necessary to ensure that all individuals and communities have access to and use of technology.
Global Digital Health Partnership	A collaboration of country governments and global partner organisations formed to support the executive implementation of worldwide digital health services.
Interoperability	The ability for information systems and software to exchange mutually comprehensible and usable data.
Lived/living experience	<p>The firsthand, direct experience, choices, and knowledge of a given individual.</p> <p>Lived/living experience is distinct from second-hand or mediated knowledge (e.g., having knowledge <i>about</i> a community, as opposed to having the knowledge of <i>being from</i> a community).</p>
Patients	Individuals who are actively engaging with health care delivery services to manage or improve their own health.
Person-centered care	An approach to care which prioritizes the individual health needs, goals, and values of the person receiving care.
Personal health information	Any identifying information about a person's health or health care.
The public	The general population, beyond a health care context.
Virtual care	Health care delivered via technology, whether synchronously or asynchronously.

2 EXECUTIVE SUMMARY

Digital health literacy is a foundational element of successful health care transformation. The ability to independently and safely access, understand, and apply health information, and to manage one's own health by using electronic tools and information sources such as apps, video conferencing platforms, and online portals is now essential. As digital tools increasingly support the delivery and management of care, digital health literacy supports patients' autonomy, agency, and participation within the health system, enabling them to:

- Access, manage, and use their own health data to make informed decisions about their health and health care
- Use technology to actively participate in their care
- Use technology to self-manage their health as appropriate
- To the extent possible, choose the modality of care best suited to their individual health needs, goals, and preferences.

This toolkit compiles international learnings and practices to support the advancement of public digital health literacy. Developed by the Clinical and Human Engagement work stream of the Global Digital Health Partnership (GDHP), it is intended for use by anyone seeking to:

- Develop or procure resources to build digital health literacy skills among the general public
- Contextualize their existing digital health literacy work within the international landscape
- Understand the evolving definitions, impacts, and implications of digital health literacy.

The GDHP was founded in 2018 to facilitate cooperation and knowledge exchange in digital health. This toolkit integrates its membership's collective expertise through a members' survey, semi-structured interviews, and consultation at bi-annual summits. Member insights are complemented with a collection of international digital health resources and considerations for developing digital health literacy resources.

2.1. DEVELOPMENT OF THE DIGITAL HEALTH LITERACY CONCEPT AND THIS WORK

IN THIS SECTION

- Background to this Work
- Development of the Digital Health Literacy Concept
- Definition of Digital Health Literacy
- Objectives and Scope of Work

2.2. BACKGROUND TO THIS WORK

Health systems around the world are facing similar challenges relating to health human resources shortages, increased complexity and acuity of patients' health needs, and ongoing health system recovery from the COVID-19 pandemic. Data and digital

transformation are key aspects of governments' response to these challenges and can support shared ambitions such as Universal Health Coverage and other health-related UN Sustainable Development Goals.

The Global Digital Health Partnership (GDHP) is an international collaboration formed to support the executive implementation of worldwide digital health services. It is comprised of 41 countries and territories, three international organisations, and five work streams:

- Clinical and Human Engagement (formerly Clinical and Consumer Engagement)
- Cybersecurity
- Evidence and Evaluation
- Interoperability
- Policy Environments

This toolkit builds upon a white paper released by the former Clinical and Consumer Engagement work stream (now the Clinical and Human Engagement work stream) in 2020. This previous white paper, *Citizen Access to Health Data*, discussed a survey about the state of citizen access to personal health information (PHI) in GDHP participant countries and territories. It found a trend of increasing access globally (Hagens et al, 2020).

Since the publication of *Citizen Access to Health Data*, digitization in health care has continued to advance. In particular, the COVID-19 pandemic spurred rapid adoption of digital health solutions such as virtual care/telehealth, digital immunization records, and electronic prescribing. Additionally, post-pandemic international efforts have focused on advancing the interoperability of health data through initiatives such as the International Patient Summary and the European Health Data Space.

However, the pandemic also demonstrated the need to prioritize digital inclusion. Individuals with limited access, abilities, and/or confidence to utilize digital health tools risk foregoing their benefits (World Health Organization, 2022). As digital care models continue to proliferate, digital health literacy skills are increasingly important to managing one's own health information, making decisions about one's health, and accessing care.

This toolkit is a logical extension to *Citizen Access to Health Data* because while access to health information is a prerequisite for digital health literacy, it is not equivalent to it. Rather, access to health information must be supported with the skills to find, understand, appraise, and effectively apply that information. Individuals' engagement with digital tools and services is also contingent on trust, safety, and motivation.

2.3. DEVELOPMENT OF THE DIGITAL HEALTH LITERACY CONCEPT

A growing body of literature recognizes the significance of digital health literacy, but provides no universally accepted definition (Kim et al, 2023). While digital health literacy shares skills and competencies with health literacy and digital literacy, it also includes domains unique unto itself (van Kessel et al, 2022 | Monkman et al, 2017).

Norman and Skinner proposed "eHealth literacy" in 2006 as "...the ability to seek, find, understand, and appraise health information from electronic sources and apply the

knowledge gained to addressing or solving a health problem” (Norman & Skinner, 2006a). Their Lily Model of eHealth literacy integrated six core literacies:

- Traditional literacy
- Health literacy
- Information literacy
- Scientific literacy
- Media Literacy
- Computer literacy

This model emphasized the ability to find and appraise information online. While it recognizes inherent differences between paper-based and digital information seeking, it was not intended to cover the dynamic nature of a modern internet environment in which users both access and contribute information (e.g., social media, forums, and blogs), nor virtual delivery of care (e.g., virtual visits, remote patient monitoring platforms, etc.).

The eight-point eHEALS scale is based on Norman and Skinner’s Lily Model. It remains the most widely used instrument to measure digital health literacy [CITATION?]. The scale centers information-seeking and appraising behaviours, and relies on self-reporting:

- Q1: I know how to find helpful health resources on the Internet
- Q2: I know how to use the Internet to answer my health questions
- Q3: I know what health resources are available on the Internet
- Q4: I know where to find helpful health resources on the Internet
- Q5: I know how to use the health information I find on the Internet to help me
- Q6: I have the skills I need to evaluate the health resources I find on the Internet
- Q7: I can tell high quality from low quality health resources on the Internet
- Q8: I feel confident in using information from the Internet to make health decisions
 - (Norman & Skinner, 2006b)

Some studies have questioned the validity of the eHEALS scale (Monkman et al. 2017), as digital health now comprises a broader spectrum of tools and services that require more, and more complex, skills to fully leverage.

Accordingly, alternative digital health literacy measures have been proposed. These subsequent models have sought to recognize more dynamic interactions between the individual and their digital environment. For example, the e-Health Literacy Framework proposed by Norgaard et al (2015) conducted a concept-mapping exercise with digital health users and health professionals to identify seven digital health literacy domains:

- Ability to process information
- Engagement in own health
- Ability to actively engage with digital services

- Feel safe and in control
- Motivated to engage with digital services
- Access to digital services that work
- Digital services that suit individual needs

Norgaard et al argue that some domains are dependent on the individual (e.g., ability to process information, engagement in own health), some on the broader digital/health ecosystem (e.g., access to digital services that work, digital services that suit individual needs) and some on the interaction between the individual and the system (e.g. ability to actively engage with digital services, feeling safe and in control, motivated to engage with digital services).

Similarly, the Digital Health Literacy Instrument (DHLI) proposed by van der Vaart and Drossaert “...aims to incorporate the diversity of skills to use both Health 1.0 and Health 2.0 tools” (van der Vaart & Drossaert, 2017). The DHLI also includes seven distinct skills:

- Operational skills
- Navigation skills
- Information searching
- Evaluating reliability
- Determining relevance
- Adding content
- Protecting privacy

The 2018 Transactional Model of eHealth Literacy defines digital health literacy as, “...the ability to locate, understand, exchange, and evaluate health information from the Internet in the presence of dynamic contextual factors, and to apply the knowledge gained for the purposes of maintaining or improving health” (Paige et al, 2018) and categorizes digital health literacy as “task-oriented” (e.g., message type, source, language) and “user-oriented” (e.g., personal, relational, and technological factors).

More recently, the World Health Organization has characterized digital health literacy as, “...whether people have access to the internet and digital devices and if they can use the information and knowledge obtained to assist them in dealing with health issues, in addition to basic understanding of health, risks and health services” (World Health Organization, 2022).

2.4. HOW THE CLINICAL AND HUMAN ENGAGEMENT WORK STREAM DEFINES “DIGITAL HEALTH LITERACY”

Building on the literature, the Clinical and Human Engagement Work Stream views digital health literacy as overlapping with — and distinct from — digital literacy and health

literacy. An illustrative diagram was developed and disseminated in a GDHP member survey (refer to Module 3):

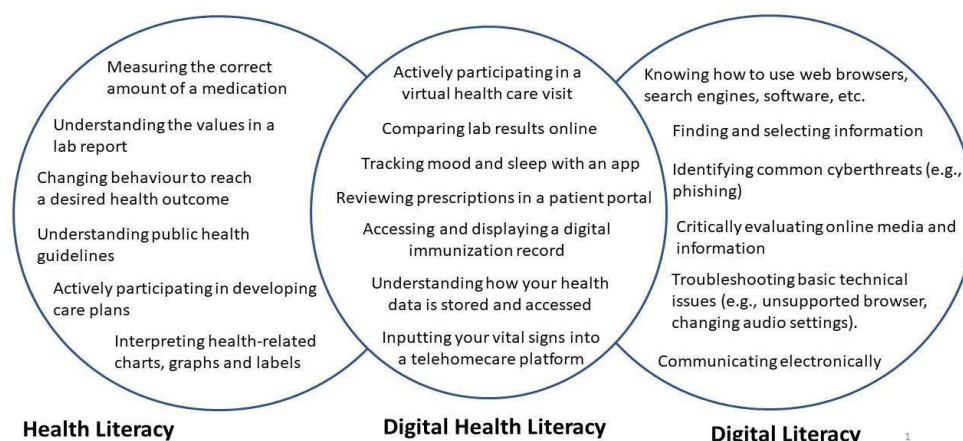


Figure 1: The Digital Health Literacy Venn Diagram disseminated to the GDHP.

The work stream’s understanding of digital health literacy includes:

- Access, understanding, and use of one’s electronic personal health information, as well as general health information found on the internet.
- Digitally participating in one’s own health care; e.g., by inputting information in a consumer health app or portal, participating in a virtual visit, or sharing one’s lived experiences and perspectives in an online community, exchanging secure electronic messages with a health care provider.
- Understanding privacy, consent, and an individual’s rights and responsibilities relating to their electronic personal health information.
- Critically appraising the usefulness, credibility, and relevance of health information, tools, and sources found online.

The work stream’s common understanding of digital health literacy thus encompasses:

- Multiple modes and channels
- Participation by a variety of actors (e.g., health care providers, patients, caregivers, other individuals)
- Defined rights, roles, and responsibilities
- Evaluation of information and information sources

The following definition of digital health literacy was provided to the GDHP membership via the Clinical and Human Engagement Work Stream survey:

“For our purposes, digital health literacy comprises the ability to find, understand, and apply health information, and to manage one’s own health by using electronic tools and information sources such as apps, video conferencing platforms, online portals and web sites.”

Refinements to this definition may be undertaken in the course of future work.

