DIGITAL EQUITY

IN ACCESS TO JUSTICE

A Review of Literature

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Author:
KATE M. MURRAY

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Legal Aid **BC**

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This report was published on the traditional unceded territories of the Coast Salish peoples, including the xʷməθkwəy̓əm (Musqueam), Skwxwú7mesh (Squamish) and Səl̓ílwətaʔ/Selilwitulh (Tsleil-Waututh) nations. As an uninvited settler on these lands, the author honours and thanks those who have, since time immemorial, been the stewards of these territories.

This review of literature was authored by Kate Murray, Lead Researcher for Legal Aid BC's Achieving Digital Equity Project. Kate is an independent researcher with a PhD from the University of British Columbia. Tamara Abram kindly formatted this report.

The Achieving Digital Equity Project is a year-long multi-method study examining the barriers to access and use of digital resources which are faced by many people across British Columbia (BC.) The Achieving Digital Equity project is an initiative of Legal Aid BC's Community and Publishing Services department, with John Simpson as Manager and project sponsor.

Reports from all components of the Achieving Digital Equity Project can be viewed at the project website: legalaid.bc.ca/about/reports/Achieving-Digital-Equity-Project

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Note to Readers:

The links (URLs) to the websites referenced in this document were correct as of March 15, 2021. However, given that web-based information changes frequently, the links or content of the websites referenced may change.

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Introduction

Digital (In)Equity, and Barriers to Use of Digital Legal Resources

Digital technology can create new "pathways to justice" (McGill, Salyzyn, Bouclin et al., 2016, p. 2) for those facing challenges such as lack of knowledge about the legal system and available legal resources, lack of proximity to local legal services, and inability to afford a lawyer. However, alongside the obvious potential of digital technologies to increase access to legal information and resources, concerns about inequitable access—"digital divides"—remain.

A large and varied body of literature has emerged to explore the factors and barriers at play in producing this uneven landscape of technology access and use. Van Deursen and van Dijk (2019) summarize how concerns about the digital divide have evolved from an initial, "first-level", focus on having an internet connection; to indicators of a "second-level" digital divide relating to internet skills and usage. Subsequently, work in this area has emphasized a "third-level" digital divide in which there is uneven distribution of internet use-related outcomes and tangible offline benefits (van Deursen & van Dijk, 2019). As the Digital Justice for BC Working Group has emphasized, "internet access is not only a right itself but an essential gateway to access other fundamental human rights such as health care, education, and community life" (Digital Justice for BC Working Group, 2020, para 9). In 2020, the global COVID-19 pandemic has thrust these divides into even sharper relief as use of digital media for education, work, social support, and to access necessary information, goods, and services suddenly transitioned from ubiquitous to mandatory.

Increasingly, critical approaches within the digital equity literature underscore how digital divides are "embedded in social, economic, and cultural contexts" (Hadziristic, 2017, p. 38), and thus necessarily intersect with experiences of racialization, gender, age, settler-colonialism, (dis)ability, and class, among other dynamics. Digital exclusions are being shown to not only reflect, but also exacerbate, the structural inequities of the offline world. As Hernandez and Roberts note, "new classes of technology access and connectivity experience are leading to a range of different digital inclusions and exclusions" which "often reflect, reproduce and amplify gender, racial and caste/class divides" (2018, p. 1).

Legal Aid BC's *Achieving Digital Equity* Project

Even prior to the COVID-19 pandemic, questions of digital exclusion and digital inequity have been of critical importance to the work of Legal Aid BC (LABC). LABC has regularly been recognized for leadership in the design and delivery of digital PLEI resources. These include the Aboriginal Legal Aid in BC, Family Law in BC, and MyLawBC websites which feature innovative guided pathway, live chat, and Online Dispute Resolution (ODR) features. For instance, LABC's new Family Resolution Centre combines a self-help tool with access to free expert coaching and mediation. While LABC regularly engages in user testing and evaluation to ensure high quality and maximize accessibility, the organization is concerned that an array of structural barriers is preventing many people from effectively accessing and using these digital resources. Consequently, LABC has initiated the *Achieving Digital Equity (ADE) Project*. This multi-method study examines the barriers to access and use of digital resources which are faced by people across British Columbia (BC). LABC gratefully acknowledges the support of the Legal Services Society/Law Foundation Legal Research Fund which is funding this work.

Literature Review Approach and Methodology

This report summarizes one component of the ADE study: a review of literature on the barriers to access and use of digital technologies. Although the ADE project specifically focuses on use of online *legal* resources, my review of literature has been framed more broadly, in recognition of how digital equity issues impact access across a broad range of public sector services and resources. The ADE literature review has entailed an appraisal of published material in the justice and (where relevant) health and education sectors, in Canada and internationally, to identify relevant digital equity themes.

Three broad questions guided my review:

- What are the intersecting barriers to accessing and using legal help online?
- Who is affected, how, and at what points?
- What are promising approaches to increasing digital equity in BC's Access to Justice sector?

This literature review has informed the additional components of the ADE study, which include: a population survey of BC residents; tracking referrals to digital resources; surveys and focus groups with community workers, Elders, and service providers; and interviews exploring individuals' digital resource user journeys.

The ADE literature review originally proposed to focus especially on non-technical barriers relating to users' interest, experiences, and skills in using digital resources. However, feedback emerging through LABC's community-based and Public Legal Education and Information (PLEI) work, together with a critical review of the literature, underscores how these "second-level" barriers could not be adequately understood or addressed without considering technical, physical, and material access. The various levels of digital divide are intricately linked. Given this important reality, I have also addressed questions of connectivity and access in this review.

To conduct this review, I identified relevant publications using an iterative process that included examining key reports known to LABC through Access to Justice (A2J) and Public Legal Education and Information (PLEI) sector networks such as the PLE Learning Exchange Research Database[1] maintained by Community Legal Education Ontario (CLEO). In addition, I undertook searches using the academic database Sage Journals Online as well as Google Scholar. The latter search engine proved particularly useful in identifying the considerable body of "grey" literature on digital equity which exists in the A2J, PLEI, non-profit, and other relevant sectors.

Search terms related to: the study themes of digital equity (e.g., "digital divide," "digital exclusion," "digital inclusion," "digital equity," and "digital by default,"); digital skills (e.g., "digital readiness," "digital literacy,"): known or suspected barriers (e.g., "stress," "mental health," "literacy," "trauma,"); information and resource-seeking (e.g., "information," or "resource," or "service"); relevant sectors ("legal," "law," "Access to Justice / A2J," "Public Legal Education and Information / PLEI" and "health"); terms for groups of people known or suspected to face increased barriers (e.g., "service users," "women," "gender," "disability," "Indigenous," "immigrant,"); and jurisdiction ("Canada," "British Columbia," or "B.C."). For the most part, I focused on sources dated 2016 or newer. However, in several

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[1] Available: cleoconnect.ca/library/research-database/

cases I included older materials that were highly relevant and/or which filled a gap in understanding. In total, well over 200 publications were selected for either high-level or in-depth review.

Finally, in addition to surveying publications, I have also reviewed several of Statistics Canada's published data tables which are relevant to connectivity and digital technology use and access. Statistics Canada makes considerable efforts to generate representative population-level data. However, readers should note that my own use of these data is descriptive rather than based in inferential statistical analysis.

The remainder of this report presents findings from the ADE literature review in four main sections:

The first section of the review addresses issues commonly referred to as "first-level" divides which relate to digital technology connectivity and access. National and province-wide statistics suggest high rates of internet use and technology access overall, but a closer look reveals significant variations in the types and quality of access experienced across communities and households. In this section, I also overview survey research examining differences in rates of use among diverse population groups—research which further underscores how opportunities to use the internet are not distributed equally. Literature in this area further illustrates how "access" is not simply a binary matter (of have / have not), but should be understood as a complex gradient, in terms of choice, diversity and quality.

The second section focuses on "second-level divide" issues of motivation, digital skills, and trust in relation to digital technology use. The literatures on digital literacies, "digital readiness," and "digital capability" draw attention to significant differences in peoples' abilities to use the internet in a way that benefits them from day to day. A key theme that emerges from these bodies of literature is that there exists a wide range in levels of experience, expressed interest, and comfort in relation to internet use. Further, users' experience, expressed interest, awareness, and comfort varies considerably by type of online task. Much research illustrates how questions of motivation, skill, and trust are best understood in terms of life circumstances and opportunity—including questions of access, and intersecting, classed, dynamics of advantage or disadvantage.

A third section of the review addresses the "third-level divide" topic of digital access to justice. In this section, I draw on research from the access to justice, and public or community legal education and information sectors to discuss how digital inequities play out in the context of addressing legal issues— for instance, during legal help-seeking, online searches, and in use of digital legal resources. My discussion in this section outlines how digital equity issues intersect with many known barriers to accessing justice—including systemic discrimination; trauma; the costly, complex, and expert-oriented nature of western legal systems; and conditions of stress which are inherent to legal problems. Much research in this area underscores the value of relationship-based legal help from a service provider, advisor, or "navigator" who can assist people in understanding legal processes, and identifying resources, options, and next steps.

The final section of the report describes themes in the literature that suggest promising approaches to addressing digital equity within BC's public legal sector. Many of these interventions respond to two challenges: 1) how to ensure continued and/or expanded access to services for those who face digital barriers, and 2) how can users who are able to use digital legal resources be best supported to do so? (McDonald, Forell, & Wei, 2019). First, while various reports call for province-wide connectivity and affordability interventions which are largely outside the role of public legal service providers, the PLEI sector can still look to support community-led initiatives and advocacy in these areas whenever possible.

Further, many studies discuss the need to support "enabling environments" within communities—for instance technical supports, digital skills programs, community access points and digital equity planning. Other relevant themes in the literature relate to (offline and online) outreach, search engine optimization and discoverability, and integration of online legal resource provision with delivery of other kinds of services. Much research also highlights the importance of user-centered, accessible, and inclusive design of sites, content, and digital supports. Finally, an overarching set of suggestions within the PLEI and A2J literature emphasizes the need to preserve and enhance face-to-face, and other offline and personalized, channels for assistance. Overall, the research I have surveyed underscores the need to treat digital legal resources as complementary—as part of a spectrum of services and resources that may be effective for some people but not for others, and which may be most effective when used in combination with supportive, trauma-informed and relationship-based legal help.

"First-Level" Divides: Connectivity, Use, and Access

Physical and material access to broadband internet, along with the digital technology required to use it, remains a concern throughout what is called British Columbia, as well as across the lands called Canada. The first section of this report addresses these questions of connectivity and access. It is important to note that, across various studies, references to "connectivity" and "access" may mean different things, depending on what is being measured and how. Throughout this document, I use the following terms to discuss different components of these issues:

- Availability – internet service availability in the local area (which depends on both province-wide and local broadband internet infrastructure).
- Home internet – household subscription to residential internet services.
- Mobile internet – subscription to internet services via cellular or wireless technology.
- Digital Technology access – physical and/or material (affordability-related) access to connected devices, such as smartphones, computers, tablets, modems, routers, etc.

The term "broadband" refers to internet connections that enable download speeds of 1.5 megabits per second (Mbps) or more. However, the Canadian Radio-television and Telecommunications Commission (CTRC) has established target speeds of 50 Mbps (download) and 10 Mbps (upload), (or, 50/10) reflecting the bandwidths considered necessary for full participation in contemporary global online environments. A download speed of 5 Mbps is the minimum required for many modern internet activities. For instance, a speed of 1 Mbps might support basic email and web browsing but is considered inadequate for meaningful online participation. Speeds of 6 Mbps might enable a single user to undertake email, basic web browsing, social media, standard definition video streaming, and Voice over IP (VOIP) tasks. Download speeds of 50+ Mbps, however, can support multiple users of cloud-based software, telehealth and online learning applications, high-definition video streaming, and VOIP activities (KPMG, 2019; see also Government of British Columbia, 2021b). A recent BC Connectivity Report explains how broadband internet "forms the backbone infrastructure for cellular and other next-generation wireless technologies" (KPMG, 2019, p. 1).

The internet availability, speeds and latency experienced by users depends on the infrastructure connecting that user to the world wide web. This infrastructure is typically described in terms of three stages or aspects: the "backbone," the "middle mile," and the "last mile":

> The backbone consists of large capacity trunks (usually fibre optics) that transmit large amounts of data... The middle mile links the backbone to the telecommunication provider's core networks and anchor institutions, such as universities. The last mile connects the residents [and] small businesses of a community to the internet, and includes both wireline and wireless delivery methods, including digital subscriber lines, fibre, coaxial cable, and fixed wireless. (KPMG, 2019, p. 23)

The BC Connectivity Report (KPMG, 2019) provides a breakdown depicting how differing types of "last mile" infrastructure enables differing speeds and uses (below, Figure 1):

Figure 1: A Guide to Download Speeds

Download Speed	Enabling Last-mile Infrastructure	Use Cases
50+ Mbps	– Fibre-to-the-Premises (FTTP) – Coaxial cables (TV cables) – 5G-based fixed wireless	Supports multiple users of cloud-based software applications, telehealth, online learning resources, HD video streaming, VoIP
6 Mbps	– Coaxial cables (TV cables) – DSL (phone lines) – Radio-based fixed wireless – Satellite	Adequate for single user for email, basic web browsing, social media, standard definition video streaming, VoIP
1 Mbps	– DSL (phone lines) – Radio-based fixed wireless – Satellite	Inadequate for online participation – supports basic email and web browsing

Source: KPMG, 2019. BC Connectivity Report, p. 23.

Broadband Internet: Availability, Speed, and Affordability

In this section, I discuss connectivity—the presence of broadband infrastructure and internet service availability—as well as subscription to internet services throughout BC. To do so, I draw on available population-level statistics, including those referenced in the Canadian Radio-television and Telecommunications Commission (CRTC)'s Communications Monitoring Report (2019) (CRTC, 2020b)—which includes data from Statistics Canada's Survey of Household Spending (SHS). Additional statistics I reference here, and below in my discussion of internet use, include those collected through the Statistics Canada's periodic Canadian Internet Use Survey (CIUS).

While these population-level datasets offer useful insight, it's important to note that they have limitations. For instance, the sampling methods used by both the SHS and CIUS do not target residents of First Nations reserve communities or full-time residents of institutions, meaning they cannot be assumed to capture the considerable barriers to digital technology use which are faced by these groups. Further, the SHS and CIUS only target the populations of Canada's 10 provinces; meaning that national-level data from these surveys does not capture experiences in the three northern territories, where internet access and quality is much reduced (CRTC, 2020b; Statistics Canada, 2018c, 2019b). The CIUS is also conducted primarily via electronic questionnaire[2], raising questions about its accessibility to those without sufficient access or experience (Smythe, 2020).

Taken together, these and other sources of population-level data begin to illustrate how the issue of internet access is not as simple as it first appears. At the broadest level, these data give the impression of high levels of connectivity overall. However, a closer look reveals significant inequities that are experienced by many British Columbians.

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[2] For the 2018 CIUS, invitation letters to complete the electronic CIUS questionnaire were sent by mail. Those for whom Statistics Canada did not have a mailing address were contacted by telephone to complete the questionnaire with an interviewer. Intensive non-response follow-up was also conducted by computer-assisted telephone interview (Statistics Canada, 2019b).

Internet Availability and Speed

The authors of the BC Connectivity report note that, relative to other Canadian jurisdictions, BC scores well with respect to internet availability and speed (KPMG, 2019). Overall, the CRTC estimates that 98% of BC households live in areas with basic broadband services of 5+ Mbps, while 94% live in areas where the CRTC's targeted download speeds of more than 50 Mbps are available (CRTC, 2020a). BC has seen recent improvements in its upload speeds, and its median download speed of 15.2 Mbps is the highest of all Canadian jurisdictions. These higher speeds, suggests KMPG (2019), are indicative of the province's comparatively high-quality broadband infrastructure. More detail about overall broadband service availability is provided in recent statistics from the CRTC (Figure 2, below):

Figure 2: Broadband service availability in BC, by speed (% of households), 2019

Province/Territory	5 Mbps +	25 Mbps +	50 Mbps +	50/10/ unlimited	100 Mbps +	Gigabit
British Columbia	98.3	96.4	94.1	93.5	93.5	57.7

Source: CRTC, 2020a. Communications and Monitoring Report, p. 107. [Excerpt]

Subscription and Affordability

It's important to note that the availability of internet services in a given region does not mean that all local residents can or will subscribe to that service—whether due to costs, preferences, quality, or other factors. CRTC statistics suggest that in 2019, 93% of BC households overall subscribed to fixed broadband (CRTC, 2020c, Tab C-S9). For the authors of the BC Connectivity Report, these relatively high subscription rates suggest there is considerable appetite for broadband in the province, when it is made available (KPMG, 2019).

Within these province-wide statistics, however, there is considerable variation. As I describe throughout this review, the ability to subscribe to digital services is strongly linked to affordability and income. In 2018, of internet users within BC's wealthiest quartile[3] (with household incomes over $125,000), fewer than one percent did not have a home internet connection. In contrast, of BC internet users with household incomes below $40,000, almost 15% did not have access to the internet at home (Statistics Canada, 2019j).

National data illustrate how such trends become more pronounced as income is considered at a more finely grained scale: across the ten provinces, among those households in the lowest income quintile[4] (with incomes below $32,914), more than 30% did not use the internet from home in 2017 (CRTC, 2020b, p. 52). The 2018 CIUS found that, among Canadian households who don't have internet access at home, commonly identified reasons included the cost of internet services (28%) and equipment (19%)

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[3] Statistics Canada explains: "Households are divided into quartiles or four equal groups based on household income, each representing 25% of the income distribution" (Statistics Canada, 2019j, see notes 4, 5)

[4] Like a quartile, except that households are divided into five equal groups.

(Statistics Canada, 2019a). The 2018 Labour Force Survey[5] produced similar findings: cost was among the most important barriers identified by over a third (34%) of unconnected rural households across Canada, and close to a half (44%) of urban households without internet service (Statistics Canada, 2019d). In 2017, Statistics Canada found that almost one in five (18%) people with disabilities across Canada cited "cost" as one of the reasons they didn't use the internet (Statistics Canada, 2021c).