2.5. DEVELOPMENT OF THIS WORK

2.5.1. Objectives

At the 9th GDHP Summit, held virtually in November 2021, the work stream recognized that:

- Increasing virtual care adoption as a result of COVID-19 [had] underscored the need to improve digital [health] literacy skills among citizens.
- There [was] an opportunity to collaborate and share best practices among GDHP countries.

Therefore, the work stream proposed the following objectives:

- Quantify information about digital health literacy capabilities and identify priority areas for education
- Compile digital health literacy resources from GDHP member countries
- Capture implementation experiences and develop case studies of results.

2.5.2. Scope and Evolution of Work

This work commenced with a survey disseminated to GDHP members to 1) determine their digital health literacy current state and future priorities, and 2) to capture examples of digital health literacy resources and programs already underway. To build on an opportunity for further work identified in Citizen Access to Health Data, the scope of this work included non-clinical audiences only; that is, patients, consumers, clients, caregivers, and the public.

In addition to the digital health literacy resources identified in the survey, a scan was conducted between May 2022 and January 2023 to capture additional examples. The scan was not intended to be exhaustive, and it was restricted to GDHP member countries and territories.

Some countries include digital health literacy under a broader concept of “digital citizenship.” For this reason, some digital literacy resources were considered to be in scope if they included support for using digital health tools. Similarly, some health literacy resources were deemed in scope if they included accessing, using, and/or managing online information or tools.

Based on education priority areas identified in the GDHP Digital Health Literacy Survey, several digital health literacy resources were considered for “deep dive” interviews. Insights from these interviews guided the development of checklists and considerations for creating digital health literacy resources.

The learnings and considerations in this toolkit are not exhaustive and are presented “as is” for informative purposes only.

2.6. APPENDIX

Table 2: Summary of Digital Health Literacy Models

Framework	Authors	Date Developed	Description	Relevant Article
Lily Model	Norman & Skinner	2006	<p>Six core literacies comprise eHealth literacy:</p> <ul style="list-style-type: none"> • Traditional literacy • Health literacy • Information literacy • Scientific literacy • Media Literacy • Computer literacy 	eHealth Literacy: Essential Skills for Consumer Health in a Networked World.
e-Health Literacy Framework	Norgaard et al	2015	<p>Seven digital health literacy domains:</p> <ul style="list-style-type: none"> • Ability to process information • Engagement in own health • Ability to actively engage with digital services • Feel safe and in control • Motivated to engage with digital services • Access to digital services that work • Digital services that suit individual needs <p>Some domains are dependent on the individual, some on</p>	The e-health literacy framework: A conceptual framework for characterizing e-health users and their interaction with e-health systems.

Framework	Authors	Date Developed	Description	Relevant Article
			the health system, and some on the interaction between the two.	
Digital Health Literacy Instrument	van der Vaart & Drossaert	2017	Includes seven distinct skills: <ul style="list-style-type: none"> • Operational skills • Navigation skills • Information searching • Evaluating reliability • Determining relevance • Adding content • Protecting privacy 	Development of the Digital Health Literacy Instrument: Measuring a Broad Spectrum of Health 1.0 and Health 2.0 Skills
Transactional Model of e-Health Literacy	Paige et al	2018	Categorizes digital health literacy as “task-oriented” (e.g., message type, source, language) and “user-oriented” (e.g., personal, relational, and technological factors)\	Proposing a Transactional Model of eHealth Literacy: Concept Analysis

2.7. MODULE REFERENCES

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3 GDHP DIGITAL HEALTH LITERACY SURVEY: OVERVIEW, FINDINGS, AND IMPLICATIONS

IN THIS SECTION

- Survey Overview
- Survey Findings
- Discussion
- Implications for the Clinical and Human Engagement Work Stream
- Copy of the Digital Health Literacy Survey

3.1. SURVEY OVERVIEW

3.1.1. Context

In early 2022, the Clinical and Consumer Engagement work stream surveyed GDHP members to understand the international digital health literacy landscape and identify priority areas for action. This survey built on a previous environmental scan of digital health literacy resources conducted in January 2022.

Survey responses were received from:

- Australia
- Canada
- I-DAIR ¹
- Hong Kong, China
- Italy
- Nigeria
- New Zealand
- Poland
- Portugal
- South Korea
- Sweden
- Switzerland
- United Kingdom
- Uruguay
- Zambia

¹ The International Digital Health and AI Research Collaborative (I-DAIR) became HealthAI in 2023.

3.1.2. Problem Statement

The survey's guiding problem statement was: What is the current state of digital health literacy across the international community, and what best practices and common priorities can help to shape ongoing citizen education?

3.1.3. Methodology

Four authors contributed to an initial draft of the survey, which was refined through a review by work stream members. The final survey was disseminated to all GDHP members in March - May 2022, with findings reported to the GDHP membership in October 2022.

Appendix A presents a copy of the survey, which consisted of open- and close-ended questions. These responses were synthesized to identify common themes. An additional environmental scan of digital health literacy resources and programs in GDHP member countries² was conducted from May to October 2022 to identify examples omitted in the survey process.

3.1.4. Limitations

The GDHP is an international collaboration with members at varying levels of digital health adoption and digital health literacy. Digital health literacy is an emerging concept which may have multiple understandings, though a definition was provided in the survey to support consistency.

Development of the survey was conducted primarily by three individuals from Canada Health Infoway and may thus have been disproportionately influenced by the perspective of a single organisation within a single country. The survey authors' primary language is English, with fluency in French. The survey was developed, distributed, and completed in English only. Examples of digital health literacy resources and programs not available in English or French were translated into English for high-level comprehension via an artificial intelligence tool.

The survey response rate was approximately 50 per cent of GDHP membership at time of dissemination. While the survey respondents were diverse in geography, digital health maturity, and health system structures, governance, and funding, this sample size may not capture the full breadth of experience across the GDHP.

3.2. SURVEY FINDINGS

3.2.1. Proportion of Population Able to Find and Use Online Health Tools

Eight respondents reported that most (i.e., more than half) of their citizens or the populations they serve are able to find and use online health tools. Three respondents reported that some are able to do so, while three reported that almost all are able to do so. No responses were received indicating "few or none."

² At the time of the scan, the GDHP was comprised of 30 member countries and territories.

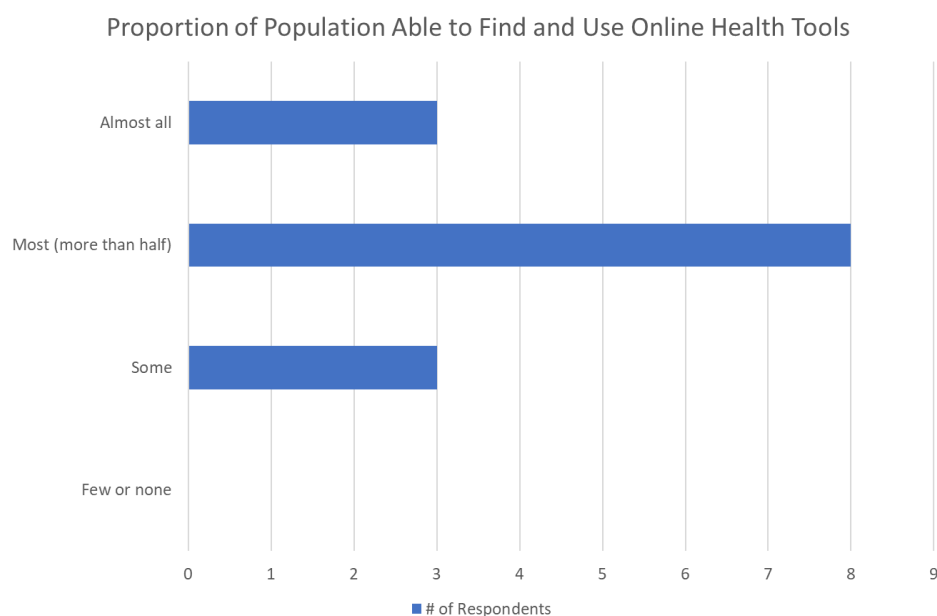


Figure 2: Responses to the question, “Please estimate what proportion of your country’s citizens (or the populations you serve) are able to find and use online health tools?” [n = 14]

3.2.2. Current State of Digital Health Literacy Tools and Programs

Six respondents indicated that digital health literacy tools and programs are available in limited circumstances. Three respondents reported that digital health literacy tools and programs are available/in use for some citizens; four respondents reported that they are widely available and in use. One respondent indicated that such tools and programs are not available.

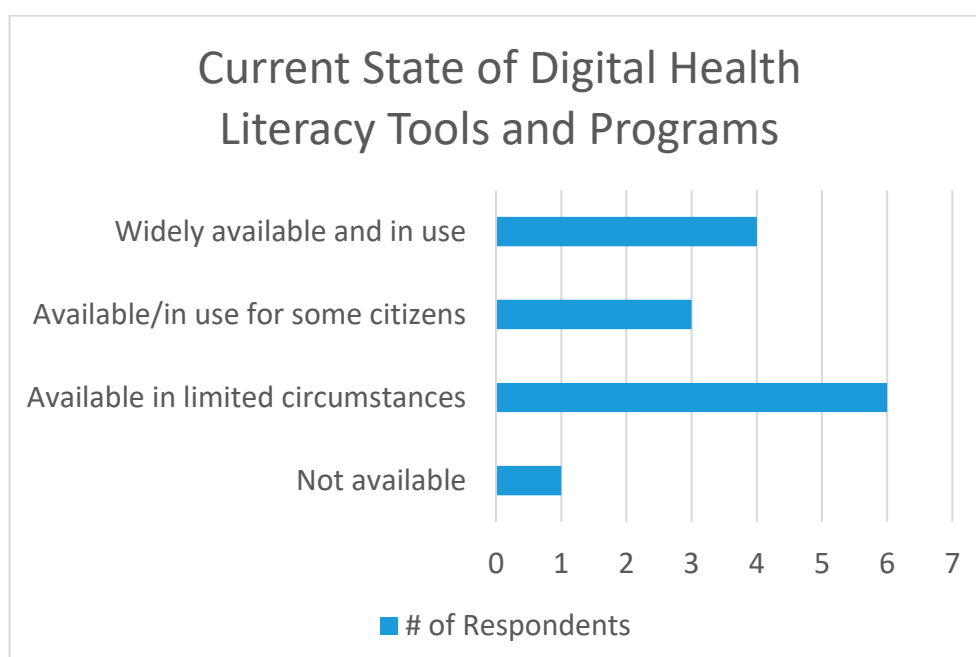


Figure 3: Responses to the question, “Which statement most accurately describes the current state of digital health literacy tools and programs in your country?” [n = 14]

3.2.3. Education Priority Areas

The survey presented a list of digital health literacy education priority areas. Respondents were asked to indicate all areas that were priorities for their country and/or organisation (some GDHP members do not represent governments). The most highly selected priorities were furthering individuals' understanding of how they can use health data to manage their health, and furthering their understanding of the digital health tools available to them. Practical tips on preparing for a virtual visit and understanding how to use the internet and related technologies were the least selected priorities.

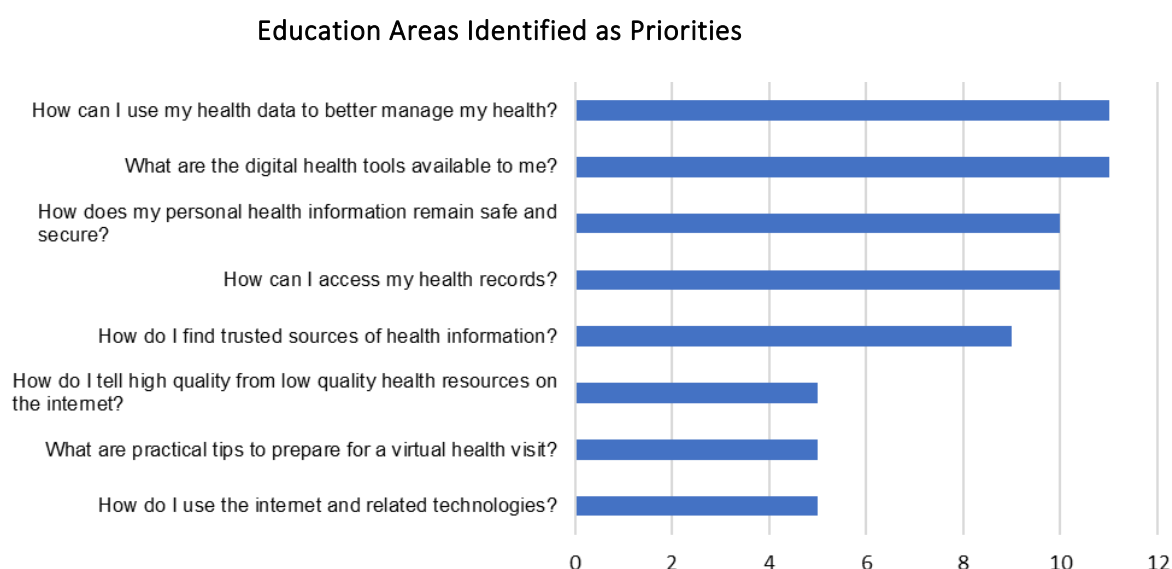


Figure 4: Responses to the question, “What digital health literacy education areas are priorities for your country and/or organisation?”

3.2.4. Digital Health Literacy Tools and Programs Implemented or in Development

Nine respondents identified 26 digital health tools/programs implemented or in development in their country or organisation. Alongside the resources identified through an additional scan, these resources were categorized by audience, tool type (e.g., e-learning modules, website articles, infographic, videos), and topic focus area.

Some resources were intended to support digital literacy and/or health literacy, rather than digital health literacy. These resources were included for illustrative purposes, but flagged as not being specific to digital health.

Finally, some resources were not available online (e.g., educational programming in communities). Descriptions of these resources were included in the scan.

3.2.5. Content Desired in a GDHP Digital Health Literacy Repository

Respondents were instructed to select all answers that applied. An open text field was included to capture content not otherwise listed.

All respondents desired examples and case studies of digital health resources and programs, and nine respondents reported a desire for best practice/implementation guides. Glossaries/taxonomies were the least selected type of content.

Content Desired in a GDHP Digital Health Literacy Repository

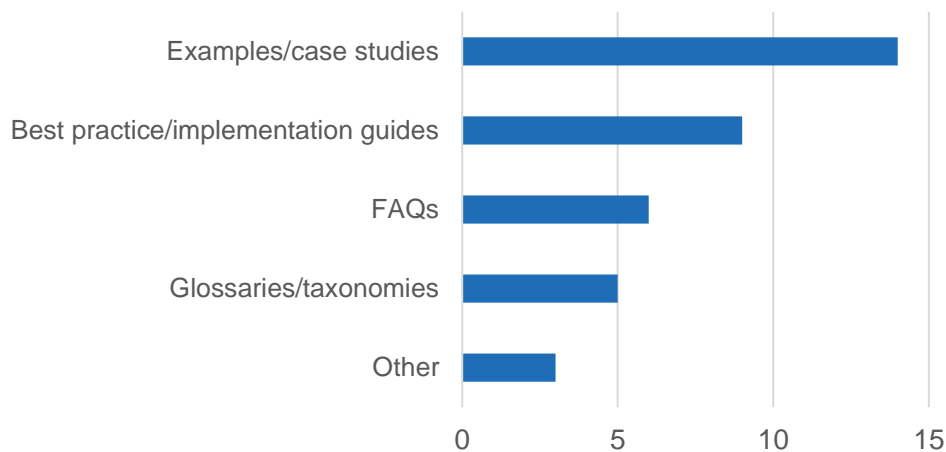


Figure 5: Responses to the question, “What content would you most like to see in a GDHP repository for digital health literacy resources?”

Additional desired content identified in the open text field included:

- Lessons learned
- Approaches for different population groups
- Evidence of evaluation on change impact assessments, integration/uptake, and engagement/effect on organisational outcomes
- Architecture, laws, regulations and policies
- Conceptual framework with examples from educational programs, guides and guidelines
- Academic collaborations

3.3. DISCUSSION

Respondents reported that their populations are generally able to find and use online health tools. While respondents were not asked about their populations’ level of proficiency or confidence in using digital health tools, “How do I use the internet and related technologies?” and “What are practical tips to prepare for a virtual health visit” were the least likely to be selected as priority education areas. These results suggest that basic internet skills are perceived to be prevalent among respondents’ populations.

Nonetheless, the survey findings indicate relatively limited implementation of resources to support digital health literacy, as half of respondents reported that they were “available in limited circumstances” or “not available.”

With respect to the digital health literacy resources desired and in use among respondents, this survey should be considered within the context of a modern internet environment. Among respondent countries, support for basic digital literacy/internet

skills may be undertaken through existing initiatives and/or educational settings, perhaps explaining the relatively low interest afforded to them in this survey.

In addition, the COVID-19 pandemic catalysed the use of video conferencing, messaging, and related technologies beyond health care, including for socialization, entertainment, and work. Virtual care technologies deployed in the urgency of the early pandemic shared similarities with, or were built upon, existing consumer technologies – e.g., Zoom, Facetime, email, and telephone. Thus, respondents may have felt their populations are already proficient in using virtual care tools.

Respondents demonstrated stronger interest in resources relating to individuals' use of their personal health information, including:

- How to use their personal health information (PHI) to better manage their health
- The privacy and security implications of accessing and sharing PHI
- How to access their PHI

This interest aligns with international efforts to improve individuals' access to their PHI; e.g., the [International Patient Summary](#) and [European Health Data Space](#). As health data becomes more readily accessible across care settings, patients' understanding of how to access their data and attendant privacy and security implications is increasingly important to supporting their agency and encouraging adoption of patient-facing technologies.

3.4. IMPLICATIONS FOR THE CLINICAL AND HUMAN ENGAGEMENT WORK STREAM

Members of the work stream discussed the survey findings at the 11th GDHP Summit in October 2022. While the digital health literacy repository was initially envisioned as a curation of existing material, the work stream determined that there was value in conducting “deep dive interviews” with selected countries.

These semi-structured interviews were intended to gain insight into:

- Time, effort, and resources involved in creating the digital health literacy resource(s)
- Development processes, challenges, and outcomes
- Leading practices and lessons learned.

The interviews formed the basis of the case examples and checklists and considerations presented elsewhere in this toolkit.

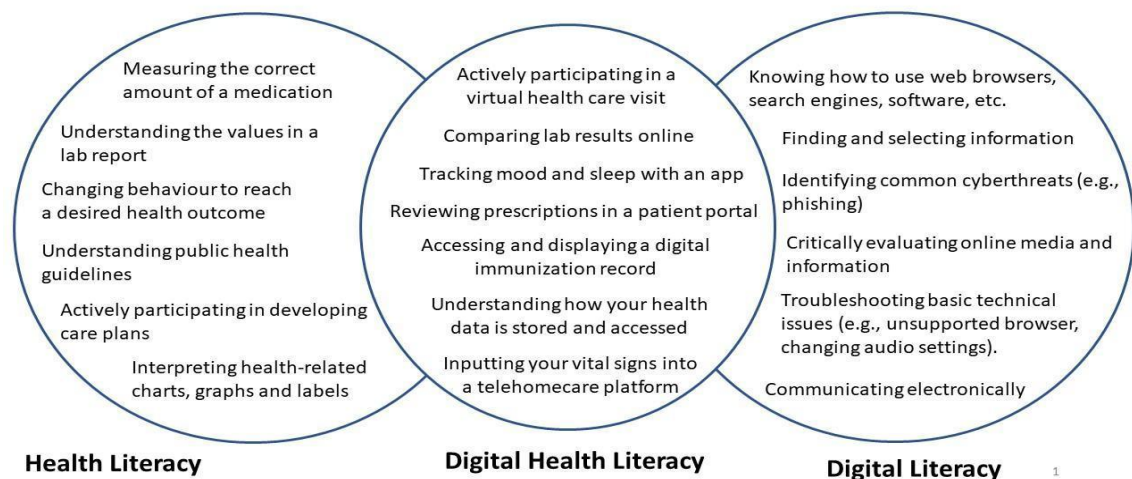
3.5. APPENDIX: COPY OF CLINICAL AND CONSUMER ENGAGEMENT³ DIGITAL HEALTH LITERACY SURVEY

Context:

As virtualization of health care accelerates as a result of the COVID-19 pandemic, digital health literacy skills are becoming increasingly important to citizens seeking to navigate their health systems and/or take a more active role in managing their health. The Clinical and Consumer Engagement Work Stream is currently building upon strategies to improve digital health literacy; this survey will help to leverage and refine a previous environment scan of digital health literacy progress across member nations.

While there are many interpretations and definitions of digital health literacy, the World Health Organization defines it as, “...the ability to seek, find, understand, and appraise health information from electronic sources and apply the knowledge gained to addressing or solving a health problem.” Digital health literacy combines aspects of health literacy and digital literacy, as illustrated by the examples in the diagram below; it is expected that there may be overlap between digital health literacy resources and more general digital citizenship and/or digital literacy initiatives.

For our purposes, digital health literacy comprises the ability to find and understand health information, and to manage one’s own health, using electronic tools and information sources such as apps, videoconferencing platforms, online portals and web sites.



Focus to November 2022:

- To quantify digital health literacy across the international community
- Identify priority areas for further education
- Begin developing a central repository of digital health literacy resources.

³ Survey predates the work stream’s name change from “Clinical and Consumer Engagement” to “Clinical and Human Engagement.”

Problem Statement:

What is the current state of digital health literacy across the international community, and what best practices and common priorities can help to shape ongoing citizen education?

Purpose of Survey:

The purpose of this survey is threefold:

To understand digital health literacy progress globally

To identify existing digital health literacy tools, programs and best practices

To determine what should be included in a shared GDHP repository of digital health literacy resources

Survey Instructions:

Please fill out the following survey to the best of your knowledge. You may choose to **bold** your answers, or to indicate your answers by typing/pasting an “X” or ✓ symbol. Where indicated, you may also type responses directly into this document.

All submitted surveys will be analyzed, reviewed with the Work Stream, and used to inform next steps. Thank you in advance for your contribution to, and support of, the Clinical and Consumer Engagement Work Stream.

Please complete your survey by May 6, 2022 and submit to Katie Bryski (kbryski@infoway-inforoute.ca).

General Information

Below, please write the name, role and organisation of the respondent(s) to this survey.