The 2017 SHS found that overall, 92% of BC households subscribed to mobile services. However national data again illustrate how these subscriptions are linked to income. Across the 10 provinces, 97% of households in the wealthiest quintile (with incomes above $132,809) subscribe to mobile services. Meanwhile, in the lowest income quintile (with incomes below $32,914), only 73% of households were mobile subscribers (CRTC, 2020b, p. 51). The same national dataset illustrates how, when it comes to phone services, only two percent of the wealthiest quintile households rely on landlines. However, in the lowest income quintile, almost a quarter (24%) of households relied exclusively on landlines for their phone services (CRTC, 2020b, p. 51).

The CRTC's 2019 Communications Monitoring Report also makes visible how the costs of connectivity are a much more impactful burden for those with low-income. Across the provinces in 2017, the wealthiest quintile of households, on average, spent less than two percent of their annual income on communications expenditures—including mobile, internet, landline, and television services. However, for the lowest quintile of households, these communications expenditures accounted for almost 10% of their average annual income (CRTC, 2020b, p. 26). Put another way, "expenditures on communications services as a percentage of household income were about five times higher" in the lowest income quintile, relative to the wealthiest quintile (CRTC, 2020b, p. 31).

Across Canada, household spending on landline and television distribution services is decreasing. However, increasing spending on mobile and internet services means that overall communications services expenditures has continued to grow. Of all communications expenses, mobile services are the biggest contributor — costing Canadian households an average of $101.00 per month in 2017 (CRTC, 2020b, p. 32).

Relative to average monthly expenditures across the 10 provinces, BC households spend comparatively more on both mobile and internet services (CRTC, 2020b, pp. 56-57). The BC Connectivity report outlines several ways in which, relative to other provinces, cost is becoming a bigger barrier for B.C. residents over time:

> In the period between 2011 and 2017, the BC household internet access spending has increased 59% to $691. The average growth rate in Ontario, Québec, and Alberta is 39% for the same period. From 2016 to 2017, the CRTC reported a growth of 8% in BC's internet access spending. This growth is at a higher rate than peer jurisdictions and outpaced… BC's income growth rate. The BC median household income has increased 6.6% for the period between 2010 and 2015. (KPMG, 2019, p. 33)

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[5] The Labour Force Survey (LFS) is conducted in both the provinces and territories; however, territorial LFS results are not included in national estimates. Similar to other Statistics Canada surveys, the LFS does not include "persons living on reserves and other Aboriginal settlements in the provinces; full-time members of the Canadian Armed Forces, the institutionalized population, and households in extremely remote areas with very low population density" (Statistics Canada, 2018b).

In addition to income, age is also known to be an important factor with respect to digital service subscription. The CRTC's (2020b) analysis of "communications penetration" (the actual subscription rate for a service relative to its potential market of users) illustrates how younger respondents were more likely to subscribe to mobile and internet services, but slightly less likely to access television services. In contrast, respondents over 50 had high rates of subscription to television but were considerably less likely to subscribe to internet, and especially mobile services. This trend was even more noticeable for those over 65 (see Figure 3).

Figure 3: [Canada-wide] Communications Services Penetration by Age Group, 2017.
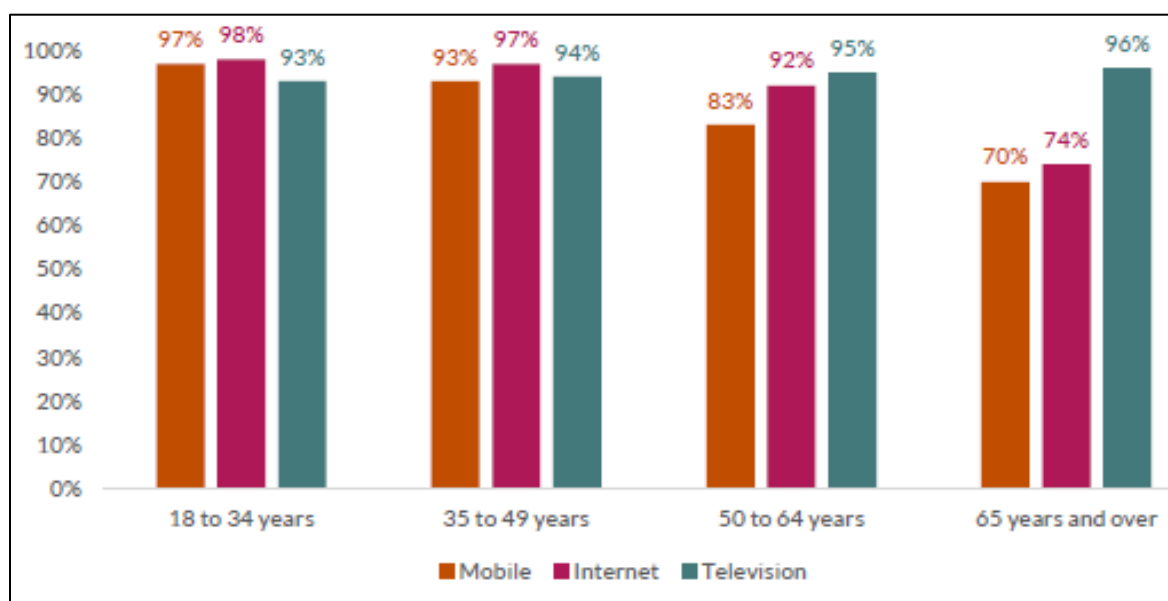
Source: CTRC, 2020b. Communications Monitoring Report 2019, p. 39.

These age-related trends in internet subscription and use are not specific to Canada but are echoed in many studies on internet access and use, as I discuss in more detail below (pp. 20-22).

Data Caps and Affordability

Alongside coverage and subscription, the BC Connectivity Report discusses data caps as an important dimension of broadband affordability. Data caps specify the amount of internet services available before subscribers incur additional fees or significantly reduced speeds. Noting that modern "strain on data caps is increasing significantly," the report's "guide to monthly data caps" lays out the quantities of email, video conferencing, and video streaming supported by size of data caps (see Figure 4).

Figure 4: Practical Guide to Monthly Data Caps

	10 GB	200 GB	300 GB
Email	1,000	10,000	20,000
Video Conferencing	40 hours	400 hours	800 hours
Video Streaming	10 hours	100 hours	200 hours

Source: KPMG, 2019. BC Connectivity Report, p. 28.

Based on a sample of more than 650 broadband plans across BC and its peer jurisdictions[6], KPMG found BC to have the lowest proportion of plans without a data cap, meaning that BC residents have comparatively less access to unrestricted internet use. In BC, only 50% of broadband plans do not place caps on subscriber data, in comparison with the Canadian average of 55%. These limits on quantity of data, notes the report, severely limits users' internet experiences and their abilities to take advantage of benefits afforded by the global internet environment (KPMG, 2019).

Across Canada, average data usage increased by 30% to 166.2 GB per month from 2016 to 2017—with this increase largely driven by entertainment streaming and growing numbers of connected devices (KPMG, 2019). Such trends signal that, in order to maintain users' abilities to participate fully in online environments, providers will need to maintain affordability while offering higher data caps into the future (KPMG, 2019).

BC's Urban-Rural Divide

It's crucial to note that in BC, these province-wide connectivity trends do not extend evenly to households in rural and Indigenous communities. Nationally, Statistics Canada reports that households in rural areas are almost twice as likely to not have home internet access and are almost 10 times more likely to cite internet quality as the reason for not having internet at home (Statistics Canada, 2019d). In BC, only 36% of rural communities and 38% of rural Indigenous communities have access to 50/10 Mbps internet speeds (Government of British Columbia, 2021a). Download speeds are also slower in rural communities than in urban areas; in 2015, BC's rural download speeds were, on average, 6.1 Mbps slower than in urban communities (KPMG, 2019). In recent research with Indigenous communities across the province, the Union of BC Indian Chiefs (UBCIC) has described how many rural communities' outdated and substandard connectivity infrastructure results in "limited bandwidth and poor reception causing interruptions in both internet and telephone services" (UBCIC, 2020, p. 15).

BC's urban and rural differences in connectivity are part of a global trend (International Telecommunication Union, 2020). Based on a systemic review of literature about Information and Communications Technology (ICT) in rural areas, Salemink, Strijker and Bosworth state that across most "advanced" [*sic*] countries, research highlights "persistent and growing differences in data infrastructure quality between urban and rural areas" (2017, p. 360). Because most technology development occurs in the private sector, those who

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[6] Peer jurisdictions are selected based on geographic, population, and "Broadband Ecosystem" characteristics. These include the Canadian provinces of Quebec, Ontario, and Alberta, and Washington and Oregon in the U.S. (KPMG, 2019, p. 24).

do not constitute a lucrative consumer market are left behind (Hernandez & Roberts, 2018). This includes rural and remote communities in "hard-to-reach" locations, as well as those with extremely low-income. "Internet and mobile infrastructure," state Hernandez and Roberts, "is disproportionately concentrated in areas with the most buying power" (2018, p. 9). O'Donnell, Beaton, McMahon et al. state that across Canada, "telecommunications firms are slow, and in many cases unwilling, to extend their broadband networks (backhaul networks) to northern and remote communities without significant government investment" (2016, p. 60). McMahon recounts how industry-driven telecommunications projects for remote and rural First Nations communities also tend to assume colonial discourses of dependency, and thus "limit opportunities for local engagement in favour of corporate needs" (2020, p. 3). Taken together these kinds of issues have meant that, globally, while *absolute* divides have decreased (as, for instance, fibre optic connections become more widespread), *relative* divides in broadband speeds have actually increased (Hernandez and Roberts, 2018).

Alongside these broader dynamics, it's important to realize that connectivity across diverse rural and remote communities is highly variable. Based on their 2016 study on digital technology use in northern and remote Indigenous communities across Canada, the First Mile Connectivity Consortium (FMCC) stresses that, unlike across larger cities, each remote and northern community "may have a very different level, mode, and cost of broadband infrastructure" leading to considerable variation in the reliability of digital services (O'Donnell et al. 2016, p. 32). Beyond the province-wide statistics cited above (p. 11), the Government of Canada's interactive National Broadband Internet Service Availability Map[7] shows how the speed and availability of internet service varies considerably on a community-by-community basis. Additional connectivity data for BC First Nations communities is available via a second interactive map[8] maintained by the Pathways to Technology connectivity project. At the same time, the 2016 FMCC study has also emphasized the inadequacy of existing data on the level, cost, capacity and reliability of broadband infrastructure to and within Indigenous communities because of how (as I've noted) some remote communities are missing from national datasets such as those of the CRTC and Statistics Canada (Beaton, McMahon, O'Donnell et al., 2016, Appendix 2; O'Donnell et al., 2016).

LABC's 2019 research on online training for community workers likewise indicated challenges and variability with respect to connectivity across the province. Of the over 500 workers across BC who had sufficient internet access to respond to LABC's online survey, nine percent reported regular reliability problems or low speeds (less than 5 Mbps download and 3 Mbps upload) that would likely prevent streaming of audio or video content. An additional four percent reported reliability or technical issues that were less frequent. While remote or rural participants comprised 42% of survey respondents overall, they comprised 62% of those whose connectivity was likely insufficient to stream audio and/or video content. When LABC asked respondents to test their internet speed[9], results varied widely:

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[7] National Broadband Internet Service Availability Map: www.ic.gc.ca/app/sitt/bbmap/hm.html?lang=eng
[8] Pathways to Technology Interactive Map: www.pathwaystotechnology.ca/interactive-map
[9] Respondents were asked to test the speed of their internet connection using Ookla's Speedtest website (www.speedtest.net/) and to report their results.

Within the largest group of respondents who likely have sufficient internet access to participate in online training, reported download speeds ranged from 2.1 Mbps (from a respondent who nonetheless characterized their internet access as "usually decent") to speeds of over 500 Mbps. The median download speed reported by this group was 77.1 Mbps, and the median reported upload speed was 16.2 Mbps. Median download and upload speeds reported by those we believe are likely unable to stream were much lower, at 13.1 Mbps and 1.5 Mbps respectively. At the same time, there was still considerable variation with this group, suggesting that factors other than [speed] (e.g. software, hardware, or Wi-Fi issues) are likely at play. (Murray, 2019, p. 19)

Another recent initiative sought to test internet speeds at public buildings in First Nations communities in BC, Alberta, and Manitoba. Of the 20+ communities who participated, only nine (43%) achieved average upload speeds greater than the CTRC target of 10 Mbps, and only five (24%) achieved the CTRC's targeted download speed of 50 Mbps. Further, the data illustrated how speed fluctuated considerably within a 24-hour period. Several of the communities who technically met the minimum targeted standards only did so on average between 4:00am and 5:00am, when demand on the system was at its lowest (Cybera, 2020). Those involved in this speed testing initiative describe various barriers to accurately assessing speed in First Nations communities, including the fact that "in some places the internet is so slow that available speed testing tools do not even work" (Cybera, 2020, para 6).

Cost is also a bigger barrier for rural households. "Affordability of broadband," states the authors of the BC Connectivity Report "is generally a function of population density, geography, local competition, and proximity to backhaul infrastructure" (KPMG, 2019, p. 31). The good news for BC's rural communities has been a noticeable improvement in the cost of low-end broadband plans offering 5 Mbps. While the minimum monthly price for a basic 5 Mbps plan has held steady in urban areas at $25-$26 per month, the cost in rural areas has fallen by almost half, from $60 in 2015 to $31 in 2017 (KPMG, 2019). For higher-end plans of 50 Mbps, *minimum* monthly prices do not vary significantly between rural and urban areas of BC. However *maximum* monthly prices are higher in urban areas, with this difference having increased from the previous year. KPMG suggests that this trend "indicates that the variance in prices between urban and rural communities is not balancing" (2019, p. 35).

Perhaps the most important aspect of internet costs for rural communities relates to data caps. The BC Connectivity Report describes how rural communities are subject to very low data caps on broadband plans. Average data caps in rural areas are approximately 90 GB per month, while the average monthly data cap in BC's urban communities is 278 GB (KPMG, 2019). Further, BC has one of the highest rural broadband prices for 1-199 GB data cap plans—especially when compared to the median household income which is lower in BC than in many peer jurisdictions (see Figure 5, below).

Figure 5: Prices for a 1-199 GB data cap plan in rural communities, 2019 (Canada and US)
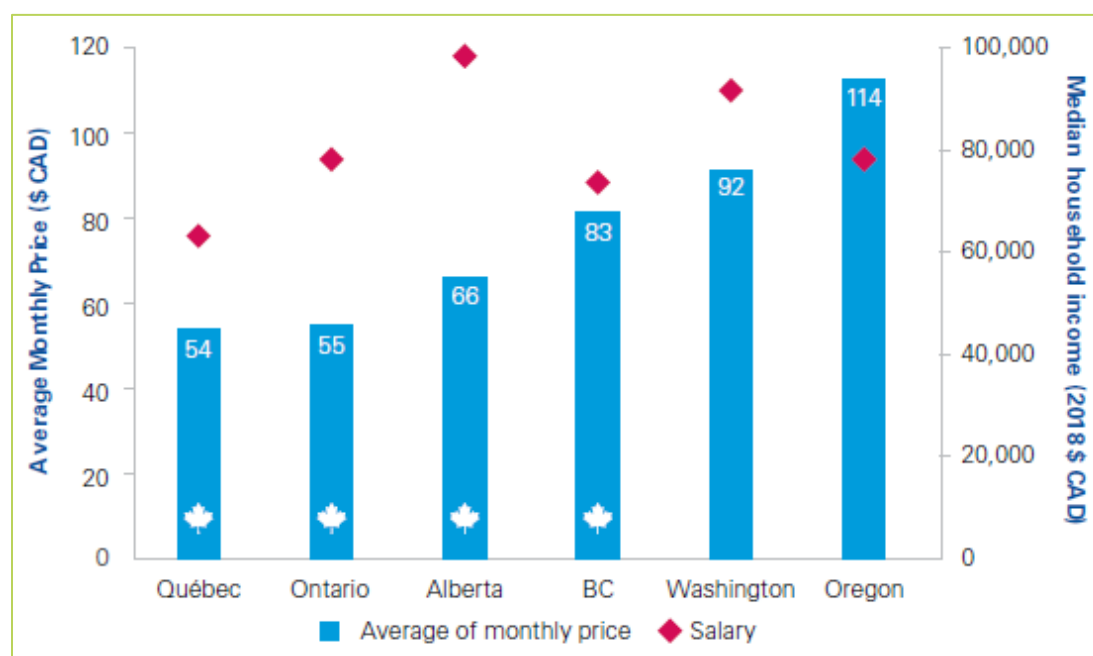
Source: KPMG, 2019. BC Connectivity Report, p. 36.

The same report notes that Internet Service Providers (ISPs) often charge a premium for delivery of service in rural areas, and this appears more significant in BC than elsewhere. For plans with data caps of 1-199 GBS, while the average of the rural premiums charged in peer jurisdictions was 15%, BC's rural communities paid 23% more than their urban counterparts. For plans with larger data caps of 200+ GB, this premium shrinks to 11%, which is similar to comparison jurisdictions (KPMG, 2019).

In their comprehensive 2016 review of literature on digital technology use in northern and remote Indigenous communities across Canada, O'Donnell et al. (2016) likewise stress that affordability is a major constraint to digital access. Legacies of colonialism and systemic discrimination faced by Indigenous communities mean that all of these communities face the common challenges of poverty and underfunding of basic public services. In case study research as part of the same project, participants emphasized that basic monthly subscription charges were beyond the means of low-income households and that surcharges for exceeding data caps were significant barriers to their full participation in online environments (Beaton et al., 2016).

Additional connectivity challenges facing BC's rural Indigenous and non-Indigenous communities relate to cellular connectivity. As of 2017, mobile services via 4G Long-Term Evolution (LTE) technology[10] were available to 99.9% of those in urban areas, but reached only 93.1% of those in rural communities and 86% of those living in First Nations reserve areas (CRTC, 2020b, p. 329, p. 45; KPMG, 2019). Nationally,

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[10] See the BC Connectivity report (KMPG, 2019, p. 40) for a brief history of mobile technology in Canada, from the introduction of first generation technology in 1991 to the coming 5G "revolution" which is expected to provide fibre-like speeds over wireless networks.

only 73% of the population of First Nations reserve areas lived in areas where LTE mobile services were available (CRTC, 2020b, pp. 44-45). BC also lags behind most provinces in terms of mobile service coverage on roadways; as of 2018, over 30% of major roads and highways in BC were not covered by LTE mobile services (CRTC, 2020b, p. 329).