Survey Questions

Q1. What digital health literacy education areas are priorities for your country and/or organisation? [Select all that apply]

- ☐ How do I find trusted online sources of health information?
- ☐ How do I tell high quality from low quality health resources on the internet?
- ☐ How does my personal health information remain safe and secure?
- ☐ How can I access my health records?
- ☐ How can I use my health data to better manage my health?
- ☐ What are the digital health tools available to me?
- ☐ What are practical tips to prepare for a virtual health visit?
- ☐ How do I use the internet and related technologies?
- ☐ Other [Please describe below]

Q2. Please estimate what proportion of your country's citizens (or the populations you serve) are able to find and use online health tools? [Select one]

Examples may include the ability to access a patient portal, have a virtual health visit, retrieve/display a digital immunization record, use an app to track vital signs, etc.

- ☐ Almost all citizens
- ☐ Most citizens (more than half)
- ☐ Some citizens
- ☐ Few or no citizens

Q3. To your knowledge, which statement most accurately describes the current state of digital health literacy tools and programs in your country and/or among the populations you serve? [Select one]

Tools and programs can be government and/or community-led, and may include local, regional and/or national initiatives.

- ☐ Digital health literacy tools/programs are widely available and in use.
- ☐ Digital health literacy tools/programs are available and in use for some citizens.
- ☐ Digital health literacy tools/programs are available in limited circumstances.
- ☐ Digital health literacy tools/programs are not available.

Q4. If your country and/or organisation has one or more digital health literacy tools/programs implemented or in development, please provide a short description, and if possible, a link:

Q5. What content would you most like to see in a central GDHP repository for digital health literacy resources? [Select all that apply]

- ☐ Examples and case studies from other countries
- ☐ Best practice and implementation guides
- ☐ Glossaries/taxonomies
- ☐ Frequently Asked Questions (FAQs)
- ☐ Other [Please write below]

Q6. If you are not a member of the GDHP Clinical and Consumer Engagement Work Stream, would you like to stay updated about - or get involved with - the development of a central repository for digital health literacy resources? [Select one]

- ☐ Yes, please – I would like to be involved.
- ☐ Yes, please – updates only.
- ☐ No, thank you – please do not send me further emails.

Q7. Do you have colleagues knowledgeable about digital health literacy who would be interested in receiving this survey? [Select one]

- No
- Yes – their contact information is... [Please write below]

Q8: Are you aware of any digital health literacy tools/programs implemented or in development in countries who are not GDHP members? If so, please provide a short description, and if possible, a link. [Please write below]

Q9: OPTIONAL: If your organisation's activities span multiple countries, do you have additional digital health literacy best practices, resources or insights to share? [Please write below]

Q10. OPTIONAL: Do you have any other comments about digital health literacy in your country, or about a shared GDHP repository of digital health literacy resources? [Please write below]

3.6. MODULE REFERENCES

Canada Health Infoway. (2020). Canadian Digital Health Survey: What Canadians Think. <https://www.infoway-inforoute.ca/en/component/edocman/3856-canadian-digital-health-survey-what-canadians-think/view-document?Itemid=101>

---. (2022). Canadians' Health Care Experiences During COVID-19: Uptake of Virtual Care. <https://www.infoway-inforoute.ca/en/component/edocman/3828-canadians-health-care-experiences-during-covid-19/view-document?Itemid=101>

NHS England. (2023). Appointments in General Practice. <https://app.powerbi.com/view?r=eyJrIjoiaMTQ4NjZjYjMtM2VlZS00NWFiLTlmOWEtYzE1MDQ0NDZiZjQ4IiwidCI6IjUwZjYwNzFmLWJiZmUtNDAxYS04ODAzLTY3Mzc0OGU2MjllMiIsImMiOiJh9>

4 CASE EXAMPLES

IN THIS SECTION

- Background
- Australia – My Health Record eLearning Modules
- Canada – Digital Health Learning Program
- Hong Kong – HA GO Website

4.1. BACKGROUND

Based on education priority areas identified in the GDHP Digital Health Literacy Survey, several digital health literacy resources were considered for “deep dive” interviews.

Diversity in geography, health system structure, and resource format was prioritized alongside alignment with the priority areas. Guided by these considerations, candidates were selected from the GDHP member survey and presented to the work stream for consideration.

Case examples were developed for:

- Australia
- Canada
- Hong Kong

4.1.1. Methodology

Interviews were semi-structured and lasted approximately one hour. Draft interview questions were circulated to and revised by the work stream. General themes included:

- Process and resourcing
- Patient engagement
- Outcomes and learnings

The interviews were conducted by the work stream chair(s) and support staff with members of the respective digital health literacy resource’s project team.

4.2. AUSTRALIA – MY HEALTH RECORD E-LEARNING MODULES

4.2.1. Resource Summary

The eLearning resources provided by the Australian Digital Health Agency (the Agency) cover a range of digital health topics including [My Health Record](#), [my health app](#), and electronic prescriptions. Accessed through the [Australian Digital Health Agency Online Learning Portal](#), the resources are presented as online learning modules containing text, instructional videos, and quiz-style questions. Learners are encouraged to explore and complete the modules according to their own interest and preferred pace.

My Health Record is a digital health record that enables Australians and their health care providers to securely view their health information online. It is part of a national system

and has used an “opt-out” model since 2019. My Health Record can be linked to [myGov](#): an online account for Australians to access and manage government services.

The [My Health Record eLearning course](#) includes five topic areas:

- Introduction to My Health Record
- My Health Record privacy and access
- Immunisation and COVID-19 related health information in My Health Record
- Key clinical documents in My Health Record
- Personal health information in My Health Record

Older Australians and their carers also have the option to view a curated subset of My Health Record topics.

Each topic area contains 3-10 interactive modules that learners can complete in any order. Interactive elements are used throughout, such as expandable definitions, “click through” information cards, short videos (and transcripts), and quiz-style questions to encourage learners to check their understanding. Graphics are used to highlight key information.

In addition to the eLearning modules on the Australian Digital Health Agency Online Learning Portal, recorded learning sessions are [available on YouTube](#). Videos are presented in two playlists: one in which the session host is visible, and one featuring an Auslan (Australian Sign Language) interpreter. Most videos are between 20-40 minutes long.

4.2.2. Process

Context

On January 31, 2019, My Health Record transitioned from an “opt-in” to “opt-out” model, catalysing a need for digital health literacy resources to support Australians with a My Health Record.

Curriculum Development

The Agency had previously undertaken work in education and digital health literacy support for clinicians. “Consumer education” now followed. Initially, instructional videos were released to support Australians using My Health Record. These videos focused primarily on the functional access and use of My Health record – e.g., demonstrating how to login, view lab results, and upload documents. However, the Agency recognized the need for additional support to help Australians to understand the benefits of My Health Record and managing one’s own health information electronically.

Accordingly, the My Health Record eLearning Modules were initially developed over the course of one year from 2021 to 2022. The project team comprised approximately 20 people. Many project team members were instructional design and adult education specialists, supported by subject matter experts.

Cross-functional collaboration

New bespoke content was developed for the modules, rather than attempting to adapt resources originally intended for health care providers.

Developing resources for a general audience required ongoing attention to balancing technical accuracy and readability/relevance. Collaboration across the Agency was instrumental to achieving this equilibrium: for example, working with privacy/compliance experts to ensure precision in language, while incorporating adult learning principles.

The project team also leveraged animation and other dynamic means of conveying information – to “say more with less.” Animations, videos, and other content were developed by internal Agency teams.

Iteration and accessibility

An iterative approach was taken to development. Modules were refined through testing; for instance, experimentation determined the optimal length to linger on animations and text in videos. User feedback also informed module refinement on an ongoing basis. During the 2023 interview, the interview informant commented that a flip card feature then in use posed accessibility challenges. As of 2024, the flip card feature has been removed from the eLearning Modules.

A particular challenge was noted in developing accessible webinars. Efforts were made to utilize Australian Sign Language (Auslan) interpreters. However, the webinars were held on Zoom, which made such interpretation challenging. Zoom shows speakers’ heads and shoulders only, but Auslan interpreters must be seen from the waist up. As of May 2024, two distinct playlists are available on YouTube: one with the webinar host visible; and one in which an Auslan interpreter is seen instead.



Figure 6: Recorded webinar with an Auslan interpreter.

4.2.3. Patient Engagement

Consumer advisors were engaged in the development of eLearning Modules’ curriculum. A balance was sought between tailoring information for groups with specific lived/living experience, and developing broadly relevant content. An example of such balance may be seen in the creation of a curated subset of modules which may be particularly pertinent to older Australians and their caregivers.

Community networks were engaged in the dissemination of the eLearning Modules, such as through partnerships with the Good Things Foundation, Diabetes Australia, and leaders and representatives from 2SLGBTQIA+ and Aboriginal and Torres Strait Islander communities. Activities involving community groups included:

- Live learning opportunities
- Webinars
- Train-the-trainer initiatives

As of January 2025, free online digital health learning sessions for community groups and organisations can be requested by emailing education@digitalhealth.gov.au.

4.2.4. Evaluation

It is difficult to ascertain the eLearning Modules' reach as only page views are recorded. However, according to the Agency's 2022-2023 Annual Report (Australian Digital Health Agency, 2023), in 2022-2023, the Agency delivered:

- 461 education sessions
 - 5000 live participants
 - 6000 people viewing recorded sessions
- 133 learning sessions co-delivered with Agency partners
- 66 train the trainer sessions
 - 750+ attendees

Note that the attendance figures listed above include health care providers as well as the general public/communities.

Feedback is collected regularly on eLearning content, webinars, and live education sessions, and is used to inform future developments. The eLearning Modules include a brief survey at the module's conclusion that seeks user feedback about the content and its delivery. The survey is not intended to assess the respondent's digital health knowledge or skills.

4.2.5. Lessons Learned

The My Health Record eLearning Modules were premised on the notion that digital health literacy encompasses more than technical proficiency. An underlying principle in the eLearning Modules' development is that digital health literacy involves understanding the benefits, relevance, and purpose behind digital health literacy tools and resources: the why, as well as the how. Engaging materials that provide greater context can encourage digital health adoption: the ability to functionally use a tool is insufficient if individuals lack the motivation and/or confidence to do so, or if perceived risks outweigh perceived benefits.

The eLearning Modules were also grounded in adult education and instructional design principles. The interdisciplinary expertise within the Agency ensured that the modules' development was supported by digital health subject matter knowledge and a deep understanding of how adults learn.

Though consumer advisors were engaged in the development of the curriculum, involving patients and the public earlier in the resource development process was identified as a potential area for future growth. Community partnerships were primarily leveraged in the dissemination of content.

Similarly, an “accessibility by design” approach was raised as a potential area for further consideration. The value of proactively embedding accessibility from the planning stages was highlighted.

4.2.6. Case Example References

Australian Digital Health Agency. (2023). Annual report 2022-2023.

<https://www.digitalhealth.gov.au/sites/default/files/documents/australian-digital-health-agency-annual-report-2022-23.pdf>

Australian National Audit Office, ‘Implementation of the My Health Record System,’ (Canberra: Commonwealth of Australia, 2019).

https://www.anao.gov.au/sites/default/files/Auditor-General_Report_2019-2020_13.PDF

4.3. CANADA – DIGITAL HEALTH LEARNING PROGRAM

4.3.1. Resource Summary

The Digital Health Learning Program is a collection of free learning resources developed by Canada Health Infoway. Content is grouped into three overarching themes:

- Learn About Virtual Care
- Get Familiar with Health Data
- Explore Proactive Health Management

The Digital Health Learning Program resources include:

- Articles
- Infographics
- Checklists
- Frequently Asked Questions

All resources were designed to be suitable for displaying/disseminating in hard copy (e.g., at health care provider offices, in religious centres, community centres, etc.) in addition to being accessible online. The resources are available in a variety of languages in addition to Canada’s official languages, English and French.

The resources reflect Canada’s federated model of health care, in which Canada’s 13 provinces and territories are responsible for the management, organisation, and delivery of health care services to their residents. As such, the resources in the Digital Health Learning Program include, where appropriate, information specific to each province and territory.

Though replete with sources and hyperlinks to additional resources, the Digital Health Learning Program’s content is generally static, with limited user interactivity.

4.3.2. Process

In 2021, Canada Health Infoway received federal funding to support virtual care, including improved digital health literacy for patients, families, and caregivers. The Digital Health Learning Program had an overarching objective to, “Provide a set of materials and tools to provide a baseline of digital health literacy for patients, families, caregivers and Canadians, specifically in virtual care” (Canada Health Infoway, 2021).

The Digital Health Learning Program was developed in accordance with three guiding principles:

- Collaboration: Co-design with patients, clinicians, and minority/vulnerable populations
- Engagement: Continuous, respectful engagement with diverse groups/associations, provinces and territories, and other pertinent individuals
- Governance: Develop an empowered Advisory Committee reflective of Canada’s diverse cultures and experiences within its health systems

Project team members characterized the project’s process as unfolding in three distinct stages over the course of one year:

- Discovery
 - Program charter and project plan
 - Advisory Committee established
- Definition and Building
 - Environmental scan and needs assessment
 - Validation of findings through interviews and focus groups
 - Topic selection, based on feasibility and desirability
 - *Topics ranked medium/high feasibility and medium/high desirability were prioritized for inclusion.*
 - Core content created and tested
- Deployment
 - Materials translated and disseminated
 - Communications campaign to drive awareness of and engagement with the program
 - Project evaluation

The core project team consisted of two patient engagement leads, a change management specialist, and a project manager, with additional support from an external consulting firm.

4.3.3. Patient Engagement

Continuous, meaningful engagement and co-design with patients, families, and caregivers was a guiding principle in the development of the Digital Health Learning Program. Engagement occurred through multiple channels, and with varying degrees of depth:

Advisory Committee

The Digital Health Learning Program was guided and shaped by an Advisory Committee, whose members reflected the diversity of cultures in Canada, and the diversity of experiences within its health systems. Advisory Committee members included clinicians and patients that represented a breadth of geographies, experiences, and perspectives, including in Indigenous health, primary care, mental health, and substance use. The committee met monthly and communicated on an ad hoc basis as needed.

Advisory Committee Mandate:

To provide advice, guide us and make recommendations to the Digital Health Literacy Program as we advance from ideation to execution.

The Program aims to improve the digital health literacy for patients, families, caregivers and Canadians by:

- 1. Developing a set of materials and tools which will form a baseline of digital health literacy, specifically in virtual care.*
- 2. Creating enhanced awareness, capability and trust in using virtual solutions*
- 3. Provide patients, families and caregivers the ability to take higher agency over their health and health choices.*

Project Engagement

In addition to governance through the Advisory Committee, patients, families, and caregivers were involved throughout the program's research and development:

- To ensure diversity of perspectives, 40+ community engagements were held with community members and/or organisations representing marginalized/minority populations, and mature and senior adults. Over ten engagements were held with Indigenous community members and leaders.
- Interviews and focus groups were conducted at each project phase for validation, and to direct future work. These engagements included 29 in-depth interviews with patients, families, caregivers and subject matter experts.
- A survey validated perspectives and information gathered during initial research. The 1200+ survey respondents included representation from all provinces and territories and a broad demographic range.

Implementation

To raise awareness and engagement among priority populations, engagement continued through the implementation phase. Rather than focusing on traditional channels for finding health information, a strategy was undertaken to “meet people where they are at,” by communicating at a community level. The project team expressed that this strategy was particularly important to reach populations which may experience barriers within the health systems.

As such, Digital Health Learning Program materials were translated into diverse languages, white-labelled, and shared with health care organisations as well as disseminated through community settings: e.g., libraries, religious centres, and community centres. This approach enabled Digital Health Learning program materials to be accessed through sources with which audiences had pre-existing relationships, familiarity, and trust.

4.3.4. Outcomes

During the project, in total, 23 million Canadians were exposed to the Digital Health Learning Program materials⁴. This number included:

- Over 300,000 website visitors
- Nearly 12,000 downloads
- 7.5 million offline interactions (through traditional print media, radio, etc.)

No evaluation was undertaken to assess Digital Health Learning Program users' digital health literacy skills before and after interacting the resources.

4.3.5. Lessons Learned

Project conception to deployment took approximately one year. The project team reported that scoping was consequently vital to the project's success. Amidst constrained timelines and resources, the strategic decision was made to concentrate on high-feasibility, high-desirability topics, to ensure greatest impact.

The project team emphasized the criticality of co-design to each project phase. The project team cited ongoing multiple surveys/focus groups/interviews to validate findings, the Advisory Committee to guide the project's approach, and community partnerships in disseminating the completed resources.

The project team also shared that a philosophy of "in-reach" supported the Digital Health Learning Program's efforts to bridge the digital divide. Rather than relying on traditional channels of finding health information, the project team leveraged community networks, bringing information *into* priority population's spaces, rather than reaching *outwards* from health system settings.

4.3.6. Case Example References

Canada Health Infoway. (2021). Digital Health Learning Program. <https://www.infoway-inforoute.ca/en/patients-families-caregivers/digital-health-learning-program>

Statistics Canada. (2023). Canada's population estimates: Record-high population growth in 2022. *The Daily*. <https://www150.statcan.gc.ca/n1/daily-quotidien/230322/dq230322f-eng.htm>

⁴ In 2022, Canada's population was about 38.5 million people (Statistics Canada, 2023).

4.4. HONG KONG – HA GO WEBSITE

4.4.1. Resource Summary

HA Go is the Hong Kong Hospital Authority’s app, a “one-stop mobile platform” (Hong Kong Hospital Authority, 2021) that enables patients to check and book appointments, pay bills, view their medications and health records and improve patient experience in the overall health care journey. The HA Go website provides an overview of the app, its features, the registration process, and frequently asked questions.

The website is available in English, Chinese (Traditional), and Chinese (Simplified). The content is organized into six sections:

- About HA Go
- Registration
- Carer/My Family
- Features
- FAQs
- What’s New

Hovering over each tab displays subsections and their respective topics, facilitating information finding:

Hovering over each tab displays subsections and their respective topics, facilitating information finding.

Subsections and their topics are also displayed in a footer menu located at the bottom of the web page, enabling users to navigate to another topic without scrolling back up to the main menu, or searching elsewhere on the website.

The website uses graphics and video extensively. Tables are also used for visual comparisons (e.g., for carer access scope). Graphics assist website navigation. For example, the “How to Register” page directs users to content based on whether they are self-registering as an adult, or registering a minor.

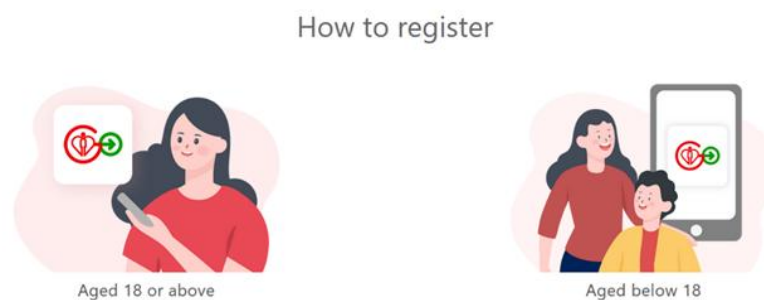


Figure 7: Graphics assist users in finding the information most relevant to them.

Videos demonstrate the app’s use. The videos are accompanied by PDFs that contain similar information in a downloadable format. Like the videos, the PDFs rely heavily on graphics, with minimal text.

The HA Go website focuses on teaching users how to use the app and its features. While one page outlines the app's benefits to patients and clinicians, less emphasis is placed on managing and applying one's own health information.

The website contains no interactive features or mechanisms to collect user feedback.

4.4.2. Process

Background and Context

In the 1990s, Hong Kong's health system underwent significant structural change, in which its public sector hospitals and most clinics were gathered under the Hong Kong Hospital Authority (HA). This transformation included modernization of the hospitals' management and information technology, including investment in the EMR system; HA built its own EMR aligned with its clinicians' needs and workflows.

Initially focused on health care providers, HA's digital systems expanded to include patients and leverage consumer tools such as smartphones and apps. Mirroring the strategy to build and deploy a single EMR system throughout the hospitals, HA developed a single patient-facing platform: the HA Go app.

That's how we got into our single app strategy. We said, "Okay, we need to bring all this stuff together... into one single app where all they need to know is how to use HA Go."

- Interview informant

Literacy by Design

HA's approach has been to build digital health literacy capacity through their products' design, rather than through concentrated educational initiatives. Features and apps within HA Go are intended to provide seamless transitions, and/or to be self-evident in their operation. Accordingly, usability and design were significant areas of project investment; design firms were engaged to assist and supplement the project team's technical expertise.

A Single Common Entry Point

Within the broader health ecosystem, HA Go is intended to serve as a common point of entry for patients. As additional functionalities become needed, they are built onto the existing platform. While this "single entry point" structure may not be feasible or desirable for every health system, in the case of HA, it has facilitated patient engagement through common, consistent messaging and the ability to involve clinicians in supporting patients to use the app and in "prescribing" digital tools.

4.4.3. Dissemination

As HA Go is opt-in, dissemination efforts for the app and website have leveraged clinicians to enroll and support patients at the point of care. Clinician education has thus been a priority for disseminating resources. In addition, HA has fostered motivation amongst its hospitals through a "smart" hospital dashboard. Displaying metrics relating to patient- and digital-focused initiatives enables hospitals to compare their performance relative to others, thereby incentivizing hospitals to action.

HA has also deployed public-facing dissemination materials in print media and television media interviews, as well as YouTube, Instagram, and other social media platforms. Media dissemination has led to demonstrable increases in enrollment. Currently, more than three million people (out of a population of seven million) are enrolled in the HA Go app.

4.4.4. Patient Engagement

While previous HA engagement efforts have concentrated on clinicians, a shift is underway towards a person-centered approach, focusing on patient challenges and experiences in addition to clinical workflows.

Particular efforts have been put towards understanding and articulating HA Go's value proposition for patients. For instance, Hong Kong has a significant population of older adults, who may be less likely to engage with digital tools. Engagement efforts thus centered not only older adults, but carers as well; for example, promoting the ability for digital-literate carers to assist patients to manage their appointment bookings and bills payment via HA Go mobile, or to accompany the patient to attend a teleconsultation through the HA Go app to provide emotional and care support.

There remains further opportunity to support other specialized and/or underserved groups; for example, AI is being explored to assist with translation for South Asian minority groups.

4.4.5. Evaluation

Behavioural changes and positive feedback have both been observed from the HA Go app. One recurring piece of feedback from users is the desire for more features and content, implemented at a faster rate.

There is a movement towards integrating more value-based metrics, in addition to building in measurement at the design stage of its resources. Rather than relying on feedback channels like surveys and manual reporting, metrics about the resource would populate a dashboard.