Internet Use

In Canada and internationally, much of the research on "digital divides" focuses on measuring rates of internet use among individuals and/or households within a population. In this section, I overview this population-level research which examines broad trends in ICT use. Once again, these broad statistics portray high levels of online engagement overall, but also considerable inequities when it comes to the experiences of diverse population groups. Here, it's important to note that these quantitative analyses do not, in themselves, enable a full understanding of the complex "stories" and opportunity structures that give rise to these differences in technology use.[11] In the sections that follow, I draw together different kinds of research to explore the connections between quantitative trends and the complex lived experiences of digital inequity and exclusion which can be better understood through qualitative and community-based studies.

Broad Trends

In the 2018 CIUS, 91% of all those surveyed across Canada used the internet within the previous three months (Statistics Canada, 2019a). According to one Statistics Canada analysis, rates of internet use among Canadians aged 15 to 65 are at "near saturation levels," having reached 97% in 2016 (Davidson & Schimmele, 2019, p. 5). The 2018 CIUS found that almost half of Canadians who used the internet reported spending more than 10 hours per week online. Together with Alberta, British Columbia had the country's highest rate of internet use at 94% (Statistics Canada, 2019a).

Among CIUS respondents across the 10 provinces, when internet users were asked about their activities online, 94% said they sent and received emails, 87% researched for information, 78% accessed the news, and 75% used social networking websites or applications (Statistics Canada, 2019g). In a different survey of adult internet users in Canada, 25% reported that they had looked online for health information (Statista, 2020). Across Canada, 88% of internet users in the CIUS reported having a smartphone for personal use. When these respondents were asked about their smartphone habits, 45% reported checking their phone at least every 30 minutes (Statistics Canada, 2019c).

Whether used by phone or another device, instant messaging services also have high rates of use across Canada. Surveys indicate that 78% of online Canadian adults used instant messaging apps (Statistics Canada, 2019g), and nine in 10 used some sort of message app or service (including SMS or basic texting) (Pollara, 2019). Rates of messaging vary by type of messaging service, however it's worth noting that Facebook is frequently highlighted as the most widely used social networking and instant messaging app. Pollara notes that "Facebook has had the lion's share of social media usage in Canada for years" (2019, p. 4), with eight in ten saying they had an account, versus only four in ten for the nearest social media

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[11] As Garner and Perry explain, a fuller, intersectional, and ethical understanding of equity issues requires additional and qualitative data such as storytelling: "Data, without context, is meaningless. It is the combination of stories and numbers that create the clearer picture needed to properly address the key issues facing marginalized communities" (Garner & Perry, 2020, p. 23).

competitors such as Instagram and Twitter. Facebook Messenger is the leading messaging app or service, used by seven in ten online Canadian adults. Facebook is also the only social media platform to have a significant following among older age cohorts (those 45 and older) (Pollara, 2019). Likewise, Beaton et al. describe how Facebook is very widely used throughout remote and northern Indigenous communities in Canada: "Communities have websites, but Facebook is the most popular means of online information sharing by individuals and local organizations, including job postings and local news" (2016, p. 6).

An Uneven Landscape of Technology Use

Much survey research also illustrates how opportunities to use the internet are not distributed equally. Research in this area commonly focuses on differences in technology use amongst seniors and, to a lesser extent, differences by gender, (dis)ability status, health, rural and remote residence, immigration status, language, and Indigenous identity. Across all of these categories, however, class-based indicators related to income and educational opportunity play an important role.

The most recent CIUS illustrates how BC internet users in the highest income quartile (with household incomes above $125,000) were more likely than those in households with lower incomes (below $40,000) to use almost all types of digital services measured by the survey—including: social networking, audio and video streaming, digital government services, online shopping, and smart home technologies. Rates of use for free, social networking services showed less variation: 86% of internet users in high-income households, and 79% of internet users in lower income households had social networking accounts. However, for other types of services, rates of use varied considerably by income quartile—including use of digital government services (84% of high-income users versus only 65% of low-income users), and especially more costly video streaming services (88% of high-income users versus only 61% of low-income users used these services) (Statistics Canada, 2019j).

In Canada as elsewhere, internet use also varies noticeably by years of formal education (Bjarnadottir, Millery, Fleck et al., 2016; Fang, Canham, Battersby et al., 2019; Haight, Quan-Haase, & Corbett, 2014; Nguyen, Mosadeghi, & Almario, 2017). Across the 10 provinces, rates of internet use among those with university degrees is 98%. However, for those with a high school diploma or less, the rate of internet use falls to under 82%. Those with more years of schooling also report spending more hours per week online (Statistics Canada, 2019f). Higher levels of formal education were associated with greater participation in almost all types of internet activities measured in the CIUS—especially participation in formal online training and learning (Statistics Canada, 2019g). Similarly, in Comulada, Step, Fletcher et al.'s (2020) US-based study with over 700 young people, respondents who sought out health information online were more likely to be those with higher levels of education and income.

In their systematic multi-jurisdictional review of literature exploring privilege in the digital divide, Fang et al. (2019) identified several factors that contributed to digital inequity among middle-aged (45-64) and older (65+) adults. Across that literature, the authors observed that education, income, age and gender emerged as key socio-demographic factors associated with non-use and/or non-access to the internet. Based on this analysis, the same authors highlight the need for an intersectional analysis when it comes to digital equity: "Importantly," they note, "education is influenced by additional social factors such as income, occupation, and wealth, which also interact with age and gender to create considerable variation across population subgroups" (2019, p. e5).

Perhaps the most commonly cited variations in internet use occur amongst older adults (e.g., Fang et al., 2019). As suggested by age-related trends in mobile and internet subscription rates (see Figure 3, above, p. 13), diffusion of ICT has occurred much more slowly among Canadian adults who are older than 65. Davidson and Schimmele describe how studies in the U.S., the U.K., and Australia indicate that internet use remains much lower among seniors, and further "that age is also a source of differentiation within senior populations" (2019, p. 7). In Canada, 2016 General Social Survey statistics indicate that 85% of seniors aged 65-69 were internet users, compared with 62% of those aged 75 to 79, and just under 41% of those aged 80 or older (Davidson & Schimmele, 2019). The significant reduction in internet use amongst older (versus younger) seniors has likewise been noted in many other studies (Ali-Hassan, Eloulabi, & Keethakumar, 2020; Ali-Hassan, Sekharan, & Kim, 2019; Crosby, Anderson, & Sevenpifer, 2018; Fang et al., 2019).

The 2018 CIUS also illustrates how, beyond use of the internet overall, *type* of online activity also varies across age cohorts and by other variables as well. For instance, high proportions of internet users who were seniors (aged 65+) sent and received emails (89%), researched for information online (80%), accessed the news (66%), and conducted online banking (62%). When compared with different online activities (like social networking, instant messaging, or using video-sharing websites) seniors engaged in these former activities at rates more similar to those of younger cohorts (Statistics Canada, 2019g). Likewise, Pollara's (2019) survey of Canadian internet users found that all messaging apps were more popular among younger age groups. The 2018 CIUS also found that, across Canada, younger age cohorts own and use smartphones more intensively; for instance, nearly six in 10 internet users aged 15-24 checked their smartphones at least every 30 minutes, compared with about two in 10 users aged 65+ (Statistics Canada, 2019c). At the same time, Davidson and Schimmele (2019) show that internet usage gaps between seniors and non-seniors with respect to internet use are closing over time.

Age-related differences in internet use are also echoed in numerous heath-sector studies. In the UK, Robotham, Satkunanathan, Doughty et al.'s (2016) surveys of people with severe mental health issues found age to be a significant predictor of digital exclusion—assessed in terms of familiarity, access, use, motivation, and confidence with respect to online technology. In another UK study, Cruickshank and MacIntyre (2018) found age-related differences in technology access and confidence are more important for older adults with mental health issues.

In their large-scale survey of Hispanic residents of a low-income neighbourhood in Manhattan, Bjarnadottir et al. (2016) found that age was negatively correlated with seeking health information online (see also Din, McDaniels-Davidson, Nodora et al., 2019; Nguyen et al., 2017). Likewise, in an international study that examined the information-seeking practices and preferences of multi-aged patients diagnosed with colorectal cancer, Dau, Saad El Din, McTaggart-Cowan et al. (2020) found similar rates of seeking health information across all sources except the internet. When it came to reliance on digital technologies, respondents with young onset cancer (diagnosed ≤ 50 years) were more likely to use the internet prior to seeking information from a healthcare provider, while those with average-age onset cancer (diagnosed ≥ 50 years) sought healthcare providers first. The same study found that higher proportions of young onset participants owned smartphones and indicated use of apps related to health/wellness and cancer (Dau et al., 2020).

Similar age-related trends are apparent in surveys conducted for LABC. A 2018 survey of LABC clients noted that "preferences to apply for legal aid online (rather than by phone or in person) are highly tied to age." Clients aged 18-34 prefer the online application option (63%) while clients aged 55+ are less interested (only 32% would prefer to apply online) (Sentis, 2018b, p. 12). Likewise, LABC's 2020 Everyday Legal Needs Survey of low-income British Columbians found that individuals aged 55+ are "much less likely to go online for legal assistance" (11%, versus 31% of those under 55) (Sentis, 2020, p. 30). On the other hand, it should be noted that BC has the lowest rate of internet *non-use* among seniors across the country (Ali-Hassan et al., 2019).

Importantly, there is much variation in internet use amongst different groups of seniors. their analysis of evolving internet use among Canadian seniors, as indicated by Statistics Canada's General Social Surveys conducted between 2007 and 2016, Davidson and Schimmele described how "the age gradient itself depends on characteristics such as education, health status and living arrangements" (2019, p. 6). The same authors note that by 2016, previous gendered and rural/urban differences in internet use among seniors had all but disappeared.[12] Education was a strong predictor of internet use, but one that had declined over time. The exception here was that seniors without a high school diploma had substantially and persistently lower rates of internet use than all other educational groups. Health status was also significant, with better self-reported health consistently relating to a higher likelihood of internet use (Davidson & Schimmele, 2019).

Davidson and Schimmele found that income was an important predictor of internet use among Canadian seniors. In 2016, rates of internet use ranged from 79% for those with household incomes over $100,000; to 73% for those with incomes of $60,000 - $79,000; to only 54% among seniors with incomes of $20,000 or less. Living with others was also associated with a higher probability of internet use as compared to those living along. (Davidson & Schimmele, 2019). In a different study using 2016 data from the same General Social Survey, Ali-Hassan et al. (2019) found that internet *non-use* among Canadian seniors was significantly associated with: lower rates of education, lower social class, being a cigarette smoker, poor general health, poor mental health, and being single or having never married.

In another, much smaller and non-representative study, Crosby et al. (2018) conducted surveys to better understand the health-information seeking practices of 245 seniors who resided in London, Ontario. Of the 81% of seniors who used the internet, 82% said they looked for health information online. However, in addition to older seniors, lower income seniors looked for health information online less often; those with an annual household income of 20,000 or less had the lowest rates of searching online for information about health.

Ali-Hassan et al. (2020) also drew on the 2017 Aboriginal Peoples Survey to explore internet non-use among Indigenous older adults (65 and older) in Canada. Based on this analysis, the authors note that a relatively large proportion (34%) of older Indigenous adults do not use the internet, with British Columbia once again having lower proportions of internet *non-use* in comparison with other provinces and territories. Consistent with their findings about Canadian seniors more broadly, the authors found that factors significantly associated with higher rates of internet non-use included older age, lower

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[12] Meanwhile, Statistics Canada found that in 2018, older women (68%) were less likely to use the internet than older men (75%) (Statistics Canada, 2020c). However, Davidson and Schimmele's (2019) inferential analysis suggests this difference may be largely rooted in gendered differences in income and living arrangements.

fewer years of formal education, smoking and marijuana use, lower self-perceived mental health, and unmet health needs. Additional indicators of internet non-use among Indigenous seniors included living in rural areas, and being unemployed (Ali-Hassan et al., 2020).

Fang et al.'s systemic review of international literature on digital divides found that when it came to the role of gender, results across studies were inconsistent: "While some studies reported that women tend to engage more with social networking websites… and used computers and accessed the internet more than men, other studies reported the opposite" (2019, p. e6). These varying results, note the authors, highlight the need for more understanding of the gendered contexts in which these varying experiences emerge. I discuss some of these contextual factors below (e.g., p. 44.)

As in several of the studies cited by Fang et al., (2019), population-level considerations of internet use tend to employ binary conceptions of gender[13]. There appears to be little research offering insight into different rates of internet use amongst people with diverse sexual and gender identities (see also Scheim, Bauer, & Coleman, 2016). More generally, gender diverse people (for instance, those who identify as non-binary, gender fluid, and/or two-spirit, and/or as having trans experience) are among those groups who are often not identified, and whose experiences are thus "invisible", within many kinds of research and data collection (Drake & Bielefield, 2017; Scheim et al., 2016). Nonetheless, some health-sector research suggests that use of the internet may play a more significant role in the lives of LGBTQ2SAI+[14] people—particularly youth—who face greater barriers to accessing information and social support in other (e.g., family, community, and education) settings (Drake & Bielefield, 2017; Magee, Bigelow, DeHaan et al., 2012). In their research in the information-seeking practices of transgender library patrons, Drake and Bielefield (2017) found that, among respondents who had sufficient internet access and skill to complete their study's online survey, the internet was identified as the primary source of information used across all topic categories (including health, wellbeing, and legal issues). However, in Comulada et al.'s (2020) US study with over 700 young people, transgender identity was associated with lower odds of seeking health information online—signalling the likelihood of increased barriers impacting this group.

Fang et al. (2019) also identified additional social categories that were highlighted within international literature on digital equity, but for which results were inconsistent; these included (dis)ability status, immigration status, urban/rural residence, and relationship status. While findings on the impact of disabilities varied, some research indicated that having a learning disability; cognitive differences; or vision, hearing, or hand-related disability (e.g., arthritis) was associated with lower internet use (Fang et al., 2019). Recently-released data from the 2017 Canadian Survey on Disability[15] suggests that in BC, people with disabilities use the internet at below-average rates of 84% (in comparison with 94% of BC residents overall) (Statistics Canada, 2021b). In the UK and Australia, some studies have identified

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[13] Importantly, the CIUS invites respondents to specify gender identities other than "man" or "woman." However this expanded understanding of gender is not reflected in some data products (e.g., Statistics Canada, 2019c). In several other products, results for gender diverse respondents are "suppressed to meet the confidentiality requirements of the Statistics Act" (see, e.g., Statistics Canada, 2019f; Statistics Canada, 2019g).

[14] Lesbian, Gay, Bisexual, Trans, Queer, 2S (Two-Spirit), Asexual / Aromantic and Intersex.

[15] The population for the 2017 Canadian Survey on (dis)ability "excluded those living in institutions and other collective dwellings, on Canadian Armed Force bases, and on First Nations reserves" (Statistics Canada, 2021b, see note 2).

barriers to digital inclusion that are posed by mental health issues, and particularly psychosis (Greer, Robotham, Simblett et al., 2019; Robotham et al., 2016). Importantly, these studies emphasize how (dis)ability and health-related barriers are frequently linked to affordability and access issues which are experienced by the same populations (Barlott, Aplin, Catchpole et al., 2020; Greer et al., 2019; Robotham et al., 2016). Likewise, data from the Canadian Survey on Disability shows that while "a health condition" was cited by some respondents (5%) as a barrier to internet use, cost (18%), and lack of access to a digital device (16%) were more commonly cited as a reason for not going online (Statistics Canada, 2021c).

Various studies also illustrate links between digital equity and racialization as these intersect with, *inter alia*, health, (dis)ability, and poverty-related dynamics. In their UK study, Robotham et al. (2016) describe how digital exclusion reflects intersections between mental health, older age, length of service use, and racialized status. In the US, note Rhinesmith and Kennedy, "research on digital inequalities… has shown consistently over the years that poor communities and communities of color often struggle the most with the high cost of internet access" (2020, p. 5). In Scheim et al.'s (2016) research with transgender Ontarians, those who opted for paper, versus online, modes of survey completion were significantly more likely to be Indigenous, people of colour, sex workers, under-housed, and unemployed or receiving disability benefits. In a report on the digital literacy in Canada, Hadziristic (2017) notes that the lack of disaggregated data in Canada about race or ethnicity means that racialized dimensions of digital inequality are difficult to assess.

Fang et al. (2019) found that the literature they reviewed did not offer a clear picture of how digital equity experiences varied according to immigration status. In general, the experiences of newcomer groups appear underexplored in relation to digital equity, particularly in Canada (Hadziristic, 2017; Haight et al., 2014). However, the available literature in this area (much of it U.S.-based and health focused) suggests that, alongside income, language is a key factor impacting internet use; I discuss this research below (p. 54).

Further, several studies emphasize how varying findings in the literature underscore the significant heterogeneity of situations and experiences amongst different groups of immigrants and/or newcomers. In Crosby et al.'s survey of 245 Ontario seniors, those who identified as immigrants were markedly less likely to report that they used the used the internet independently (63%), although rates of online participation were higher (80%) for new immigrants (those who had been in Canada for under six years). In the same study, 44% of low-income seniors (incomes under $20,000) who didn't go online also faced language barriers. Based on this research, these authors underscore the need to understand seniors as diverse:

> Traditionally, seniors have been grouped as a demographic based on age only. Laher (2017) asserts that when "we view seniors as a homogenous group, we white wash the ethnocultural and linguistic experiences that intersect with the age-related health need of seniors. These needs are experienced along multiple axes of inequities pertaining to age, race, ethnicity, national origin, and religion". (Crosby et. al, 2018, p. 3, citing Laher, 2017)

Haight et al.'s (2014) analysis of 2010 CIUS data also indicates varying rates of access and use amongst different groups of immigrants in Canada. These authors found that native-born and established immigrants were more likely to access the internet than recent immigrants, but that recent immigrants

who did access the internet engaged in more online activities. Haight et al. (2014) underscore the need to understand these trends in relation to the broader socio-politics of Canadian immigration policy, which has increasingly focused on attracting immigrants with higher levels of education, language and labour market-oriented skills, and economic resources:

> While immigration into Canada has been steadily increasing over the last two decades, the official criteria for entry into the country have changed considerably. The percentage of economic immigrants (e.g. skilled workers, persons in the business sector) to Canada, who 'are selected for their skills and ability to contribute to Canada's economy', has risen substantially from 38% in 1986 to 70% in 2010, while the percentage of refugees during that same period has declined substantially from 23% to 9% (Haight et al., 2014, p. 515, citing Statistics Canada, 2010)

Research in this area has likewise identified differences in access and use among immigrants depending on the length of time they have been in a country (Haight et al., 2014; see also Zhao, Yang, & Wong, 2019). Taken together, this research suggests that differences in internet use amongst immigrant or newcomer groups relate to multiple intersecting material and structural factors which are perhaps not adequately explored in much of the existing research (Haight et al., 2014).

Digital Technology Access

For a long time, note van Deursen and van Dijk (2019), policy makers assumed the problem of the "digital divide" would be solved when internet connection rates approached "saturation" levels nearing 100% of a given population. Such an assumption might made within BC and across Canada, because of how, as I've noted, overall population-level measures of connectivity appear relatively high. Further, as Smythe notes, "those of us who are accustomed to ubiquitous access to the internet at home and work across multiple devices can lose sight of how others struggle to maintain connectivity" (Smythe, 2020, para 5).

As Smythe's comment signals, the ability to go online is not only related to internet service availability. It also depends on having access to one or more connected devices—such as smartphones, computers, tablets, modems, and routers, etc. In general, discussions of connectivity seem to devote less attention to device access[16] than to internet availability and subscription. However once again, the data that are published illustrate that while access to technology appears high overall, significant inequities exist.

Uneven Access

Data from the 2019 SHS indicate that 89% of BC households reported having a home computer, and 93% of households had cellular phones (Statistics Canada, 2021a). Likewise, a recent CRTC report notes that in 2018, 90% of Canadians over 18 owned cell phones—although only 81% of these were internet-compatible smartphones (CRTC, 2020b, p. 319). In the CIUS, 89% of BC internet users reported "having a smartphone for personal use" (Statistics Canada, 2019j).

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[16] The CIUS includes questions on device ownership (see Statistics Canada, 2018a). However, at the time of writing CIUS tables on home computer access are, to my knowledge, not published.

As with subscription to internet, access to digital technology varies considerably by income. Across the 10 provinces in 2017, 95% of households in the highest income quintile (with incomes above $132,809) reported owning home computers. However, in the lowest income quintile (earning less than $32,914 per year), only 63% owned home computers (CRTC, 2020b, p. 52).

Likewise, of BC internet users within the wealthiest households (with incomes over $125,000), 96% had a personal smartphone in 2018. In comparison, only 78% of BC internet users within the lowest income quartile (with incomes below $40,000) had a smartphone for personal use (Statistics Canada, 2019j). Data from the 2017 Canadian Survey on Disability also suggests there may be lower rates of smartphone use among people with disabilities: only 68% of this survey's BC respondents indicated that they used the internet via a personal smartphone, tablet or other wireless handheld device (Statistics Canada, 2021b). Further over 15% of these respondents cited "no Internet ready device available" as one of the reasons they didn't use the internet (Statistics Canada, 2021c).

In its 2018 survey of 15-year-old students, Statistics Canada found that that 94% of students across Canada reported having access to a computer at home they could use for schoolwork. However, for students from "disadvantaged" schools, this rate was lower, at 88% (Statistics Canada, 2020b). Further, a recent BC government media release suggests that many households lack sufficient digital devices to meet the needs of all household users—particularly during the COVID-19 pandemic:

> School districts heard there are families who have no computer for their children to use, with some finding up to 30% of families surveyed had no access to technology at all. There were also cases where there was only one computer in the home being used by a parent for full-time work. Districts also heard from families who have limited Wi-Fi or no access to internet or cellphone service. (BC Ministry of Education, 2020, para 4)

In this way, despite shifts in focus towards second- and third- level divides relating to skills, use, and benefits, these "first-level" questions of access are clearly a significant issue for many (Resta, Laferrière, McLaughlin et al., 2018; van Deursen & van Dijk, 2019). In their systemic literature review exploring digital inequity among middle aged and older adults, Fang et al. found that, alongside level of education, having the financial means to purchase and maintain a computer and acquire internet access were "the primary catalysts for ICT access and use" (2019, p. e7; see also Nguyen et al., 2017). The UBCIC has described how households in Indigenous communities across BC lack access to computers, phones, and other devices because of financial limitations alongside infrastructure gaps (UBCIC, 2020). Likewise, Jones, Jacklin and O'Connell's (2017) review of literature on use of health-related technologies by Indigenous communities in Canada and elsewhere highlights affordability as a frequently-cited barrier.

Across various studies, people with low-income, seniors, new immigrants, refugees, people who are Indigenous, Black, and/or racialized are regularly identified as those who disproportionately face affordability and access-related barriers to internet use. In their analysis of large-scale survey data from California, Din et al. (2019) found disparities in use and access to the internet related to race/ethnicity, and socioeconomic status, in addition to age. Recent Pew studies have found that Black and Hispanic adults in the US were less likely than White adults to say they own a computer, and less likely to have high speed internet at home (Perrin & Turner, 2019). In a small Australian study, Alam and Imran (2015) found that refugee migrant groups faced inequalities in physical access to and use of digital technology, and reduced ability to pay for online services. Further, in two different UK studies, adults who

experienced mental health issues cited their inability to afford digital devices as a key barrier to going online (Greer et al., 2019; Robotham et al., 2016). Technology access concerns have also been raised in research with transgender people (Akinola, Wirtz, Chaudhry et al., 2021; Drake & Bielefield, 2017) who are known to experience disproportionate rates of poverty and homelessness across BC (Prochuk, Blair, & Bendo, 2020; Sopotiuk & Obiakor, 2013).

Based on their analysis of Statistics Canada data on internet use among Canadian seniors, Davidson and Schimmele conclude that "internet access is unevenly distributed within the older population" (2019, p. 17). These authors highlight how 23% of seniors, compared with two percent of non-seniors, do not own an internet-capable device and that equipment costs could be issue. When it comes to mobile phone ownership and use, for instance, the 2018 CIUS found that while 98% of internet users aged 15-24 owned a smartphone, this was true for only 60% of internet users aged 65+ (Statistics Canada, 2019c).

In a much smaller survey sample of 245 seniors in London, Ontario, Crosby et. al found that "lack of access to a computer is, in fact, the most prevalent barrier across all groups of seniors, with [57%] of participants selecting this as the reason for not using the internet" (2018, p. 17). The proportion facing access barriers was even higher for some sub-groups: Amongst seniors who identified as immigrants and had been in Canada for over 20 years, 67% cited access issues as the reason(s) they did not use the internet. Seniors with incomes under $20,000 were also more likely (63%) to identify access-related reasons for not going online. In general, note the authors, respondents' rates of independent internet use increased as their income increased (Crosby et al. 2018; see also Marston, Genoe, Freeman et al., 2019). In a series of 2016 focus groups with low-income people conducted for Legal Aid Ontario, many seniors, along with several participants on fixed incomes, indicated they did not have access to the internet. In that study, most focus groups included at least one person who indicated they did not use the internet, and every group shared stories of friends or families who did not use the internet (Public Interest Strategy & Communications Inc., 2016).

Complicating Digital Access: Diversity, Quality, Continuity

Van Deursen and van Dijk (2019) highlight how "access" is not simply a binary matter (of have / have not) but needs to be understood as a more complex gradient in terms of choice, diversity and quality. This is related to differences in access to, and abilities to maintain, a diversity of connected devices and peripheral technology (such as printers, modems, wireless routers, additional screens, and extra hard drives) which can significantly enhance online experiences and benefits. Differences in device opportunities, note the authors, relate to the fact that different types of technology (for instance, desktop or laptop computers, versus smartphones) enable different kinds of online experiences.

Citing an array of other studies, Van Deursen and Van Dijk (2019) describe how, while smartphones have obvious advantages in terms of mobility, convenience and price, they are not an adequate substitute for computers. Among other disadvantages, smartphones have less memory, storage capacity, and speed; less advanced applications; less control over online experiences; less support; smaller screens; and reduced typing functionality. These shortcomings, note the authors, have been found to result in an increased cognitive burden and to impact online experiences in terms of diminished levels of user engagement and content creation, and more superficial styles of information-seeking.

Following this logic, those who can only afford to use smartphones or tablets experience a dramatic, classed, disadvantage (van Deursen & van Dijk, 2019, after Napoli and Obar, 2014). Similarly, using only

laptop and desktop computers diminishes opportunities for continuous communication and access across different locations (van Deursen and van Dijk, 2019). What this means, explain the authors, is that the ability to own, use, and maintain a diversity of devices—along with peripheral technologies—enables a user to take maximum advantage of online environments.

Van Deursen and van Dijk (2019) also highlight maintenance expenses as a key aspect of access. Because devices often break, become faulty, and/or require software updates, a device's purchase price is only a fraction of its actual costs. Accordingly, note the authors, "even though the vast majority of people in western countries are now able to access the internet, these numbers do not accurately reflect the ability to reliably maintain that access" (van Deursen & van Dijk, 2019, after Gonzales, 2016, p. 358).

The same authors summarize how economic disparities can thus produce dramatic and multi-dimensional differences in the extent and quality of access experienced by different users:

> We expect that people with high incomes own a multitude of (the best) devices and peripherals. They own more desktop and laptop computers, as well as more game consoles compared to those with lower incomes... People with low incomes are more likely to own secondhand devices and to experience malfunctioning hardware and software. Although most of the lower economic groups now use Internet technology, access is unstable and characterized by frequent periods of disconnection.... Similar situations may occur in relation to Internet subscriptions, which are likely to be better and more expensive among those with higher incomes. Those with lower income are more likely to only have Internet access on their smartphone, whereas those with higher incomes have Internet access on smartphones and other devices such as laptops and desktops..." (Van Deursen & van Dijk, 2019, p. 358, citing Jensen, 2010; Gonzales, 2016; and Tsetsi & Rains, 2017)

This more complex understanding of access helps to contextualize statistics on service subscriptions and device ownership. Data from across Canada illustrate how households in the highest income quintiles were able to spend more on communications services than those in lower income quintiles (CRTC, 2020b, p. 32). The same dataset illustrates how low-income households are required to choose between different types of services and devices. For instance, while 42% of the lowest quartile households rely entirely on mobile phone services, this is the case for only 27% of wealthiest quartile, who were more likely to have landlines as well (CRTC, 2020b, p. 51). Likewise, the lowest income households disproportionately own mobile phones without also owning a home computer (CRTC, 2020b, p. 28).

Consistent with van Deursen and van Dijk's (2019) discussion, a number of BC-based studies indicate rates of device ownership which are far below those enjoyed by the 95% of highest quintile Canadian households who own multiple devices including home computers (see p. 25, above). LABC's 2018 Client Survey found 70% of respondents owned a computer, laptop, or tablet. However, this number varied by client group: only 53% of young clients (aged 18 to 34), 53% of Indigenous clients, and 52% of Immigration law clients own these devices. Indigenous clients and young clients were less likely to own a laptop or desktop computer. Immigration clients also appeared less likely to own computers (versus phones)[17]. While 88% of all clients owned a cell phone, only about three quarters of clients had cell phones with Wi-Fi access, including the 50% of clients who said they had a data plan. In addition to older

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[17] The sample size of this latter group precluded assessing whether these differences are statistically significant.

clients, criminal law clients were another client group who were less likely to own cell phones and less likely to have phones with data plans (Sentis, 2018b, p. 61). In line with national age-related trends, LABC clients 55 and older were less likely to have a tablet or phone, and those who did have cell phones were less likely to have internet access on their phone. These findings are also similar to age-based preferences noted in other studies, wherein older individuals were more likely to prefer using computers or tablets because of their larger screens, while younger people were more likely to use mobile phones (Chen, 2017; Robotham et al., 2016).

In Sturm's (2017) eHealth literacy research with Aboriginal women living in a small BC city, access to technology emerged as one of the key issues identified by research participants. In this small study, all of Sturm's interviewees identified technology access as a concern; most used either a cell phone or tablet to access the internet, only one in five also had access to a laptop. Sturm's participants described difficulties in accessing networked computers and/or adequate Wi-Fi connections to look for health information online, particularly while staying with family in a reserve community.

In another recent study, Jongbloed, Pearce, Thomas et al. (2020) examined patters of mobile phone ownership amongst a cohort of young Indigenous people living in Prince George or Vancouver who have used drugs and were living with or considered vulnerable to HIV. While 92% of study participants believed that a mobile phone could have invaluable benefits for their health, fewer than half of participants (45%) reported owning a phone. Of those who did own a phone, 78% owned a smartphone, 71% had an unlimited texting plan, and 75% used the internet on their phone.

Selfridge's 2014-2016 survey and interview research with street-involved youth (aged 15-24) in three BC communities reflects how those youths were frequently and creatively engaged in online spaces, but that for some, "their access changed constantly and often chaotically." Phones, notes the author, "were often misplaced or lost, broken or stolen." Phones and phone technology were also "traded, gifted and adapted to make it work" (Selfridge, 2017, p. 94). In 2014 surveys, Selfridge found that 63% of the young people who responded owned a cell phone, but 29% of the phones had no minutes, and 17% were broken. "While cell phones have become a vital communication and entertainment device, their ownership is transitory and fractured – 56% of youth surveyed had two or more cell phones in the year and 37% carry debts to previous cell phone providers" (Selfridge, nd, para 2). Lack of access to electrical outlets to charge phones or devices, inadequate battery and storage capacities of cell phones, and lack of safe and dry places to use technology are additional challenges faced by those who are homeless or under-housed (Chen, 2017; Harris, 2019; Selfridge, 2017). Further, in Humphry's (2019) research with people experiencing homelessness in the UK, financial stress associated with mobile phone costs and charges emerged as a key issue and one that had negative impacts for participants' mental health.

Constrained and Fragile Access

Based on literature in the field of global development studies, Hernandez and Roberts (2018) developed a multi-dimensional model of digital in/exclusion, to illustrate how financial barriers have multiple impacts— on device quality and diversity, and quality and continuity of connectivity (see Figure 6, below):

Figure 6: Class of Technology Access [Adapted Version]

Class of technology access	Employment / Economic Status	Device	Connectivity	Experience
Upper class	Wealthiest classes and urban salaried professionals	Latest smartphone	• Post-paid monthly mobile contracts with maximum gigabit / month data; unlimited calls and texts • Wi-Fi at home and at work	• Connected by default to all the fastest available services • Uses internet extensively • Not frugal
Middle class	Teacher, civil servant, shopkeeper	Previous generation of smartphone	• Post-paid midrange monthly package of calls and text with limited data • Wi-Fi at work and coffee shops, but not at home	• Always able to call and text • Uses web mainly on Wi-Fi • Uses mobile data mainly for instant messaging • Frugal with mobile data
Working class	Manual worker	Feature phone with touchscreen and internet capability	• Prepaid call credit • Unlimited texts • Limited data • No Wi-Fi access	• Text rather than voice calls • Frugal with data (instant messaging only) • internet limited to Facebook and free basics
Poorest class	Unpaid work, unemployed, underemployed, informal work	No phone or basic phone, with a non-touchscreen and physical keyboard	• Prepaid, but often has no credit • Phone often not charged • No data • No Wi-Fi access	• Unconnected by default • Frugal with voice calls – mainly passive recipient of calls and texts

Source: Adapted from Hernandez and Roberts, 2018. Leaving No one Behind in a Digital World, p. 10.

While the details of this typology may differ somewhat from the context of BC, Hernandez and Roberts' framework nonetheless effectively illustrates how differential access to wealth and income, devices, and connectivity are linked to significant differences in the quality of users' online experiences and opportunities. Drawing on research from South Africa, Hernandez and Roberts describe how the "fragile connectivity" experienced by those who are less connected requires adoption of constraining "frugal practices" in order for users to manage the limited connectivity they can afford (2018, after de Lanerolle, 2017).

In Canada, data from 2018 CIUS are also suggestive of these varied, income-based experiences. While internet users in the lowest and highest quartile households accessed the internet at similar rates overall, internet users from wealthier households were more likely to access the internet from almost all locations queried—especially at work, but also in business establishments, in public places, and at someone else's home. The only locations from which internet users in the lowest quartile were more likely to access the internet were at a public library, and at school (Statistics Canada, 2019e). Consistent with Hernandez and Roberts' framework, these data suggest that internet users with higher incomes have greater access to the range of devices, services, and data plans required to enjoy more flexible and continuous internet use across a range of environments.

A similar multi-dimensional dynamic is highlighted by the authors of a Portland-based study which assessed barriers to smart mobility (transportation) systems. The study authors describe how the kinds of continuous and stable connectivity required to participate in online "ecosystems" depends on a whole assemblage of wealth-related arrangements:

> lower income survey respondents and respondents of color had significantly lower access to the "smart mobility ecosystem" including bank accounts and credit cards, they rely more heavily on paying cash for transit tickets, had lower access to internet at home and work, and were more likely to reduce data use or cancel cell plans because of cost or data restrictions… Since integrating payment systems and relying on internet and cell data for mobile applications is a core feature of smart mobility ecosystem, these disparities are significant barriers to the equitable transition to smart mobility (Golub, Satterfield, Serritella et al., 2019, p. 689)

Service Quality

In remote and rural areas of BC, access issues commonly relate to some combination of affordability and quality of service. When asked about reasons for not having internet service at home, nearly 20% of rural households identified unacceptable service quality as a reason to have no internet, compared with only two percent of households in urban areas (Statistics Canada, 2019d). Cost was also commonly cited as a reason (see p. 12, above). In another study involving focus groups with seniors, some participants reported devoting significant financial resources to pay for high-speed internet in order to improve usability; one participant from the small town of McBride, BC, described how her daily internet activities—even email—improved dramatically once she was able to access the town's new high-speed connection (Marston et al., 2019). O'Donnell et al. (2016) found that quality of service and lack of access to technical support also posed major constraints for northern and remote Indigenous communities; insufficient speed, bandwidth and/or aging infrastructure prevented communities from benefiting from key services and opportunities including telehealth or online education.