4.4.6. Lessons Learned

Digital health literacy capacity can be built through educational efforts, but the ability for people to use digital health tools can also result from strong, user-centric design. The platform's design indicates how to use it (El Morr, 2018). While such "intuitive" interfaces remain reliant on a baseline level of digital literacy, they enable patients to learn by doing. Moreover, a platform that is easy to use – and offers a higher-quality and/or more convenient experience – becomes in itself a strong value proposition to motivate and encourage use.

Early focus on digitizing medical records built a strong foundation for long-term, sustainable initiatives. Efforts to create an electronic medical record which supported HA clinician workflows facilitated the eventual entry of a patient-facing platform. It also encouraged the notion of a "single point of entry" – HA Go is not only designed to be easily used, it is designed to be the only app patients need to use to access digital health services within the authority.

4.4.7. Case Example References

El Morr, C. (2018). Introduction to Health Informatics: A Canadian Perspective. Canadian Scholars.

Hong Kong Hospital Authority. (2021). What is HA Go? HA Go.
<https://www2.ha.org.hk/hago/en/about-ha-go/ha-go/what-is-ha-go>

4.5. APPENDIX: DEEP DIVE INTERVIEW QUESTIONS



Digital Health Literacy Resource Repository: Case Example Interview Questions

Process and Resourcing:

- What was the process for creating this resource?
- Tell us about the team that created this resource — what experiences and talents did they bring to the table?
- What challenges did you face? How did you overcome them?

Patient Engagement:

- What strategies did you undertake to engage patients through the development of this resource? What impacts did their contributions have?
- What about specialized populations, i.e., seniors, marginalized groups, those whose first language is different than your country's official language(s), etc.?
- When the resource was completed, how did you communicate about/market it to audiences?

Outcomes and Learnings:

- How have patients responded to this resource? What impacts or benefits have you seen?
- Do you feel this resource has met its goals? Why or why not?
- What would you change if you undertook this process again?

5 CHECKLISTS AND CONSIDERATIONS FOR DEVELOPING DIGITAL HEALTH LITERACY RESOURCES

IN THIS SECTION

- What is this Module?
- Checklists and Considerations

5.1. WHAT IS THIS MODULE?

This module is part of the Digital Health Literacy Toolkit developed by the Clinical and Human Engagement work stream of the Global Digital Health Partnership. It contains considerations and guiding questions to aid the development of resources to support patient digital health literacy. Summary checklists are found at the beginning of each section.

5.1.1. How Were These Considerations Developed?

These considerations were developed after analyzing a series of interviews the Clinical and Human Engagement work stream conducted with Global Digital Health Partnership members. To ensure a balanced perspective, interviewees were selected to represent diversity in geography, health system structure and funding, and the format, focus, and function of their respective resources. Each interview discussed:

- The process of creating the resource
- Engagement activities undertaken
- Dissemination of the resource
- Outcomes
- Challenges and lessons learned

The learnings from these interviews have informed the considerations presented below. More information about the interviews can be found in Module 3: Case Examples.

5.1.2. Who Should Read This module?

This module is intended for people involved in creating patient digital health literacy resources, including engagement specialists, education specialists, project managers, and others. These considerations were curated to support organisations without significant experience in developing digital health literacy and/or patient education resources. However, they may also be helpful to organisations holding more experience, particularly to validate project approaches and scope.

5.1.3. How to Use This Module

This module is comprised of five domains:

Domain	Content
1-Planning and Development	<p>Identifying the unmet needs the digital health literacy resource will address, and the desired outcomes of its implementation.</p> <p>Selecting the education areas and learning outcomes the resource will support.</p> <p>Establishing measures and benchmarks.</p> <p>Developing the resource from initial project planning to completed deliverable.</p> <p>Identifying key project milestones, deadlines, requirements, procedures, and roles and responsibilities.</p>
2-Engagement	<p>Determining how external contributors will be involved in the resource's development.</p> <p>Assessing organisational readiness to engage external contributors.</p> <p>Determining logistics to engage external contributors.</p> <p>Ensuring safety, accessibility, and inclusion for external contributors, particularly patient partners.</p>
3- Content and Delivery	<p>The resource's focus, format, and functionalities</p> <p>Items relating to accessibility, privacy, and inclusivity</p> <p>Designing how users will interact with and navigate through the resource.</p>
4-Dissemination	<p>Identifying which media will best deliver your message.</p> <p>Understanding the target audiences' needs and preferences for receiving information.</p> <p>Leveraging community partnerships and networks for greater reach and impact.</p>
5-Evaluation	<p>Assessing whether the resource met its objectives and whether there were any unintended effects.</p> <p>Assessing how well the resource met your organisational standards (e.g., for timeliness, budget, safety, etc.)</p>

Domain	Content
	Gathering and using external feedback.

The considerations in this module are generic. They are intended to apply to a range of digital health literacy resources. Readers are encouraged to customize to their specific project needs and organisational/environmental contexts.

This module is not intended to be exhaustive, nor does it constitute legal or clinical advice. It is presented as-is for informational purposes only.

5.1.4. Terms Used in This Module

Term	Explanation
Digital health literacy resource (DHLR)	A resource to support development of digital health literacy skills, knowledge, and confidence. It is not a digital health tool or platform itself. Rather, it supports capacity-building to use digital health technologies.
External contributors	Individuals who contribute to the project, but who are not employees or contractors, e.g., clinical experts, patient partners, community partners.
Lived/living experience	The first-hand, direct experience, choices, and knowledge of a given individual. Lived/living experience is distinct from second-hand or mediated knowledge (e.g., having knowledge <i>about</i> a community, as opposed to having the knowledge of <i>being from</i> a community).
Patients	Individuals actively using and interacting with health care delivery services to manage or improve their own health.
Caregivers	Individuals who provide support to another individual, including interacting with health care delivery services on their behalf.

The public	The general population, beyond a health care context.

5.2. DOMAIN 1 – PLANNING AND DEVELOPMENT

Planning and Development: Summary Checklist

- ☐ Articulate why the resource is being created.
- ☐ Identify the resource's audience.
- ☐ Establish intended outcomes for the target population/audience
- ☐ Understand where the resource fits within your organisational context.
- ☐ Check for alignment within the greater health ecosystem.
- ☐ Develop a project plan.

1-1 Articulate why the resource is being created.

Early in the planning process, articulate your motivation for creating a DHLR: whether prompted by a specific catalyst, a more general need for digital health literacy capacity-building, or as part of digital citizenship initiatives.

Guiding questions:

- What is the unmet need you will address?
- What is the evidence of this need?
- What are the intended primary and secondary outcomes?
 - What metrics will you use to define success?

1-2 Identify the resource's audience.

To meet your users' needs effectively, you will need to know who they are. Much of your DHLR and its development process will depend on your audience. Clearly identify who will use this resource – and which populations are outside your scope.

Note that you may serve multiple audiences.

Guiding questions:

- Who is your intended user?
- Are there specific populations you want to reach? You might want to consider:
 - Geography

- Age
 - Language
 - Culture
 - Lived/living experiences (e.g., Indigenous, 2SLGBTQIA+, caregiver, visible minority)
 - Health condition (e.g., people with diabetes, heart disease, cancer, etc.)
- What groups are outside of the resource scope?

1-3 Establish intended outcomes for the target population/audience

Digital health literacy is a broad term, with many possible areas of focus. Determine what topics your DHLR will cover, and the knowledge, skills, and values users should acquire through the resource.

Learning outcomes should be realistic, focused on the user, and specific.

For example: “After completing this e-learning, users will be able to view their lab results electronically, and identify results within a reference range.”

Guiding questions:

- What topics will your DHLR cover?
- What are the intended learning outcomes? What knowledge and/or skills do you want users to take away?
- Will your resource focus on a specific digital health tool or platform, or general digital health literacy skills?

1-4 Understand where the resource fits within your organisational context.

Understand how your DHLR supports your broader organisational strategy, and whether it is linked to specific corporate goals or business plan items.

Take stock of other organisational activities to help identify potential resourcing constraints, competing priorities, and opportunities for collaboration.

Guiding questions:

- How does the DHLR align with your organisational strategy and/or business plan?
- Are there opportunities for collaboration with other programmes/projects, for example with a similar target audience or policy outcome?
- What competing priorities may impact resourcing?
- What level of engagement and oversight do senior leaders expect for your DHLR?
- What are the approvals processes?

1-5 Check for alignment within the greater health ecosystem.

Your DHLR will also be deployed within the broader context of your health system. To identify potential opportunities and obstacles, consider whether your DHLR might

support national health priorities (e.g., pandemic preparedness), and other health care resources and/or organisations.

Guiding questions:

- Does this resource align with broader governmental priorities or objectives?
- Does this resource complement or build on existing resources?
- Do you intend to seek partnerships to create your DHLR?
 - What will partners contribute to this resource?
 - Will you need Memoranda of Understanding (MOUs) or formal contracts to pursue these partnerships?

1-6 Develop a project plan.

Develop a plan for the creation, deployment, and evaluation of your DHLR. Determine the resources you will need, your timelines and critical deadlines, and the processes you will use to carry out the work.

Guiding questions:

- What are the timeframes for delivery of key milestones and the completed resource?
- What are the potential risks and mitigations?
- How will you monitor and evaluate progress?
- What are the required financial, human and physical resources?
- What are the roles and responsibilities of the different parties engaged in the project?
- What new or existing communication channels will you use to provide updates and make decisions? Consider meeting type and frequency.

5.3. DOMAIN 2 – ENGAGEMENT

Engagement: Summary Checklist

- ☐ Determine the external contributors and input required.
- ☐ Address any special engagement considerations for your project.
- ☐ Assess your organisation's readiness for effective engagement.
- ☐ Onboard your external contributors.
- ☐ Ensure safety, accessibility, and inclusion for contributors.

2-1 Determine the external contributors and input required

Determine the extent to which external contributors will be involved in developing your DHLR. In particular, be clear about the input you are seeking from them, the level of influence they will have on the project, and the extent to which they can impact the final outcome.

Guiding questions:

- What external contributors need to be engaged in your project?
 - Non-profit/charitable sector
 - Academia
 - Users
 - Clinicians
 - Industry
 - Government partners
- What types of engagement are most appropriate?
 - Public consultation
 - Surveys
 - Workshops
 - Focus groups
 - Governance board representation
- How will you ensure that external contributors are engaged throughout the lifecycle of the resource, from development, to implementation, to evaluation?
- To what extent can external contributors influence the final outcome of the resource?
- What specific inputs are you hoping to receive from external contributors?

2-2 Address any special engagement considerations for your project.

Depending on your DHLR's objectives and your environmental context, you may need specific expertise, relationships, and buy-in to proceed effectively. For example:

- You may need support from community leaders before you can begin engagements.
- You may need input from professionals with specific clinical or research expertise.
- You may need support from political groups (both government partners and organisations with political influence).

Guiding questions:

- Do you already have relationships with these individuals/populations?
- If not, how will you develop these relationships?
- Are there any cultural and/or political sensitivities that you should know about?
- Do you need buy-in from community leaders to proceed with engagement?

2-3 Assess your organisation's readiness for effective engagement.

Assess how ready your organisation is to effectively engage external contributors. Review the procedures, structures, and mechanisms already in place to support engagement, and identify where gaps exist. Similarly, consider how your organisation currently conducts engagement – is it already embedded into the work, or is it done in a more ad hoc manner?