Statistics Canada's 2018 Labour Force Survey also found that rural households were more likely to rely entirely on smartphone or mobile data plans to connect from home (Statistics Canada, 2019d). Similarly, among the northern and remote Indigenous communities engaged by Beaton et al. (2016), tablets and smartphones were becoming increasingly popular for personal internet access, with smartphone access via Wi-Fi when mobile data was not available locally. In some cases, residents who did not have cell service in their own community nonetheless owned mobile phones which they used during frequent travel outside their own communities.

Location of Access

The literatures addressing access to technology also highlight the importance of access to the internet at home (versus in one's community more generally) – an issue that is twice as likely to impact Canada's rural households (on page 14, above). In one large-scale survey exploring gendered differences in ICT across five countries in the Global South, Rashid (2016) found the ability to use technology at home was among the two most significant factors influencing the digital inclusion (including the ICT skills and attitudes) of women in their study. Data from the 2018 CIUS likewise suggests that internet users of all income levels and ages prioritize accessing the internet from home above all other locations (Statistics Canada, 2019e). The same trend is demonstrated within the 2017 Canadian Survey on Disability, in which 94% of BC respondents indicated they used the internet from home (Statistics Canada, 2021d).

Statistic Canada's 2018 Labour Force Survey likewise found that about two-thirds of households without internet access at home did not regularly connect outside their home. Rural residents (11%) were even less likely than their urban counterparts (17%) to regularly connect at public locations such as coffee shops, libraries or community centres (Statistics Canada, 2019d). In Fang et al.'s (2019) systemic review of literature addressing digital equity amongst adults, the authors found several studies highlighting "the home" as the preferred place for technology use and skills development. Fang et al. summarize one study that illustrated dramatic differences between participants who did and did not have home internet access:

> … after a 6-week training on e-health information access with older adults, among participants who could not afford a personal computer, only 1% drove to the nearest public library to use the Internet, while 62% who owned personal computers and had an Internet subscription continued to access health information online. (Fang et al, 2019, p. e7, citing Chu et al., 2009)

Scheim et al. (2016) stress how home access is particularly important when it comes to certain kinds of tasks—such as the completion of a long survey or web form that may also involve private information. Consideration of task-specific dimensions of access is extremely important in the context of digital legal resources, as I discuss further below (pp. 76-77).

The importance of home internet access has especially highlighted in relation to seniors. In their examination of how seniors in the UK use the internet in addressing legal issues, Denvir, Balmer and Pleasence found that, while those over 60 were the least likely of all age groups to have a home internet connection, home access was "a far stronger determinate of internet use for problems than it is for other age groups" (2014, p. 670). The same authors suggest that, unlike other age groups who may have access in educational or employment settings, those over 60 may have few alternative locations in which to connect. Davidson and Schimmele's multi-year analysis of Statistics Canada data likewise found that "the majority of seniors who access the Internet do so from their own homes" (2019, p. 17). Likewise data from the 2018 CIUS illustrates how, relative to adults aged 25-64, seniors (aged 65+) were less than half as likely to access the internet in all locations except at home (Statistics Canada, 2019e).

Similarly, Crosby et al.'s (2018) smaller survey of Ontario seniors found that, among those who did not use the internet, many cited home access and convenience as key determinates of their non-use. When asked what would encourage them to begin using the internet, respondents selected "access to a computer inside their residence, the ability to afford a computer and/or internet access, transportation to a library or other location to use a computer, and having support to learn to use a computer" as key enabling supports. These four factors, note the authors, comprised 72% of all suggestions for enabling technology use (Crosby et al., 2018, p. 19). In reviewing the literature on telehealth and older adults, Ries, Johnston and McCarthy (2016) observed that, alongside affordability, ease of access and convenience were two key facilitators of telehealth technology use.

Consistent with Crosby's et al.'s study, the literature suggests that in cases where people don't or can't access internet at home, community access is important—but not always adequate or convenient. In particular, libraries are commonly mentioned as key points of internet access, perhaps especially for seniors. In a series of 2016 focus groups undertaken by Legal Aid Ontario, seniors were "nearly unanimous" in naming libraries as their preferred locations for seeking legal information, including as spaces where they use the internet and also access in-person support about legal issues (Public Interest

Strategy & Communications Inc., 2016, p. 28). Internet access at libraries and community centres was also highlighted as a key facilitator of access for middle aged and older adults within several studies reviewed by Fang et al. (2019). In their studies on rural libraries in the U.S., Real, Bertot and Jaeger (2014) and Strover, Whitacre, Rhinesmith et al. (2020) argue that public libraries—particularly rural public libraries—are a primary source of broadband access for many Americans. Likewise, in their review of literature on digital technology use among remote and rural Indigenous communities, O'Donnell et al. describe how access at public locations such as libraries, healthcare centres and other government buildings forms part of a broader "ecology of community support" for digital inclusion (2016, p. 35).

While my review of 2018 CIUS data does not point to the importance of library-based access for seniors across Canada, these data do suggest that library-based access is important for internet users in the lowest income quartile, and also for the youngest cohort of internet users (aged 15-24) (Statistics Canada, 2019e). Denvir et al.'s (2014) analysis of surveys conducted in England and Wales likewise indicated that alternative access (for those without home access) appeared to be more significant for younger respondents. Along these lines, Selfridge's research with street-involved youth in BC illustrates how young people (aged 15-24) creatively negotiated social and physical access to community-based online spaces. While some youth went online via their cell phones, some gained access to computers at friends' houses or in public spaces. Libraries (64%) and drop-in spaces (51%) were the most frequently cited community spaces used to access computers (Selfridge, nd). Selfridge (2017) describes how the Greater Victoria Public Library had recently installed a charging station with multiple different types of charging cables, and this drew youth who could also rest, read, or use computers near the phone charging outlets.

While access to public Wi-Fi clearly fills a crucial connectivity gap, Smythe (2020) draws attention to how reliance on public Wi-Fi via mobile phone is "not appropriate" for more intensive tasks and those which require private, secure connections. Such tasks include online learning and engaging with online government and services—including the crucial task of applying for benefits. Especially given the ongoing COVID-19 pandemic, Smythe states: "it is also unfair to expect families, people with disabilities and others to roam the streets looking for WiFi hotspots, especially as people are being constantly instructed to stay home" (Smythe, 2020, para 7; see also Digital Justice for BC Working Group, 2020)

In their literature review on remote and northern Indigenous community access to digital technology, O'Donnell et al. observe that "most if not all schools, health centres and band offices have internet access" (2016, p. 38). In many communities, such buildings offer public computing or internet access and are thus important points of connectivity. However, the fact remains that internet speed or bandwidth remains restrictive in many cases (p. 16, above). For instance, in a series of 2016 key informant conversations, residents in the remote BC First Nation community of Iskut described how, although their internet bandwidth and reliability was largely adequate for basic business and administrative tasks, it could not support more complex uses. The health centre had not been able to use the telehealth videoconferencing equipment that had been installed, and teachers could not reliably stream videos for their classes (FMCC, 2016).

In the same study, Iskut community members described how there was no mobile service, but residents could access the internet through basic home internet connections (which use the community's telephone infrastructure), via the computers with printer at the band office, or via wifi at the community hall. A local tourist lodge ran a satellite-based internet café at its store, but this was only open during the tourist season. Internet at the Iskut school library was only available to students and staff; the library

closed at 4pm when the part-time librarian finished work. Otherwise, public internet was available at a few locations in Dease Lake (over an hour's travel by car) where students from Iskut attend high school (FMCC, 2016). It's also worth nothing that satellite internet—such as that relied on by Iskut's tourist internet café—can be significantly impacted by weather conditions including cloud cover, rain, and storms (Chen, 2017) as well as physical damage due to snow and ice.

Aside from a 2009 Community Access Program evaluation, O'Donnell et al. were unable to locate any literature from Canada that analyzed the role of public access centres in Indigenous communities. In one 2012 study, 14% of the residents of a remote Indigenous community in northern Ontario reported regular use of computers and the internet at an e-centre or public place. Using computers in these public places was the least popular location for computer use; however study authors suggested that public access locations play an important role given they are likely catering to those who have few other options (O'Donnell et al., 2016, citing Walmark et al., 2012; see also Ipsos, 2016.) Ipsos survey results likewise suggest that constraints on location of access function to constrain internet use: Compared with the average Canadian internet user in that survey, very low and low users were nearly twice as likely to access the internet only at home; meanwhile *very low* users were nearly six times more likely to access the internet only at work, school, or elsewhere—meaning they had no other home or mobile access (Ipsos Public Affairs, 2016).

Interrupted Access

Based on research in Australia, Chen (2017) highlights numerous other life circumstances that can cause financial hardship and disrupt access to digital technology; these include disability, unemployment and underemployment, relationship and family breakdown, illness, natural disasters, and domestic violence. With respect to this latter factor, several studies offer insight into how contexts of abuse and gender-based violence can significantly impact access to and use of digital technology. Technology is increasingly used by perpetrators as a means to carry out harm. Faria's (2020) research on technology-facilitated violence highlights how ICT can enable new forms of coercive control, surveillance, and harassment—for instance, through social media, texting, and GPS tracking. Powerful software that is designed for "Smart Home" conveniences, location tracking, parent-child monitoring, or monitoring of employees can also be repurposed by abusers to surveil and control others—including elders, intimate partners, migrant workers and/or caregivers—tracking their communication and information-seeking practices and their whereabouts (Faria, 2020). Other forms of abuse can include impersonation, threats, and/or non-consensual posting of private images or personal information (doxing) (Wong, 2019).

The BC Society of Transition House's Guide for Canadian Women Experiencing Technology Facilitated Violence illustrates the many ways in which such dynamics can dramatically impact access to and use of technology. Those being targeted may need to practice extreme vigilance and significantly restrict their online activities, for instance through disabling cameras and location tracking features, deleting apps, continually checking privacy settings, changing online profile information, limiting the social media information shared by themselves or others, monitoring their account activity, changing passwords, creating alternate accounts, using alternative devices (such as computers at drop-in centres), and/or purchasing new devices—in addition to doing all of these things for any devices or accounts that may be used by their children (Wong, 2019). Faria recounts earlier research illustrating the limiting effects of these kinds of requirements:

the ways that ICT enabled abuse changed the way survivors interacted with technologies such as mobile phones and social media… many of the women interviewed began to limit their participation on social media and the internet in general, which had a snowball effect when the time came to apply for jobs, as women stated they were scared to apply to any online job postings in fear that their abusers could gain access to information such as addresses… This fear also prevented many women from keeping in contact with their families, as some women reported their family members getting harassed and threatened by their abusers for information on the survivor… (Faria, 2020, p. 27, after Dimond et al, 2011).

Other studies highlight institutionalization and/or incarceration as a significant barrier to access. During interviews with mental health service users in the UK, Greer et al. (2019) observed that a major barrier described by participants was being unable to access necessary technology and internet services because of personal circumstances – including financial issues, but also living situations that included shared and/or institutional environments. Technology access for prisoners has been recognized as vital for improving access to education, and for enabling communication with family and friends (e.g., Office of the Inspector of Custodial Services, 2018). Jewkes and Reisdorf (2016) likewise argue that denial of prisoners' access to social media contributes to profound social isolation, and that associated digital exclusion compounds the prejudice and poor job prospects already faced by people following periods of incarceration. In a broad survey of prisoners of Canadian federal penitentiaries, respondents described their lack of access to computers and thus, online educational and vocational training, for instance:

Computers are a big part of the outside world and people like myself who have been in since the 1990s do not have the experience with email, texts and so on. Computers are used in all places for everything and not knowing anything about them puts us… at a great disadvantage. (cited in Shook & McInnis, 2017, pp. 292-293)

Impacts of COVID-19

Various recent documents underscore how digital equity and access issues have been exacerbated in the context of the ongoing pandemic. The destabilizing impacts of COVID-19 have increased the need for multiple kinds of services while simultaneously reducing their accessibility (see, e.g., Sentis, 2020). The sudden shift to "digital only" services sparked by the pandemic has functioned to exclude many who lack adequate access to online technologies—often the same groups who face multiple other kinds of intersecting oppression (Cattapan, Acker-Verney, Dobrowolsky et al., 2020; Koshan, Mosher, & Wiegers, 2021; McDonald & Balmer, 2020; Prochuk et al., 2020; Rhinesmith & Kennedy, 2020; Smythe, 2020; UBCIC, 2020).

In BC, the pandemic has caused or exacerbated affordability-related barriers to technology access. Almost overnight, many who experience poverty were suddenly unable to access public computers and/or public Wi-Fi because of the sudden closure of community centres, libraries, small businesses and other community access points (Jacobson, 2020, citing Tribe; Prochuk et al., 2020). The pandemic has also caused loss of employment and/or significant interruptions in income. Racialized people, young people, and women (all of whom more often work in part-time and/or low-wage jobs); as well as recent immigrants, Indigenous people living off-reserve, and mothers of young children have all experienced more severe and longer-lasting impacts (Prochuk et al., 2020; see also Rhinesmith & Kennedy, 2020). Here, it's also important to note that disproportionate impacts are also likely faced by those (for instance trans and non-binary people) whose experiences are not reflected in current data

(Prochuk et al., 2020). In its recent COVID-19 Gender Equality Report Card, West Coast LEAF further stresses how affordability-related barriers may be especially pronounced for people with disabilities:

> Many people with disabilities are at increased risk from COVID-19 because of underlying health conditions and are thus facing a strict and prolonged isolation. As a result, they are shouldering the financial burden of delivery fees and higher-than-normal utility, phone, and internet costs, on top of facing disproportionate rates of poverty even before the pandemic. (Prochuk et al., 2020, p. 14)

The COVID-19 pandemic has also been accompanied by what has been termed a "shadow pandemic" of family violence. Koshan et al. (2021) describe how the pandemic has caused an increase in the number and complexity of domestic violence cases as well as enabling new tactics of coercive control (see also Cattapan et al., 2020). Recent government data suggests that during COVID-19, nationwide rates of intimate partner violence have increased by 20-30% (Federal Department of Women and Gender Equality, as cited in Prochuk et al., 2020). Such violence is known to disproportionately impact Indigenous women, girls, gender-diverse people (Prochuk et al., 2020), with one in five Indigenous women experiencing violence during the first few months of the pandemic in Canada (Native Women's Health Association, cited in Koshan et al., 2021). The authors of West Coast LEAF's Gender Equality Report Card explain:

> Many factors have contributed to increased violence, including added economic stressors, public health measures that have isolated people with perpetrators of violence, higher rates of harassment against frontline workers, heightened mental health challenges, and increased risks associated with changing relationship and housing structures (Prochuk et al., 2020, p. 15; see also Koshan et al, 2021).

These increases in violence have been accompanied by significant reductions in peoples' abilities to report abuse and to access supports and services both online and in-person (see, e.g., Speed, Thomson, & Richardson, 2020). When it comes to violence and abuse, Koshan et al. describe how:

> Most women do not report to police; they are far more likely to turn to informal mechanisms of support, including family and friends. Moreover, in the current context where many women are (or have been until recently) isolated in their homes with their abusers and where their phone and internet use is closely monitored, the ability to reach out for support and advice can be extraordinarily limited and attempts to do so, dangerous. Additionally, given the rapid pace of change, the closure of all but essential services, and the plea by public health officials to remain at home, it was no doubt difficult for women to discern what services were still operating. (2021, p. 9)

Downloaded Costs

Given these myriad affordability and access-related barriers to technology use, various authors underscore that digitization of services can entail shifting costs onto service users who are already poor and disadvantaged. Writing in the contexts of "digital first" and "digital by default"[18]

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[18] In these approaches, digital services become prioritized as the primary—and sometimes the only—channel for service provision.

government initiatives in Australia and the UK, Humphry (2019) describes how service users are increasingly required to access necessary (e.g., housing and welfare) services online. This can include digital provision of information, use of online portals and/or apps to fill out applications and book appointments, and/or digital communication with workers and/or agency staff. While digital platforms have many advantages, Humphry emphasizes how digitization of services can entail considerable cost increases for people with low-incomes and/or who are homeless, who predominantly rely on mobile phones with prepaid data plans (see also BC Ombudsperson, 2018). These plans can entail significant monthly costs, insufficient data provisions (data caps) and higher prices per unit of data in comparison with postpaid plans or fixed, home-based internet. The delivery of services and resources online can also require users to assume printing and/or scanning costs (Public Interest Strategy & Communications Inc., 2016). Humphry summarizes how this has resulted in the downloading of costs and labour from governments to service users:

> While governments rationalise the shift to online servicing in terms of increased efficiencies and reaching out to more customers through digital channels, the shift to apps and web-based services reinforces the necessity of mobile internet access. This need comes with a cost that is transferred on to individual users through increased data usage and self-management of services previously facilitated by service personnel. (2019, p. 179)

In 2015, The BC Public Interest Advocacy Centre (BCPIAC) filed a complaint to BC's Ombudsperson outlining the dramatic reductions in access to basic welfare that had coincided with shifts towards digital delivery of services. In the complaint, nine community organizations across the province documented considerable barriers faced by clients as in-person service was drastically reduced through office closures and/or reduced service hours. Instead, the service delivery model had shifted dramatically towards online application processes and a centralized phone number with long wait times and arbitrary call-time limits. Despite that the online welfare application form was lengthy and complex, there were no dedicated in-person Ministry services available to help people with the form. The BCPIAC complaint stressed how:

> Many people who need to access social assistance are unable to afford the technology on which these changes rely, or may have other barriers such as disabilities or language barriers that make navigating online and automated telephone services difficult (if not impossible). (BCPIAC, nd; see also CMHA-BC, 2018)

Reductions in government service also function to transfer costs to local community agencies and front-line staff (BCPIAC, 2015; Chen, 2017; CMHA-BC, 2018; Harris, 2019; Smythe, 2020). For instance, in LABC's 2019 survey of community workers across BC, staff at public libraries raised concerns that they were increasingly being called on to help service users access government services through public access computers—despite not receiving government resources or training for this task (Murray, 2019). The Canadian Mental Health Association-BC Division (CMHA-BC) has likewise emphasized how increasingly centralized and digitized income and disability support application processes have offloaded service provision to community organizations. The same organization outlined how the intensive time required to assist with these applications reduces organizations' abilities to provide other necessary services (CMHA-BC, 2018).

"Second-Level" Divides: Motivation, Skill, and Qualities of Use

While "first-level" issues of connectivity and access remain significant issues for many across what is called BC, much attention is also devoted to "second-level divide" issues relating to disparities in technology-related attitudes, skill and practices. In this section of the report, I address these "second level" issues of motivation, use, and skill but aim to do so in a contextualized way. As I outline below, questions of motivation, use, and skill are fundamentally linked, and cannot be adequately understood or addressed without considering ongoing "first level" divides relating to inequities in connectivity, and physical and material access.

Digital Literacies, Digital Readiness, Digital Capability: Accounts of Second-level Divides

In the lands called Canada, and elsewhere, the notion of "digital literacies" is used to explore questions of skill, and individuals' broader "capacity to navigate and adapt to a changing digital environment" (Hadziristic, 2017, p. 13). In their study on digital technology adoption in northern and remote First Nation communities, Beaton et. al. define digital literacies in terms of:

> The range of knowledge, skills, and behaviours used with digital devices such as smartphones, tablets, laptops and desktop computers. This term includes the ability to locate, organize, understand, evaluate, and analyze information using digital technology. It involves a working knowledge of current digital technologies and an understanding of how they can be used effectively. (Beaton et al., 2016, p. 9)

In the U.S., a series of studies has explored levels of "digital readiness" amongst Americans. The literature on digital readiness focuses on the degree to which people are prepared, comfortable, and successful in using technology to navigate their everyday lives, problems, and decisions. Studies on digital readiness have identified at least four types of barriers—those relating to access, skill, motivation, and trust (including fear of crime, and/or difficulty in assessing what is reliable, current, or trustworthy) (Horrigan, 2016). Less commonly, second-level questions of technical skill and capacity to effectively make use of digital technologies are described in terms of "digital capability." As I describe below (pp. 64-82), a series of UK and Australia-based publications has begun to explore the intersections of "digital capability" and "legal capability" in relation to digital access to justice (e.g., Denvir, Ayad, Cordoba et al., 2018; Finlay, 2018; McDonald et al., 2019).

These discussions of digital readiness, literacy, and capability seek to name important experiences. However, it's worth cautioning that some of these constructs and terminologies risk focusing attention on excluded individuals—for instance, on their demographic characteristics, behaviours, and capacities or deficits—instead of on the structures, policies, and practices through which digital inequities are (re)produced. While issues of motivation and skill are salient, it's important to keep in mind that problems of digital inequity are not located *within* individuals or groups. Instead, they should be understood as located within the structural and gendered conditions of poverty, class, ongoing colonialism, systemic racism, ableism, and ageism, among other dynamics, through which certain people are granted increased opportunities to access, learn, use, and benefit from digital technologies, and others are not.

Assessments of Motivation and Interest

In much research, individuals' interest, motivation and/or the perceived relevance of digital technology is grasped as a foundational element determining digital technology use (van Dijk, 2005; see also Macevičiūtė & Manžuch, 2018; Taylor & Packham, 2016). O'Donnell et al. note that "within the well-regarded Technology Acceptance Model (TAM), the most important predictor of technology adoption is that the technology is useful" (2016, p. 6). Likewise, Statistics Canada's 2018 Labour Force Survey found that "not needing or wanting an internet connection" was among the most common reasons for non-subscription to home internet, especially among rural households. For urban nonsubscribers, cost was named as a more important factor (Statistics Canada, 2019d).

In Statistics Canada's 2017 Canadian Survey on Disability, having "no need or interest" was the most common reason given for not using the internet , with two thirds (67%) of respondents selecting this as one of the reasons they didn't go online (Statistics Canada, 2021c). In interviews with mental health service users in the UK, Greer et al. (2019) likewise found some respondents were not motivated or interested to use online technology based on the sense that they were not negatively impacted by its absence. In a 2015 survey of Canadian residents, Ipsos found that lack of relevance and/or motivation (e.g., not seeing the value of being online, or not liking to be online) was the most common barrier cited by non-subscribers and by those whose rates of digital participation were "very low" or "low" (Ipsos Public Affairs, 2015).

Based on interview research with members of structurally oppressed groups in Australia, Chen found that "within each vulnerable consumer group, a minority hold the view that there are no benefits to digital government and digital technology" and prefer to access government services via face-to-face or personalized help (2017, p. 13). Those who preferred offline services offered a variety of rationale—some, particularly those over 65—felt that in-person services were more trustworthy and immediate; they liked being able to see their transaction being processed (Chen, 2017). In BC, the authors of West Coast LEAF's recent COVID-19 Gender Equality report underscore that in-person services might be preferred for reasons of building trust, particularly for members of communities who have faced systemic injustices (Prochuk et al., 2020). As I describe below, in-person interactions may be preferred or required for numerous important reasons, such as those relating to language, literacy, (dis)ability, stress, trauma, mental health, and cultural preferences / protocols, among others.

Lack of motivation or perceived irrelevance is especially common in discussions of non-use of digital technology among seniors. In their discussion of Statistics Canada data on internet use, Davidson and Schimmele (2019) describe clear aged-based differences in views on technology. As recently as 2016, Canadians above 65 were less likely to agree that ICT use made their lives better, or that it enables communication with others, informed decision-making or saves time. The same authors cite 2012 CIUS data that found Canadian seniors most often explained internet non-use in terms of a lack of need, interest, or utility—mirroring several other studies (Davidson & Schimmele, 2019; see also Ries et al., 2016). In Crosby et al.'s (2018) survey of Ontario seniors, when non-users of the internet were asked what would encourage them to go online, about a third stated that "nothing" would incentivize them. Focus group research with seniors in Canada and the UK also identified lack of interest as a key detractor of technology use. In some cases – this was specific to type of technology, as in the example of one participant who used email but wasn't interested in using social media. Others simply preferred face-to-face communication and/or problematized cultures of e-communication in which people were constantly on their phones (Marston et al., 2019; see also Ries et al., 2016). Some suggest that seniors'

lack of interest my reflect the fact that ICT is "less relevant to their needs" because they have other options and strategies for keeping in touch with others, and for accessing the services and resources they need (Davidson & Schimmele, 2019, p. 10; see also Denvir et al., 2014).

In a few studies, even less interest in ICT was expressed by older seniors, and seniors who were also immigrants. In Crosby et al.'s (2018) survey of Ontario seniors, among those who did not use the internet, 22% of seniors explained that it was "not important" to them. However, this rationale was cited by only eight percent of non-users aged 60-69, in comparison with 60% of seniors aged 90 and over. The same authors state that "while immigrant seniors as a whole demonstrated more disinterest in internet use at [44]%, those who have been in Canada for 6-20 years indicated the highest level of disinterest at 71%" (Crosby et al., 2018, p. 20). Likewise, Chen's (2017) interviews with excluded groups in Australia identified older migrants in South Australia as a group that expressed disinterest in learning how to use digital technology. At the same time, in their analysis of internet use amongst Canadian seniors, Davidson and Schimmele (2019; following van Deursen and Helsper, 2015) caution against interpreting lack of interest in digital technologies strictly in terms of choice, because of how apparent lack of interest may in fact reflect other barriers to using and benefiting from the internet.

Assessments of Digital Skill

Second-level divides are also commonly characterized in terms of differences in digital skill and/or digital literacy within a population, with lack of skill commonly highlighted as a key barrier to internet use. Citing several earlier studies, Davidson and Schimmele note that older people have comparatively lower confidence in using electronic devices; they are more likely to find networked technology too complicated, difficult to learn, difficult to use, and to report that these difficulties are the main reasons for their non-use of the internet. In the 2012 CIUS, these skill-related barriers were more important than barriers related to worry, safety, or privacy concerns (Davidson & Schimmele, 2019).

Currently, Canada lacks an official "digital literacy" skills framework, beyond the outdated "Essential Skills" framework which was created in 2003 (Hadziristic, 2017; Smythe, 2019). To my knowledge, the most recent population-level assessments of digital skills among adult Canadians were undertaken by Statistics Canada in 2013, in the context of the Organization for Economic Cooperation and Development (OECD) Programme for the International Assessment of Adult Competencies (PIAAC). This multi-country survey is administered every 10 years, with results from the second cycle due to be published in 2024 (OECD, nd). PIAAC defines its framework for assessing Problem Solving in Technology Rich Environments (PS-TRE) as measuring the ability to use "digital technology, communication tools and networks to acquire and evaluate information, communicate with others and perform practical tasks" (Statistics Canada, 2013, p. 22, citing OECD 2012). This measure assesses participants' abilities to "solve problems for personal, work and civic purposes", by using ICT to effectively complete concrete tasks (Statistics Canada, 2013, p. 22).

Of Canadian PIAAC participants in that 2013 study, 19% were not assessed in relation to digital skills for various reasons, including 10% who either had no experience with computers (4%) or failed the study's test of basic computer skills (6%). Older adults and those not in the labour force were more prevalent among these unassessed groups of respondents. The study found that while Canada is above average with respect to PS-TRE skills, Canada also has a higher proportion of its population at the highest and lowest levels of PS-TRE, suggesting a considerable national divide in relation to digital skills. While seven percent of Canadians performed at level 3—meaning they could perform tasks involving multiple

applications and steps in an unfamiliar environment, and also deal with unexpected challenges—15% of Canadians performed "below level 1," meaning they were unable to solve problems with a few steps in a familiar environment. A further 30% of Canadians performed at level one (Statistics Canada, 2013).

In the same study, PS-TRE skills were highest among those aged 16-34, however nine percent of individuals in this age category were proficient only at the lowest skill level (1). PS-TRE skills did not vary by gender. Higher proficiency in PS-TRE skills was associated with more formal educational credentials, employed (versus unemployed) status, and employment in professional / managerial roles versus other types of occupations. These same factors were found to diminish age-related differences in levels of digital skill. However, there was also a substantial proportion of adults who were unemployed or not in the labour force who had high levels of proficiency in all three domains (of literacy, numeracy and PS-TRE) (Statistics Canada, 2013).

Given the PIAAC is administered in French and English only, it's unsurprising that—at a national level—the study noted some differences in test results among groups of respondents more likely to speak languages other than English; this included respondents who identified as immigrants (either recent or established), those who identified as Indigenous, and (French) official language minority populations. However, these differences varied considerably by province. In BC, the study found no difference in PS-TRE proficiency between Indigenous and non-Indigenous populations. Likewise, the study found no digital skills differences between Canadian-born and recent and established immigrants in BC (Statistics Canada, 2013).

While the 2013 PIAAC statistics are by now quite old, they nonetheless illustrate substantial differences in digital experience and comfort that are also highlighted in more recent survey data. In its 2018 Labour Force Survey, Statistics Canada found that, among the six percent of Canadian households without a home internet connection, 20% of rural households and 24% or urban households cited lack of "knowledge or skills to use the internet" as the reason for not having internet at home (Statistics Canada, 2019d). In Statistics Canada's 2017 Canadian Survey on Disability, almost a third (31%) of people with disabilities cited "lack of confidence or skill" as one of the reasons they didn't use the internet (Statistics Canada, 2021c).

Ipsos' 2015 survey of Canadian residents found that of the 45% of respondents who indicated they weren't taking full advantage of the internet, lack of skill or knowledge was among the most common reasons cited (15%). Motivational factors, such as not seeing the value of internet use (16%), and opportunity factors, including lack of affordability or lack of social networks (12%), were other common barriers. Among internet users, those with very low engagement in online activities were more likely than other groups to report usability and skill-related reasons for not doing certain activities online—these included concerns about privacy and security, having inadequate skills for certain tasks, and finding the internet difficult to use (Ipsos Public Affairs, 2015).

The 2018 CIUS also asked respondents about skills-related digital tasks, and these data also illustrate how experience with skill and privacy-related tasks differed according to formal education and age. In general, internet users aged 15-24 and aged 25 to 44 reported relatively similar levels of experience with most of the tasks queried. Middle-aged adults (aged 45-64) had comparatively less experience, and seniors (aged 65+) had much lower rates of experience with each type of skill- and privacy-related task. The same data also illustrate how experience with virtually all types of tasks also increased according to users' level of formal education (Statistics Canada, 2019h; 2019i; see also Figure 7, below).

However, perhaps the most important story that emerges from this CIUS data is that considerable proportions of internet users across Canada lacked experience[19] with many skills-related tasks—including the types of tasks which might be needed to use digital legal tools or online government services. For instance, only two thirds of all internet users have copied files or folders digitally (66%), and fewer have downloaded files (56%), or uploaded files to an online data storage space (49%). Even among the most digitally advantaged user demographic (those aged 15-24 with bachelor's degrees) 15-20% of respondents *had not* undertaken these activities. Further, within a more digitally disadvantaged demographic group (those aged 45-64 whose level of formal education is high school or less) relatively few internet users had copied files or folders digitally (42%), downloaded files from the internet (29%), or uploaded files to an online data storage space (26%) (Statistics Canada, 2019i). Similar trends are apparent with respect to security and privacy-related practices such as deleting browser history and changing privacy settings on devices and apps (Statistics Canada, 2019h). Selected data from these sections of the CIUS are depicted in Figure 7, below).

Figure 7: Percentage of CIUS Internet users reporting skill-related and cyber security activities

	All Internet users, aged 15+	Internet users aged 15-24 with Bachelor's or more	Internet users aged 45-64 with highschool or less	Internet users aged 65+
Activity related to digital skills				
Used word processing software	69%	94%	36%	44%
Copied or moved files or folders digitally	66%	84%	42%	41%
Used the Internet to transfer photos or videos from one device to another	56%	80%	35%	34%
Downloaded files from the Internet to your computer or other devices	56%	82%	29%	29%
Uploaded files or photos to an online data storage space	49%	84%	26%	23%
Type of cyber security activity				
Deleted your Internet browser history	61%	64%	49%	42%
Changed the privacy settings on accounts or applications (apps) to limit your profile or personal information	42%	65%	24%	19%
Changed the privacy settings on your device to enable or disable your location	45%	64%	25%	17%

Sources: Data selected from: Statistics Canada, 2019i. Table 22-10-0112-01 Activities related to digital skills by age group and highest certificate, diploma or degree completed; and Statistics Canada, 2019h. Table 22-10-0108-01 Internet security and privacy related practices by age group and highest certificate, diploma or degree completed.

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[19] Respondents were asked whether they had undertaken each activity during the previous 12 months, on any device (Statistics Canada, 2018a).

In the US, assessments of digital skill likewise suggest considerable inequities and barriers related to acquiring digital skills. A 2016 assessment of "digital readiness" in the US suggested that around one in five American adults are either "unprepared" or unlikely to use the internet for learning—due in part to low levels of tech adoption and digital skill. The same study found that more than three quarters of "unprepared" or unlikely digital learners stated they usually needed help with new devices, in comparison with 45% of adults overall (Horrigan, 2016). A subsequent Pew survey found that "some 34% of older internet users said they had little to no confidence in their ability to use electronic devices to perform online tasks" (Anderson & Perrin, 2017, p. 4). In a recent survey of Americans' digital knowledge, Pew Research Centre found that most U.S. adults could answer fewer than half the questions posed on a digital knowledge quiz. While most could correctly answer questions about phishing scams or website cookies, fewer could answer certain cybersecurity and privacy questions—including those about two-factor authentication, private browsing, and website encryption. As in data from Canada, this study found that knowledge of digital topics varies substantially by educational attainment as well as by age (Vogels & Anderson, 2019).

Other research has focused on assessing digital skills among Canadian youth. On this subject, Media Smarts notes that for young people who have grown up as "digital natives," immersed in a world of networked digital technologies, using media effortlessly "isn't the same as using it well" (Steeves, 2014, p. 4). The same organization adopts a model of digital literacy that recognizes not only access, awareness, and basic training, but also creative and critical thinking skills and an understanding of online rights and responsibilities.

Based on Media Smarts' 2014 assessment of digital skills among Canadian youth in grades 4-11, Steeves asserts that most youth had at least a basic level of digital literacy, including the ability to use word processors, web browsers, email, and other communications applications. However, as with surveys of adults, the same data illustrate considerable variation in levels of online participation and skill (Steeves, 2014). In a 2018 survey of 15-year-old students, Statistics Canada found that considerable minorities of students in BC had not learned: how to use keywords in search engines (31%), how to detect whether information is subjective or biased (26%), how to decide whether to trust online information (16%), or to understand the consequences of sharing information on public platforms such as Facebook (15%). Further, the majority (58%) had not been taught to detect phishing or spam emails (Statistics Canada, 2020b).

In qualitative and mixed methods research, skill-related barriers to digital technology use have emerged as significant in research with seniors (Marston et al., 2019; Ries et al., 2016), adults with severe mental health issues (Robotham et al., 2016), people with intellectual disabilities (Barlott et al., 2020), and diverse groups of structurally oppressed service-users—including culturally and linguistically diverse groups, people with low-income, people with disabilities, and remote and rural residents (Chen, 2017). As I discuss further, a key "take away" from this array of studies is that, across a given population, there exists a significant range in levels of experience, expressed interest, and comfort in relation to internet use.

Interest and Skill as Grounded in Opportunity

Awareness of how individuals' motivations, skills, and use of digital technologies are embedded within broader social and structural dynamics is reflected in the literature in various ways. Writing about digital divides in Canada, Haight et al. stress how varying "levels" of divide need to be understood as connected: "access to the internet reflects existing inequalities in society with income, education, rural/urban, immigration status, and age all affecting adoption…" (2014, p. 503). McMahon (2020) draws on the critical framework of community informatics which looks beyond individuals' ability to use a computer to also consider community context—for instance, communities' self-determination over digital technology development and use, and the need for discussion of digital literacies to be grounded in local cultures and understandings. Based on in-depth interviews with digitally excluded people in Australia, Lee likewise states: "more attention needs to be paid to the circumstances that lead to digital exclusion and the variations that exist among users" (Lee, 2018, p. 173).