Be particularly mindful that effective engagement is respectful, safe, and meaningful.

Guiding questions:

- Does your organisation currently have an existing engagement strategy, team, and/or point of contact?
- Does your organisation have existing relationships with all the stakeholder groups (including patients) with whom you wish to engage?
- If not, how will you get them involved?
- What is your organisation's overall perception of engagement? Would internal education before engagement practices be beneficial?
- How does your organisation currently engage patients?
- How would you characterize your organisation's relationships with groups/individuals relevant to your DHLR?
 - Is relationship building and management required before engagement begins?

2-4 Onboard your external contributors.

Once selected, your external contributors will need to be onboarded to your project. Background information about your organisation and the DHLR should be provided to them. You should also give an overview of the project team, its processes and procedures, and any other information that will help equip external contributors to participate confidently and effectively. Clarify expectations around time commitments, input required, and regular meetings/communications.

You may also need to gather information from your contributors. If you are providing them with compensation or honoraria, you may need their payment information. Depending on your organisational policies, external contributors may also need to complete additional onboarding paperwork; for example:

- Conflict of Interest Declaration
- Consent form
- Privacy notice
- Ethical approvals form

Guiding questions:

- Do you have onboarding material and/or processes for external contributors?
- Who will be the main point of contact for external contributors?

- Will you provide honoraria/compensation to external contributors?
- Do you need external contributors to sign a consent form, conflict of interest, or other similar documents?
- Have you completed ethical approvals, where necessary?
- Have you developed a privacy notice, where necessary?
- Have you accounted for any accessibility requirements for specific stakeholders?
- Have you drafted a terms of reference agreement (e.g. mode and frequency of meetings, governance, roles and responsibilities)?
- How much time will external contributors need to devote to this project?
- What types of input will they be expected to provide?
- Are there any other expectations that should be made clear before the project begins?

2-5 Ensure safety, accessibility, and inclusion for contributors.

Effective engagement is safe, respectful, and meaningful. Set expectations early around conduct and behaviours for both employees and external contributors. Be clear that harassment, discrimination, and violence will not be tolerated.

Ensure that external contributors know what to do if they are having challenges with the engagement. Some organisations find it helpful to designate a liaison to whom they can take concerns. Where patients, caregivers, and the public are engaged, it is also best practice to include at least two patient partners on a given project (e.g., never a single patient partner alone).

Ensure that you are meeting accessibility requirements and creating an inclusive environment for contributors.

It may be helpful to consider this item in conjunction with:

- 3-4 Ensure compliance with accessibility requirements.
- 3-5 Review your content for inclusivity.

Guiding questions:

- What mechanisms and/or processes do you have in place to ensure safety, accessibility, and inclusion, particularly where vulnerable groups are being engaged?
- To whom can external contributors go if challenges arise that cannot be solved by the project team?
- How will you track and manage feedback and concerns from external contributors?
- What accessibility accommodations are you able to provide to contributors?
- Does your organisation have a code of conduct? If so, would it be useful and appropriate to share with external parties engaged in the project?

5.4. DOMAIN 3 – CONTENT AND DELIVERY

Content and Delivery: Summary Checklist

- ☐ Choose the right medium for your resource.
- ☐ Decide what information to include and how to organize it.
- ☐ Include links to external content, if desired.
- ☐ Review your content for accessibility and inclusivity.
- ☐ Ensure compliance with privacy, security, and consent requirements.

3-1 Choose the right medium for your resource.

Digital health literacy resources can come in many forms, including:

- Web sites
- Webinars
- Training sessions and workshops
- Apps
- E-learning modules
- Hard copy materials (e.g., workbooks, posters, pamphlets)
- Multimedia (e.g., videos, podcasts)

Decide how your DHLR will be delivered. You may wish to focus on one medium, or to employ several in combination, or for different purposes/audiences.

Guiding questions:

- How will users access the DHLR?
- Will it be available on a web site (HTML/PDF), an app, in person...?
- Will the user explore the resource at their own pace (asynchronous learning), or will you include real-time programming like webinars and workshops (synchronous learning)?
- Where will you host online content? Will it be available on your organisation's website, or through a third party?
 - For example: a YouTube channel, an external blog.
- Will you include interactive components?
 - For example: Quizzes, games, assessments.
- Will users have to login or register to use the resource?
- Will any content be downloadable?
 - For example: A checklist that users can download and refer to later.

3-2 Decide what information to include and how to organize it.

Based on your objectives and education goals for your DHLR, decide what information should be included in your resource. Think about the knowledge and skills you want users to take from the DHLR.

In addition to selecting *what* to include, consider *how* you will communicate the information. Information must be complete and accurate, while remaining accessible, relevant, and engaging to your target audience.

A clear, logical structure will help users find the information they need in the DHLR. Identify the key categories of information in your DHLR, and map how you want users to navigate among them.

- What categories or groupings of information will best support your objectives?
 - For example: grouping information by health need, level of proficiency, digital health topic, etc.
- Do you want users to move through information via a set path, or can they explore topics in any order?
 - What navigation features will you have – e.g., menus, site maps, search bars?

3-3 Include links to external content, if desired.

In addition to the content in your DHLR, you may wish to direct users to external content; for example:

- A government webpage
- Resources for additional support (e.g., for mental health, substance use, chronic conditions)
- Deeper dives into related topics (e.g., privacy legislation, internet safety tips, finding a primary care provider)

Determine how you will curate external content, and how you will ensure that any external content remains up to date.

Guiding questions:

- Will you include links to other resources?
 - How will they be chosen?
- How regularly will you check to ensure external resources remain current and available?
 - Who will be responsible for doing so?
- Do you need to include any disclaimers for external content?

3-4 Review your content for accessibility and inclusivity.

In addition to accessibility considerations, think about how *inclusive* your content is. Within your target audience, users may have a broad range of lived and living experiences.

Find the right balance – for your DHLR – between developing content for a general audience and tailoring content for specific experiences.

Your country and/or region may also have specific accessibility requirements. Understand any legislation applicable to your project, and any additional accommodations that may particularly support your audience.

You may wish to consider working with an accessibility specialist, or a vendor experienced in creating accessible products.

Guiding questions:

- Do you have the tools and knowledge to portray diverse lived/living experiences accurately and respectfully?
- Are you using current/preferred terminology when referring to specific populations or groups, or to their lived/living experiences?
- What accessibility features does your country/jurisdiction require?
- How will you implement them in your resource?
- Will your resource include supports and/or alternative options for access?
 - For example: Transcripts or closed captions for video content; a “lite” website version for people with low internet connectivity; incorporation of a teletypewriter (TTY) service.

3-5 Ensure compliance with privacy, security, and consent requirements.

In addition to your organisation’s usual practices, determine what privacy and security measures your resource will need. If your DHLR will access or hold personal/personal health information, privacy and security are critical issues that must be thoroughly addressed.

In addition to privacy and security considerations, you may need to obtain consent to use certain types of content.

Guiding questions:

- Will any personal information or personal health information be held or accessed by the resource? If so, how will you meet the data protection, legal, and ethical standards in your jurisdiction?
 - How will you inform users if a security event occurs?
- Will users be able contribute content to the DHLR (e.g., through discussion forums, posting comments, etc.)? How will you encourage safe behaviours?
- Are you using any “patient stories”? If so, will they be drawn from the experiences of real people, or will they be fictionalized/a composite representation?
 - If any content is based on a real person’s experience, do you have permission to use their story?
 - Are there any details they want anonymized, changed, or omitted?
- Is any content in the DHLR under copyright?
 - For example: Images, quotes, music.

- Do you intend to copyright your content, or will you make it freely available?
 - For example: through Creative Commons, white-labelling, etc.

5.5. DOMAIN 4 – DISSEMINATION

Dissemination: Summary Checklist

- ☐ Understand your target audience, objectives, and messaging.
- ☐ Identify required resources and engagement partners.
- ☐ Choose the right media and channels for dissemination.

4-1 Understand your target audience, objectives, and messaging.

Dissemination is the process of sharing and communicating about your DHLR to your audience. Determine why you are disseminating your resource and to whom. Note any specific objectives and/or indicators that you will need to measure; for example:

- Downloads
- Website visits
- Registrations
- Workshop attendees
- Impressions

Guiding questions:

- What are your objectives in disseminating your DHLR?
 - For example: General awareness, achieving a certain number of downloads or registrations, sharing information with a particular community.
- Who is the target audience?
- What are the most important messages to convey to them about your DHLR?

4-2 Identify required resources and engagement partners.

Assess what you will need to carry out your dissemination plan. Make note of any specialized support, materials, or skills that may be required.

Working with partners outside the health ecosystem may be particularly helpful for disseminating your DHRL to new audiences, including those who have been underserved or excluded by the health system.

Guiding questions:

- What resources (financial, human, physical) and partners do you need to meet your objectives?

- What dissemination products will you need to create (e.g. banners, social media posts, articles, infographics)
- Who will be responsible for dissemination?
- What external partners do you need to engage with to disseminate the resource?
 - For example: Professional groups, advocacy groups, community groups
 - Refer to **Domain 2 - Engagement** for more considerations
- What is the timeline for dissemination?

4-3 Choose the right media and channels for dissemination.

Consider which medium/media best deliver your message. You can also consider where your audience seeks information, and the types of media they consume most frequently.

In addition to creating dissemination products for consumption, you may also wish to consider sharing your DHLR in a live setting; for example:

- Presenting at a conference
- Hosting a talk in a community centre
- Holding a webinar
- Discussing in a radio interview

Guiding questions:

- Which medium will best deliver your message?
 - For example: text (long or short-form), visuals, live presentation/interview.
- What dissemination products will you create?
- For example: Social media posts, print/digital advertisements, articles, infographics, conference presentations.
- Where does your intended audience go for information?
 - For example: social media, traditional media, community/professional events and gatherings.
- Will you have live dissemination, e.g., webinars or presentations?

5.6. DOMAIN 5 – EVALUATION

Evaluation: Summary Checklist

- ☐ Decide what to measure.
- ☐ Identify key outcomes and results.
- ☐ Decide whether (and how) to collect user feedback.
- ☐ Appraise costs and benefits.

☐ Look to the future.

5-1 Decide what to measure.

As your project comes to a close, you will need to appraise its performance and identify whether or not you accomplished your intended goals. Given your objectives for the project, decide what outcomes and/or results you will focus on, and how you will measure the DHLR's success in realizing them.

In addition to selecting outcomes and measures, decide who will be responsible for conducting the evaluation, and what supports may be needed.

Take note of any reporting requirements and timelines and plan your evaluation activities accordingly.

Guiding questions:

- What outcomes and results will you report?
- How will you measure performance?
 - For example: downloads, website visits, user experience surveys, program completion rates, etc.
- Who will be responsible for conducting the evaluation?
- Will you conduct an internal evaluation with the project team?
- Do you have any reporting requirements which must be met?
 - For example: quarterly or annual reports, results reporting to funders, etc.

5-2 Identify key outcomes and results.

What actually happened as a result of your DHLR? Did you accomplish your goals?

Identify any changes that occurred as a result of the project. These outcomes may be positive or negative.

Through this process, you may also identify outcomes which were unintended or unexpected. Understanding the reasons for these additional outcomes can inform future iterations of your DHLR, or other work.