Affordability and Access

As these analyses suggest, it is important to contextualize questions of motivation, interest, and skill—drawing attention to how these factors are often tied to inequitable opportunities to access, learn, use, and benefit from digital technology. For instance, while a 2015 Ipsos survey report concluded that "motivation" and "capability" were more important than affordability when it came to determining internet use, the same firm's follow-up study underscored how differences in engagement mirror structural relations of class and opportunity:

> Canadian internet users who score high to very high on the digital engagement index are primarily younger – under the age of 54, are better educated and employed, living in a large city and in households earning $100,000 a year on average. In contrast, those who score very to low in the index skew older, are typically retired, are more likely to live in a rural area or town, and in households earning much less annually (Ipsos Public Affairs, 2016, p. 5).

As the above findings suggest, the ability to afford and access technology has an important impact on developing interest and skill in use of digital technology. For instance, while young people are often to assumed to have a high degree of digital skill (as "digital natives"), one study found that a quarter of unemployed youth in the UK "dread" filling out online job applications, and that one in ten avoided the use of computers altogether (Pawluczuk, 2020, citing Wilson and Grant, 2017). Further, based on interviews with vulnerable consumers and advocates in Australia, Chen notes:

> A connection can be drawn between negative attitudes towards digital technology and a lack of exposure to digital technology, as seen with some older consumers who [have] never seen the benefits of the internet in their working lives…

> A lack of exposure to digital technology may be tied with a consumer's inability to afford the ongoing cost of maintaining a telecommunications connection or buying a digital device. For this reason, a distinction must be drawn between those who could afford to go online, but choose not to (digital choice), from those who do not have access or could not afford it anyway. (2017, p. 14)

Likewise, Lee stresses that "reasons for not using the internet are multifaceted and intertwined and, further, may not be explicitly captured by simply examining the statements of non-users" (2018, p. 108). Lee's interviews with digitally excluded people in Australia illustrate how affordability and access issues frequently emerge as "latent" circumstances that mediate individuals' perceived need for internet use. For instance, while one of Lee's respondents originally explained that she had "no need" for the internet, her comments illustrate how affordability played a key role in that assessment: "what's the point of paying the internet fee, because I am on a pension. I have been on a pension since 1981. I live poorly in the sense of I don't buy what I don't need" (cited in Lee, 2018, p. 109). Lee also found that cost concerns related to data limits (data caps)—especially on mobile service plans—noticeably impaired respondents' opportunities to use the internet in an unrestricted way and to benefit from data-intensive activities such as online education. Lee's (2018) research, like that of Baum, Newman and Biedrzycki (2012), illustrates how the purchasing decisions of many non-users and limited users entailed trade-offs between internet devices and services and other household necessities (such as transportation and children's education.) Likewise, based on her eHealth research with Aboriginal women in a small BC city, Sturm states: "the data provided by participants [suggests] that it is not a lack of training or lack of interest, but that for some it is a lack of equipment or Internet which is a barrier to Internet access" (2017, p. 51).

Lee's (2018) interviews with digitally excluded people in Australia highlight how "personal ownership [of technology] is an essential condition in determining the frequency and quality of the use of technology by individuals" (2018, p. 166). Along these lines, various studies stress how having access to technology at home is key to becoming comfortable and skilled at technology use. In their studies of internet skills among the Dutch population, van Deursen and van Dijk (2011) found those who used the internet primarily at home (versus at work, school, or in libraries or cafes) performed better at both operational and formal internet skills[20], such as those required to understand hyperlinks and file structures. Based on focus group research with low-income people in Australia, Baum et al. (2012) emphasize that home internet access is key to increasing individuals' ability to engage in online environments because it enables significantly more complex activities and freedom of use than only having community-based access; for this reason, housing instability is obviously a considerable barrier to digital skill development (Baum et al., 2012).

However, the same authors stress that, even with internet access at home, some people may still face significant (e.g., (dis)ability- or gender- related) barriers to internet use (Baum et al., 2012). Likewise, Lee's (2018) interviews with digitally excluded people in Australia underscore how household access does not necessarily mean that all members will benefit equally from the presence of technology in the home. In interviews, many of Lee's respondents—specifically women—shared how despite having connected device(s) in their homes, they nonetheless had limited access to technology because other uses or users were prioritized in their households. In several cases, the computer was viewed as the domain of other, more experienced, family members, and these users occupied the household devices for numerous hours each day. One woman didn't want to touch her husband's computer for fear he would become upset if she mistakenly "put a virus on it" because of her lack of skill (2018, p. 110). In

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[20] As I describe below, operational skills are those necessary to use computer hardware and software (e.g. opening files and using a web browser), while formal information skills relate to understanding digital information structures and logics such as hyperlinks, file structures, and networks (van Deursen & van Dijk, 2011).

numerous examples, mothers prioritized their children's needs for school-related access over their own use of technology or data (Lee, 2018).

Generational Opportunity and Work Exposure

Research in this area also emphasizes how opportunities to develop experience and skill in digital technology use are tied to both generational and classed opportunities to use technology in work settings. Several studies emphasize how lower rates of ICT interest and use among seniors corresponds to significant generational differences in seniors' opportunities to learn, use, and benefit from technology throughout their lives. Davidson and Schimmele stress that "pre-retirement internet use is a key factor in internet use and non-use among seniors," with one 2016 study finding those "with pre-retirement exposure to computers are nine times more likely to be online than seniors without pre-retirement exposure" (2019, pp. 12-13, citing Friemel, 2016). The changing rates of internet use among Canadian seniors over time (2011-2016) are also consistent with this finding. Based on these factors, Davidson and Schimmele (2019) conclude that while age-related declines in physical capacity (e.g., vision or dexterity) may play a role in reducing technology use among seniors, these factors are likely less relevant that generational and class-based differences in opportunity in technology exposure, access, and use.

Likewise, lack of opportunity to regularly learn and use technology in office-centred work-roles emerged as key themes in research undertaken by both Lee (2018) Chen (2017). In Lee's (2018) qualitative research with digitally excluded people in Australia, respondents who had never worked outside the home, and those who worked in trades and other non-administrative roles described how they were not provided with digital skills training: "When I was employed in a government job, operating machines, we were outdoors. The ones in the office, they all had computer training, but not us..." (2018, p. 113). These same groups of respondents described how the busy physical and practical nature of their work also meant they had "no time" to learn digital skills. In Canada, the 2018 CIUS data indicate that internet users in the highest quartile of households were twice as likely to access the internet at work compared with those in the lowest quartile. The same data illustrate how the youngest quartile of internet users (aged 15-24) were also considerably less likely to access the internet at work (Statistics Canada, 2019e). Data from the 2017 Canadian Survey on Disability also suggest that British Columbians with disabilities have less opportunity to use the internet in a workplace setting relative to many other groups of internet users (Statistics Canada, 2021d).

A series of studies in the Netherlands further illustrates how class-related educational opportunities shape digital skills in very specific ways. In their surveys of the Dutch population, van Deursen and van Dijk (2011) found that while overall levels of operational internet skills (using internet browsers, opening and saving files, submitting forms, and navigating between sites, etc.) appeared quite high, levels of "content-related" information and strategic internet skills were much lower. The latter types of skills included the ability to choose a website or search system, defining search options or queries, selecting and evaluating information / sources, and undertaking effective actions and decisions in order to achieve a particular goal through use of online media (van Deursen & van Dijk, 2011). A follow-up study also considered communication skills, including the abilities to: make and maintain contacts, navigate asynchronous forms of communication (which lack social cues such as intonation and facial expression), attract attention to a message to ensure it will be seen read, construct a coherent and appealing online identity, create online profiles, and cooperate online (van Deursen, Courtois, & van Dijk, 2014).

As in other research, van Deursen and van Dijk (2011) found that age and education were the most important demographic factors associated with level of skill. However, younger generations only performed better on operational skills, but not on information and strategic skills. Likewise, years of experience using the internet only contributed to increases in operational internet skills. In contrast, formal educational credentials were positively associated with improved skills in *all* areas—suggesting these latter skill sets are difficult to learn in the absence of structured, supportive learning environments (such as in advanced schooling, and professional training or work roles). These Dutch survey findings align closely with the assessments of skills undertaken by Statistics Canada through the 2013 PIAAC (p. 40, above). Van Deursen and van Dijk (2011) underscore that these findings indicate structural divides in digital skillsets that will continue to widen even as connectivity and access gaps are addressed. Similarly, Baum et al.'s focus groups with low-income people in Australia reflected how "inadequate educational opportunities" acts as a "barrier to [people] accessing and feeling confident using digital technologies, and also means that they are, as a consequent of this lack of access, more likely to be excluded from educational opportunities as these increasing rely on digital capital" (2012, p. 355).

Intersections: Income, Education, Support, Health, (Dis)Ability, and Language

Opportunities to learn and use technology are perhaps most noticeably constrained for those who face multiple, intersecting barriers. In their assessment of internet use by Canadian seniors, Davidson and Schimmele go beyond analyzing impacts of single variables (e.g., age) to consider how multi-variate dynamics of advantage impacted internet use. For purposes of comparison, "advantaged seniors" were those with a university education, in good or excellent health and living with at least one additional person. "Disadvantaged seniors" were without a high school diploma, in poor or fair health, and living alone. The dramatic differences in internet use between these two groups is depicted in Figure 8.)

Figure 8: Predicted probability of Internet use for seniors by education, health status and household status, 2016
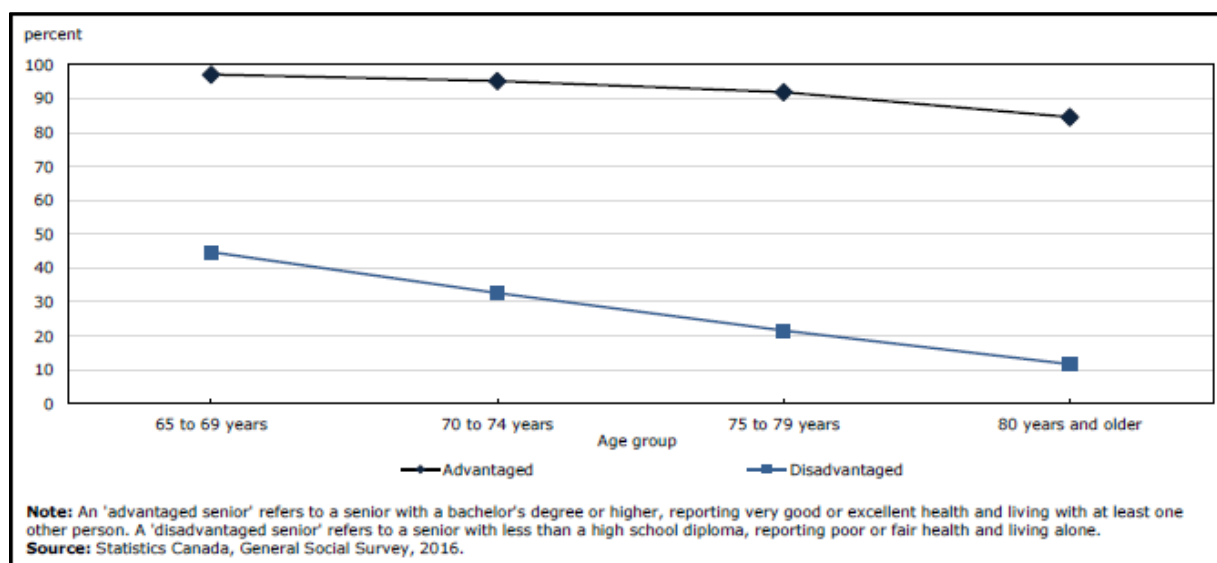
Source: Davidson & Schimmele, 2019. Evolving Internet Use Among Canadian Seniors, p. 16.

As Figure 8 illustrates, the authors found that "advantaged seniors have near saturation Internet use rates and are indeed much more similar to non-seniors than all other seniors concerning Internet use":

> Among young seniors (aged 65 to 69), the predicted probability of Internet use is 44.8% for disadvantaged seniors and 97.1% for advantaged seniors... There is also a stark difference between disadvantaged and advantaged seniors in the relationship between aging and Internet use. At age 80 and older, the probability of Internet use drops to 11.7% among the disadvantaged group, but stands at 84.6% among the advantaged group. (Davidson & Schimmele, 2019, p. 16)

Numerous other studies illustrate intersections between health or (dis)ability conditions, and access or affordability-related barriers to skill development. Based on focus groups with structurally oppressed consumer groups in Australia, Chen (2017) describes how various barriers intersect as people with disabilities are more likely to experience poverty, reducing access to good quality technology and adaptive devices. In Robotham et al.'s (2016) surveys with people with severe mental health issues in the UK, very few respondents (16%) cited lack of motivation as a barrier to their internet use. Instead, the most common barriers related to a combination of skill and access or affordability issues, including: security concerns (46%), lack of knowledge (40%), lack of credit/money (45%), lack of places to access the internet (36%), and lack of availability (34%). In Greer et al.'s (2019) interviews with mental health service users, affordability and access issues—together with perceived lack of knowledge—were identified as major, interconnected, barriers to online participation. Interviewees described how financial hardship and lack of access to the internet at home and/or in shared living situations made it difficult to develop their digital skills. In the latter study, participants described challenges related to their mental health conditions – including psychosis and/or memory issues—that prevented them from learning or remembering how to use technology. Others described frequent interruptions in their ability to access or learn about technology because periods of illness that sometimes required extended hospital stays (Greer et al., 2019).

In their Vancouver-based account of adult learning at a digital café, Smythe and Breshears' (2017) share the story of Malek, a research participant and older immigrant who became injured at work and needed to apply for disability benefits. Malek was instructed at government offices to complete forms online, despite that he could not afford a computer, internet, or cell phone. Through weekly tutoring at the digital café, Malek gradually learned to use email and Facebook, but still needed one-to-one assistance to complete the online government forms. He felt unable to use computers at the library because he worried his English language abilities were insufficient to ask for help. Malek's digital skills improved once he was able to borrow a computer and afford home internet for a few months, but he was forced to cancel his internet when the fees increased. He subsequently found another internet provider, but his old, borrowed laptop ceased to function a short time later. With reduced access, his skill level and comfort began to decrease. The story of Malek illustrates how intersecting barriers related to poverty, language, and lack of appropriate supports resulted in precarious connectivity that significantly restricted Malek's to learn and benefit from digital technology use.

Technical and Support-related Barriers

As in Malek's situation, functionality issues (e.g., related to connectivity, hardware, or technical issues) can also significantly detract from motivation and skill development with respect to digital technology. One UK study illustrates how, in cases where connectivity was poor and/or too expensive, research

participants adapted their household and business activities to minimally rely on the internet. However, when the same rural households gained improved access to higher quality broadband, they increased their ICT competency through upskilling; rural business owners shifted their practices to undertake a wider variety activities online (Philip & Williams, 2019). Likewise, Lee's (2018) interviews with digitally excluded people in Australia reflected how slow and/or unreliable internet connections led to frustration and less frequent internet use.

Several of Lee's (2018) interviewees described how they had sufficient skill to do their usual online tasks (e.g., email or browsing), however, they encountered roadblocks when it came to technical problems or new and/or more advanced tasks—such as installing a printer or adapting to a new operating system. In the absence of help, such issues can pose significant barriers to developing technology comfort and skills (Lee, 2018; see also Ries et al., 2016). O'Donnell et al. (2016) likewise emphasize how even a relatively simple computer crash or hardware breakdown can pose a vastly different scale of problem when it occurs in an under-resourced remote community with few technical supports, versus in urban or suburban areas. For this reason and others, O'Donnell et al. (2016) advocate taking a "whole community" approach: Noting that most research on technology adoption has focused on individual and household adoption, the authors instead emphasize the interrelatedness of enabling digital infrastructure and community-level resources, alongside technology use by community members.

Along these lines, many qualitative studies emphasize the importance of learning opportunities and technical support, especially for those who have lacked opportunity for digital skill development within school, workplace, or training environments. Based on interviews with digitally excluded adults (non-users and limited users), Lee describes distinct differences between those who had family and friends from whom they could seek help, and those who did not. Skilled family members and friends played the role of "IT supporters." These supporters were able to step in and assist with technical problems that otherwise would have caused discouragement; this help was also key to improving learners' confidence (Lee, 2018; see also Baum et al., 2012). Likewise, Freeman, Marston, Olynick et al. describe how, despite their lack of prior learning opportunities, the older adults in their study leveraged "intergenerational relationships with family and friends to adjust to new technologies and to remain connected to adult children and grandchildren" (2020, p. 1). This dynamic may help explain why Denvir et al.'s (2018) review of UK data found that having dependent children is positively associated with digital inclusion. Further, in studies by both Lee (2018) and Marston et al. (2019), many participants had sought out digital training programs offered by local organizations like libraries and universities. These participants described the benefit of such programs, particularly when they could bring their own devices and could benefit from practicing on the internet at home.

Accordingly, barriers to digital skill development occur when people are unable to locate or access these kinds of supportive help. In Greer et al.'s interviews with mental health service users, interviewees faced interruptions in their access to and use of technology, and difficulty remembering skills over time. These participants needed learning opportunities that could support them to refresh skills and knowledge in a flexible and personalized way, but many were not sure where they could go to access such learning or support (Greer et al., 2019; see also Lee, 2018). In Crosby et al.'s surveys with Ontario seniors, about a third of those who didn't use the internet cited the need for help as a key barrier. In the case of low-income seniors (incomes under $20,000), this number increased: half of low-income seniors cited lack of help as a reason they didn't go online (Crosby et al., 2018). Based on their research with remote and northern Indigenous communities, Beaton et al. (2016) argue that,

while many residents learn on their own and through mutual support, most communities lack adequate access to training and technical support.