Guiding questions:

- Did you meet your objectives? How do you know?
- Were there any unintended or unexpected outcomes, whether positive or negative?
- To what extent did the DHLR meet the needs of its audience?
- Did you reach the audience you intended to reach? Did you reach additional audiences?

5-3 Decide whether (and how) to collect user feedback.

User feedback can be valuable in assessing whether the DHLR met its goals, and in continuous improvement. Decide whether you will collect user feedback about your DHLR, and the methods you will use; for example:

- User surveys and questionnaires
- Polls
- Interviews
- Messages received by email, phone, and social media platforms
- Ad hoc feedback

Establish criteria for analysing and implementing user suggestions.

You may also wish to gather feedback from external contributors about the DHLR development process and final product.

Guiding questions:

- Will you have a mechanism to collect user feedback?
- How often will you collect the data?
- What will you do with user feedback?
- If you engaged with external contributors, were they satisfied with the engagement process, the DHLR, and its outcomes?

5-4 Appraise costs and benefits.

Beyond determining the overall cost of creating the DHLR, determine whether it represents good value for the time and money spent. In addition to immediate value, remember that there may be cost-savings and/or other benefits that accrue elsewhere.

Through your evaluation, you may also find ways to lower costs and increase benefits. If this is the case, consider whether these changes can be implemented to the DHLR, or if you will use these learnings to inform future work.

Guiding questions:

- Does the DHLR provide sufficient value for the resources invested?
- Have you realized cost-savings or other benefits through your DHLR?
- Are there ways to improve outcomes or lower costs?

5-5 Look to the future.

Appraise your DHLR as a whole: from its objectives, to the development process, to the end product and outcomes. Consider opportunities for improvement, and identify successes that should be replicated in other projects.

Guiding questions:

- Does your DHLR still align with organisational and/or government priorities?
- Have you identified ways to improve the DHLR?
- If so, will you implement them? How?
- What would you change about the process?
- What key learnings should be incorporated into future projects?

5.7. APPENDIX: CHECKLIST FOR ALL DOMAINS

1 - Planning and Development

- ☐ Articulate why the resource is being created.
- ☐ Identify the resource's audience.
- ☐ Establish intended outcomes for the target population/audience
- ☐ Understand where the resource fits within your organisational context.
- ☐ Check for alignment within the greater health ecosystem.
- ☐ Develop a project plan.

2 - Engagement

- ☐ Determine the external contributors and input required.
- ☐ Address any special engagement considerations for your project.
- ☐ Assess your organisation's readiness for effective engagement.
- ☐ Onboard your external contributors.
- ☐ Ensure safety, accessibility, and inclusion for contributors.

3 - Content and Delivery

- ☐ Choose the right medium for your resource.
- ☐ Decide what information to include and how to organize it.
- ☐ Include links to external content, if desired.
- ☐ Review your content for accessibility and inclusivity.
- ☐ Ensure compliance with privacy, security, and consent requirements.

4 - Dissemination

- ☐ Understand your target audience, objectives, and messaging.
- ☐ Identify required resources and engagement partners.
- ☐ Choose the right media and channels for dissemination.

5 - Evaluation

- ☐ Decide what to measure.
- ☐ Identify key outcomes and results.
- ☐ Decide whether (and how) to collect user feedback.
- ☐ Appraise costs and benefits.
- ☐ Look to the future.

6 COLLECTION OF DIGITAL HEALTH LITERACY RESOURCES

Country	Tool	Focus	Format	Description	Intended Audience(s)	Notes
Argentina	https://www.argentina.gob.ar/miargentina	Digital literacy	Website	Information about and access to Mi Argentina, "Your digital citizen profile to manage procedures, take shifts, access your credentials and receive personalized information."	Citizens	The Mi Argentina app covers more than health care (i.e., driver's licensing, other certifications). Website is mostly text-based, with some videos.
Australia	https://www.digitalhealth.gov.au/	Digital health literacy	Website	Information about digital health broadly, and specifically three discrete streams: MyHealthRecord, telehealth, e-prescriptions. FAQs, videos, benefits, advice for navigating the system, and links to other online resources.	Health system users	

Country	Tool	Focus	Format	Description	Intended Audience(s)	Notes
Australia	https://training.digitalhealth.gov.au/	Digital health literacy	e-Learning	e-Learning courses about My Health Record, my health app, and electronic prescriptions. Includes recordings of training webinars.	Health system users	e-Learning courses are also available for health care providers (login needed).
Canada	https://myhealthdatapath.ca/	Digital health literacy	Website	Various “data paths” show how health data can be used and shared in different scenarios. Includes a reference list to additional resource, FAQs, and a glossary.	Health system users	
Canada	https://www.infoway-inforoute.ca/en/patients-families-caregivers/digital-health-learning-program	Digital health literacy	Website	A collection of free resources about the digital health care services available in Canada. Three focus areas (virtual care, health data privacy, proactive health management), with articles, infographics, checklists, etc.	Health system users	

Country	Tool	Focus	Format	Description	Intended Audience(s)	Notes
Canada	https://www.youtube.com/@virtualhealthresearchgroup4169/videos (Full toolkit no longer available.)	Digital health literacy	Videos	The Virtual Health Research Group (Kingston Health Sciences Centre) developed toolkits to help older adults with virtual health care in 2020. These videos are the only surviving portion.	Health system users Older adults	Videos are available in several languages.
Chile	https://www.clikisalud.net/	Health literacy	Website	Contains information about general health topics.	Health system users	
Estonia	https://youtu.be/zoT0ilCOnus?feature=shared	Digital literacy	Videos	Short videos providing an overview of e-Health services, including digital prescriptions, patient portal, and e-ambulance; videos are part of a broader “e-estonia” channel with information about digital citizenship.	Citizens	

Country	Tool	Focus	Format	Description	Intended Audience(s)	Notes
Hong Kong	https://www2.ha.org.hk/hago/home	Digital health literacy	Website	Registering, using, and troubleshooting common issues with the "HA Go" app (a mobile app from the Hospital Authority, which enables patients to check appt records, pay bills, make appointments, perform rehabilitation exercises, etc.)	Health system users	Extensive FAQs, infographics, videos, etc.
Netherlands	https://www.zorgvannu.nl/	Digital health literacy	Website	Extensive resources about using and implementing digital health tools and improving care/wellness (i.e. also touches on patient-managed tools for managing chronic conditions, meeting fitness goals, etc.)	Health system users Health professionals	PDFs, videos, articles, etc. Information is arranged by Health Care Sector and Theme for clinicians; Disease and Theme for patients.

Country	Tool	Focus	Format	Description	Intended Audience(s)	Notes
New Zealand	https://healthify.nz/	Health literacy Digital health literacy	Website	A resource for consumers and providers covering health conditions, medicines, digital tools and networks.	Health system users Health professionals	General health and wellbeing as well as digital health resources. Includes an app library and a wide range of tools; services and patient portal locator. Offers a low-zero data version which bills data charges to the government, not the user.
New Zealand	https://www.telehealth.org.nz/	Digital health literacy	Website	Provides information and direction to support the uptake and use of telehealth service delivery.	Health system users Health professionals	

Country	Tool	Focus	Format	Description	Intended Audience(s)	Notes
				Includes webinars, videos, PDFs and Word documents for download.		
New Zealand	https://www.healthinfo.org.nz/	Health literacy	Website	A resource for a particular regional service delivery organisation (Waitaha/Canterbury) that provides information about health conditions and services.	Health system users	Primarily about general health topics, with some references to digital tools (e.g., for mental health).
Portugal	https://biblioteca.sns.gov.pt/resultados-da-pesquisa/	Health literacy Digital health literacy	Website	A collection of data sheets for a wide variety of apps, videos, websites, and books/manuals, with standardized information about each.	Health system users	

Country	Tool	Focus	Format	Description	Intended Audience(s)	Notes
Portugal	https://www.sns24.gov.pt/	Digital health literacy	Website	Contains information about different online health services, such as the patient summary, SNS 24 App, digital EU COVID certificates. In addition, includes general information about general health topics and conditions.	Health system users	Includes date of last update for all information,
Portugal	https://www.incode2030.gov.pt/en	Digital literacy	Website	Lays out five pillars towards broad digital literacy. Each contains resources for skills development, webinars, courses, workshops, etc. Includes indicators for digital literacy maturity.	Citizens	Not specific to digital health.
Saudi Arabia	https://www.my.gov.sa/wps/portal/snp/careaboutyou/digitalinclusion/?lang=en	Digital literacy	Website	Information about the Saudi Vision 2030, statistics on current digital literacy levels, and links to programs and e-learning courses for	Citizens	Not specific to digital health.

Country	Tool	Focus	Format	Description	Intended Audience(s)	Notes
				developing digital skills and knowledge.	Women, rural populations, and vulnerable groups	
Singapore	https://www.hpb.gov.sg/	Health literacy	Website	Website of the Health Promotion Board; includes information about their programmes and services, along with general health information.	Citizens	Includes information about the Healthy 365 app: https://www.hpb.gov.sg/healthy-living/healthy-365
South Korea	Mobile-Centered Digital Health Readiness: Digital Health Literacy and Equity Scale	Digital health literacy	Instrument	Validated for patients with IBD: includes questions to assess familiarity with mobile devices, understanding, ability to complete tasks, etc.	Patients Researchers	Available in Korean and English .

Country	Tool	Focus	Format	Description	Intended Audience(s)	Notes
Sweden	https://www.pts.se/digital-inkludering/digitalhjalpen/	Digital literacy	Website	Guidance and tips that help digital beginners to understand and use digital services and tools in everyday life. Resources range from PDF documents and train-the-trainer support to links to external documents and e-learning courses.	Citizens Older adults	Not specific to digital health.
Sweden	https://digidel.se/	Digital literacy	Website	Campaign/hub by Digidel, a network to increase digital participation and accessibility. Includes reports, marketing campaigns, web-based training (including train-the-trainer), graphics, etc.	Citizens Train-the-trainer	Not specific to digital health.

Country	Tool	Focus	Format	Description	Intended Audience(s)	Notes
United Kingdom	https://www.bt.com/about/digital-impact-and-sustainability/building-better-digital-lives/senior-skills	Digital literacy	Website	Learner fact sheets broken down into four topics: getting started, learning the basics, everyday tasks, personal interests.	Citizens Train-the-trainer	Mostly general digital literacy, but includes a resource about using the NHS app . Fact sheets are intended to be downloaded and printed.
United Kingdom	https://www.goodthingsfoundation.org/	Digital literacy	Charity	A charity supporting digital inclusion, including through a network of member organisations offering in-person support, an online learning platform (“Learn My Way”) and free SIM cards and devices.	Citizens	Not specific to digital health.
United Kingdom	https://www.gov.uk/government/publications/essential-digital-skills-framework	Digital literacy	Framework	A framework designed to support providers, organisations and employers across the UK who offer	Train-the-trainer	Not specific to digital health.

Country	Tool	Focus	Format	Description	Intended Audience(s)	Notes
				training for adults to secure their essential digital skills.		
Uruguay	https://www.gub.uy/tramites/configurar-accesos-mi-historia-clinica-digital	Digital health literacy	Website	Information on configuring “Mi historia clínica digital,” the patient digital health record	Health system users	
Uruguay	https://www.gub.uy/agencia-gobierno-electronico-sociedad-informacion-conocimiento/ciudadania-digital	Digital literacy	Website	General information about digital citizenship, including articles and courses.	Citizens	Not specific to digital health.