Lee's (2018) research with Australian participants especially highlights how those without previous opportunities to learn and use computers in school or work environments can experience and perceive technology use as difficult – leading to lack of confidence in their ability to learn. For some of Lee's participants, this lack of confidence was exacerbated through negative experiences associated with asking for help: Some participants had sought out courses that turned out to be too challenging or didn't offer sufficient personalized learning support. One older adult had attended a class but gave up because "she had no experience whatsoever, no one helped her and she didn't have a computer at home… all this made it hard for her" (2018, p. 111). In Taylor and Packham's (2016) interviews with people experiencing digital exclusion in Wales, participants described learning contexts where they felt demoralized through a lack of autonomy.

While reliance on personal networks is often a crucial source of learning, this too can entail challenges or further barriers. In interviews, adults with intellectual disabilities described that they sometimes struggled to learn new technologies or digital tasks; in these cases, personalized learning support offered by friends, family, and community contacts was key to bridging mismatches between skills and technology-related demands (Barlott et al., 2020). However, some learners—such as youth, and adults with intellectual disabilities—may have decreased opportunity for skill development because of how their access to technology is mediated by adults and caregivers (Barlott et al., 2020; Steeves, 2014). These groups are more likely to be secondary users of (e.g., their parents' devices) and to have their access, passwords, and activities monitored and moderated. Barlott et al. note that while parental or caregiver involvement is important, "constraining supports may be overly focused on risk management," reducing the ability of these groups to develop comfort and new technology skills through opportunities for independent experimentation (2020, p. 514). The same authors found that support people would sometimes do tasks *for* learners, which left learners dependent on others rather than learning skills themselves.

In Lee's research, some participants described how family members or friends were often too busy to help. In other cases, "expert" family members were impatient or disparaging about learners' progress. Several respondents described themselves as feeling "stupid" or "dumb" during these encounters (Lee, 2018). In their studies of digital skill in the Netherlands, van Deursen et al. (2014) found that those who relied on help from family and friends tended to be those who were already most disadvantaged when it came to opportunities for digital skill development.

Finally, Chen (2017) highlights a series of privacy issues that may arise for those who rely on help from others to undertake online tasks. Chen found that those with few digital skills, and those facing language- and/or (dis)ability- related barriers to use of online tools may depend on friends, families, care workers, local shop keepers, employers and/or immigration sponsors to access online services. Such arrangements can require individuals to share account numbers, usernames, passwords, health status, income, and other sensitive personal information. This can violate rights to confidentiality and lead to conflicts of interest or exploitation.

In some studies, inexperienced users turned to commercial service providers for help, but received unhelpful treatment or lacked the necessary context to understand the information they received. In Lee's (2018) study, one user approached her internet service provider for help with her Gmail account,

and became frustrated when they turned her away. In Marston et al.'s (2019) focus groups with older adults in Canada and the UK, some described challenges in seeking help or learning about technology from younger, technology-savvy experts (such as sales representatives) who used confusing jargon or failed to explain sufficiently clearly or slowly. These participants described experiences of ageism and being treated as though they were "stupid."

Confidence, Anxiety, Privacy, and Trust

These latter accounts begin to illustrate a circular dynamic wherein a lack of opportunity to develop skills lowers confidence and produces anxiety, which can become a further barrier to technology use. Such issues are especially exacerbated because of how technology is changing at an astounding pace. As I have described (above, p. 26, following van Deursen & van Dijk, 2019) there are significant advantages associated with being able to purchase, maintain, and use a diversity of the latest devices and services. Hernandez and Roberts describe how "as the relatively privileged upgrade to the latest generation of smartphones and connectivity speeds, and as ever more aspects of social, economic, and political life move online, the digitally disadvantaged experience widening inequalities" (2018, p. 1). These inequities, note the same authors, are further widened as all manner of corporate and private services continually adapt to make use of new technical features—in essence, "raising the bar" in terms of the technology required to participate in many facets of life.

In this context, those who face affordability, connectivity, and skills-related barriers can experience diminished confidence and significant anxiety associated with being "left behind". In Lee's study, some interviewees described how lack of opportunity to use technologies led to fear that they might make a mistake or press the wrong button and "wreck the machine" (cited in Lee, 2018, p. 158). Many more described how they felt exhausted by pressures to learn, disconnected from others, ineffectual, and like they were missing out on helpful resources. One expressed worry about being unable to adequately support her children in their computer-based schoolwork. Lack of efficacy in digital environments was sometimes associated with embarrassment and/or shame that made it difficult to ask for help:

> I… am embarrassed that I have to take up people's time teaching me how to use the machine. I feel stupid coming back and saying 'look, I can't make this page bigger or smaller, I can't shift this area to that area, I have trouble opening a document, I have forgotten how to do it', so for me it's embarrassing… I am embarrassed to ask stupid questions… I can't express myself in this language. (Cited in Lee, 2018, p. 147)

Research in this area also reflects how frequent media reports about online fraud, "fake news," cyber attacks, and massive data breaches increase fears about making mistakes online (Marston et al., 2019). Here, it's important to note that these are, in fact, widely experienced and legitimate concerns. Participation in online environments can entail exposure to disinformation, intrusive surveillance, cyberstalking, financial victimization and fraud, and electoral manipulation as evidenced in the Cambridge Analytica scandal (Hernandez & Roberts, 2018). Among its digital resources for parents and children, Media Smarts lists numerous types of cybersecurity threats including malware, bluejacking and bluesnarfing (spreading viruses or theft through Bluetooth), macro viruses, boot sector viruses, adware, spyware, "zombie" cookies, and browser hijacking in addition to spam, fraud, and identity theft (Media Smarts, nd-a). In the 2018 CIUS, 57% of Canadian internet users reported a cyber security incident, such as being directed to fraudulent websites asking for personal information (19%) or contracting a computer virus (11%) (Statistics Canada, 2019c). In 2019, about one in five

Canadian Businesses were impacted by cyber security incidents (Statistics Canada, 2020a). Golub et al. emphasize that "impacts of loss or theft, especially identity theft can be devastating for lower-income residents" (2019, p. 689).

Further, a growing body of literature is drawing critical attention to how the same platforms which have become mandatory channels for access to services and social, economic, and political participation "are increasingly powered by big data and automated intelligence (AI), that reproduce biases and that are largely unaccountable and obscure" (Smythe, 2019, p. 378). Algorithms now determine the structure of many online experiences: they identify patterns, learn from experience, and select the appropriate responses based on these factors (Smythe, 2019). Critical literature in this area draws attention to a "big data divide" in which there exists "an asymmetric power dynamic between those who collect, analyse and benefit from data (e.g., social media companies), and those who are the targets of the data collection process (e.g social media users)" (Pawluczuk, 2020, p. 2, following Andrejevic, 2016). Pawluczuk states:

> As digitally excluded individuals are encouraged and pressured to participate in the digital world, they are also required to agree and comply with the terms and conditions which govern the power structures of the digital society. Thus, one's digital participation might often mean unconditional, uncontrollable, and overpowering data profiling. (Pawluczuk, 2020, p. 5)

Likewise, Eubanks' (2018) research documenting the experiences of service users in the US offers a chilling account of the algorithmic production of a "digital poorhouse" within which service users have been compelled to submit all manner of personal information to a set of complex integrated databases which are designed with the neoliberal objective of minimizing the claiming of benefits whenever possible. Within the service provision regimes Eubanks studied, benefit claimants' data is shared across government departments, and racially biased "predictive models and algorithms 'tag' people as 'risky' and 'problematic'" (Gordon, 2019, p. 163, paraphrasing Eubanks, 2018). Based on these discriminatory predictions, certain individuals and families experienced withdrawal of benefits, and criminalization and surveillance by law enforcement and other agencies, with one Pennsylvania "Family Screening Tool" even predicting which children may need the intervention of social service agencies based on intergenerational family history and experiences (Law, 2018, citing Eubanks, 2018). Eubanks' (2018) work thus documents a disturbing contemporary context in which extraordinary amounts of personal data are collected and used by corporations and governments, with insufficient public oversight, in ways that enact new forms of injustice for structurally oppressed people. Smythe highlights that "as policies toward digital inclusion move forward, it is important to ask what kind of world the 'excluded' are being welcomed into, and who and what is creating the terms for participation" (2019, p. 382; see also Pawluczuk, 2020).

In this context, it is unsurprising that those with less comfort and skill in online environments are hesitant to engage. Writing about digitally excluded youth in Scotland, Pawluczuk observes that "young people find themselves stuck between embracing (and being encouraged to embrace) digital participation (e.g., employment opportunities) and protecting themselves from its possible side-effects (e.g., data mining, privacy breaches)" (2020, p. 5). Likewise, in Lee's study, issues of privacy and security were common concerns among limited users of the internet, particularly in relation to banking and shopping transactions. Several respondents were uncomfortable having any banking information online,

and some were also uncomfortable with the idea of posting photos online (e.g. via Facebook). One interviewee described feeling alarmed by pop-up windows related to security settings. In the course of interviews, Lee observed that these concerns were closely related to respondents' perceived lack of skill in relation to handling and managing their information; some respondents expressed interest in learning more about these issues (such as how to better manage privacy settings on Facebook) (Lee, 2018).

Navigating security and/or privacy with respect to personal information can be even more difficult for individuals whose life experiences (whether in Canada or elsewhere) have led to distrust of government, judicial systems and/or service providers (see, e.g., Chen 2017). Some research also suggest that digital privacy concerns may especially pose barriers for those with mental health issues (Taylor & Packham, 2016; Robotham et al., 2016) and for seniors (e.g., Marston et al., 2019; Chen, 2017). In contrast, Davidson and Schimmele found that 2012 CIUS data showed little support for the idea that technology non-use among Canadian seniors was related to security or privacy concerns. While the 2018 CIUS data on this topic are not yet published, Statistics Canada's 2017 Canadian Survey on Disability found that eight percent of respondents nationally cited "security or privacy concerns" as one of the reasons they did not use the internet (Statistics Canada, 2021c).

Although privacy concerns are not often identified as an issue for youth, some studies suggest this topic needs greater attention on the part of educators and policymakers. Writing about youth in Scotland, Pawluczuk (2020) notes that young people (often imagined as savvy "digital natives") share significant amounts of personal information online yet are often "not aware of… ongoing data collection and retention and its possible privacy implications" (2020, p. 5, after Hautea et al., 2017). Likewise, a 2014 assessment of digital skills among Canadian youth in grades 4-11 found that students demonstrated limited abilities to assess the commercial and corporate interests at play in relation to the platforms they used: 39% of youth incorrectly believed that companies were not interested in what they say and do online, while 68% incorrectly believed that the presence of a privacy policy meant that the platform would not share their personal information. Further, when asked what they'd like to learn about in school, a third of student respondents said they wanted to know more about how companies collect and use personal information, and how to use privacy settings (Steeves, 2014). Pawluczuk (2020) warns that, because digital inclusion practitioners lack the resources to adequately address this topic, youth from digitally excluded communities (for instance those with lower income, who are racialized, and/or who experience disabilities) are at greater risk "of becoming targets of the unethical practices associated with the digital and big data economies" (2020, p. 6).

Other barriers to confidence relate to the credibility and trustworthiness of online information. A recent survey of Canadians found that many have difficulties distinguishing facts from opinion, and nearly nine in 10 are concerned about the accuracy of information that is circulated online. Only three in five were confident that they could always or usually determine the accuracy of online content (Ipsos, 2019). In surveys with Ontario seniors, Crosby et al. (2018) found that, of those who didn't go online, nine percent said this was because they don't trust online information. Of those who used the internet but did not use the internet for health information, a quarter said this was due to lack of information credibility or trustworthiness. Further, Media Smarts' (2014) survey found that information credibility was also a concern among Canadian youth. When asked what they want to learn about in school, a third wanted to know how to search for information online; and just over half of students wanted to learn how to know if online information is true (Steeves, 2014).

Numerous qualitative studies emphasize how skill-related confidence and anxiety can be especially compounded in relation to "high-stakes" tasks—for instance wherein technology problems might result in losing access to much needed services and resources. In both Chen's (2017) and Baum et al.'s (2012) digital exclusion research, Australian participants described how trends towards increasing digitization caused stigmatization, stress, and feeling a loss of control: "Well those who can't afford it get left behind, don't they" (cited in Baum et al., 2012, p. 356)? In Canadian and UK focus groups, seniors expressed anxiety about being pressured to upgrade their devices or use technology for tasks (such as ordering prescription medications) they were used to being able to do in person or by phone (Marston et al., 2019; see also Davidson & Schimmele, 2019). In their research on the technology barriers faced by excluded groups in Wales, Taylor and Packham (2016) describe how service users experienced mounting cycles of anxiety as they worried that their lack of skill in using new government service portals would cause their benefits to be cut off. In UK-based interviews, Harris (2019) observed that those forced to engage in digitized benefits claims process experienced anxiety, social exclusion, and emotional distress. One interviewee who was experiencing homelessness stated:

> I find myself under immense pressure to use computers and it's stressing me out.
> You end up feeling socially detached from society … It's become a very scary world.
> All your life you're speaking one language and then suddenly there's a new language.
> (cited in Harris, 2019, p. 14)

Digital Design, Digital Content, and Harm

A final set of barriers to digital technology use, experience, and skill development relates to online content, design, and the potential for harm. People are unlikely to use resources that cause frustration, discomfort, and/or which don't meet their needs. Chen (2017) describes how, even if a person with a disability is well-equipped with respect to technology, their engagements with online resources may still be limited by an absence of accessible features on websites and apps. For instance, those with visual impairments may rely on screen reader technologies, but few sites include this feature and not all sites are compatible with external screen reader software. Further, while graphic content may be helpful for some users with language and/or literacy challenges, screen readers are often unable to interpret images that don't include an "alt-text" (text-based) description or caption. Web content accessibility best practices include enabling all navigation to occur via a keyboard (versus mouse), avoiding flashing content, avoiding CAPTCHA verification, using easy-to-read fonts and colour schemes, and providing navigational cues. However, many sites do not adopt these practices (Chen, 2017). As I discuss further below (p. 100), another study that surveyed the websites of over 200 Hispanic-serving educational institutions in the US found that the average institutional website landing page included 447 errors that violated Web Content Accessibility Guidelines (WCAG) 2.0 (Taylor & Burnett, 2019).

Limited choice of device can intersect with design issues to cause additional barriers. Reduced manual dexterity or vision difficulties (due to, e.g., aging or (dis)ability) can make it difficult to use the small buttons and screens found on most mobile phones. Chen (2017) found that older users often preferred using tablets versus phones for this reason. Another study found that both seniors, and less experienced users preferred to learn digital skills on computers, versus on phones (Robotham et al., 2016). On the other hand, many lower-income users do not have access to computers and thus access the internet by smartphone only. As I discuss above (p. 26) and in the following sections, this can pose significant limitations for online activities that require additional functionality.

Other issues emerge when sites are not compatible with a user's device or when designers assume all users have the latest technology and interrupted high-speed internet. Based on their research with excluded groups in Wales, Taylor and Packham highlight suggestions that digital tools be designed to work with the older technology that is often used by low-income service users (2016, p. 48). Chen (2017) describes how rural internet users who experienced frequent instability and/or disruption to their internet connection became frustrated when these disruptions caused them to lose information entered via online forms. Design features that allowed for offline form-filling (e.g. via downloadable word or pdf documents) were more accessible to those without stable connections (Chen, 2017).

Additional design issues relate to user experiences. Reviews of literature on the use of health / telehealth technology by older adults (Ries et al., 2016) and in Indigenous communities (Jones et al., 2017) highlight "ease of use" as a key enabling factor; meanwhile, difficult or inconvenient technology is a key barrier for older users (Ries et al., 2016). Similar issues were reported in Reedy's (2019) study on postsecondary distance learning. In Chen's (2017) research, rural consumers complained about the complicated, non-intuitive structure of some government websites. The information they needed was too hard to find and/or buried "too deep" on the site.

Text-heavy content (common to many sites) and complicated language can pose significant barriers to those with literacy challenges and for people who speak languages other than English. Smythe (2019) argues that it is not possible to adequately conceive of "digital literacy" without recognizing the significance of print literacy skills such as reading, writing, and text analysis. Likewise, Baum et al.'s (2012) research on digital technologies and determinants of health emphasizes that such foundational literacy skills are key in determining peoples' abilities to find and use health information online.

Several other health sector studies likewise highlight how the unavailability of content in languages other than English is a considerable barrier for some people. In their large-scale survey analysis of the online health-seeking practices of Hispanic residents of a low-income neighbourhood in Manhattan, Bjarnadottir et al. (2016) found that Spanish as a preferred language was negatively associated with seeking out health information online. Nguyen et al.'s (2017) large scale survey of California residents also found that racial and ethnic minorities were among those groups who were significantly less likely to have access to and to use the internet to find health information. In that study, English proficiency, along with increased education, were positively associated with seeking out health information online. Similarly, in their analysis of a large U.S. population-based survey, Massey, Langellier, Sentell et al. (2016) found that Hispanic foreign-born individuals were least likely of all U.S.- and foreign-born groups to use the internet as a first source for health information. Importantly, these authors note that while both foreign-born nativity and language preference were significant predictors of health-seeking practices, "adjustment for language preference explains much of the disparity in health information seeking between the Hispanic foreign-born population and [White people]" (2016, p. 1). In Crosby et al.'s smaller survey of Ontario seniors, 45% of immigrant respondents cited language issues as a barrier to going online. This number is even higher for respondents who indicated that they had been in Canada for between 6-20 years, with 71% of this group citing language issues as the reason they do not use the internet (Crosby et al., 2018). Chen (2017) emphasizes how, because the vast majority of online content is in English, those with less English language proficiency can lack access to information about important rights and services, such as opportunities for redress through tribunal processes. Chen also found that around one fifth of newcomers to Australia also did not read or write in their native language, creating further challenges with respect to interpreting text-heavy sites.

In BC, Smythe has discussed language as a key barrier with respect to accessing crucial health information during the COVID-19 pandemic. While the BC Centre for Disease Control's COVID-19 resources have been translated into Simplified and Traditional Chinese, Punjabi, Farsi, English and French, "refugee families and low-wage front- line essential workers also speak Arabic, Amharic, Tagalog, Vietnamese and Spanish and they may or may not be literate in those languages" (2020, para 9). Lack of content in languages other than English is made more problematic given reduced access to social networks who can assist with translation (Smythe, 2020).

In addition to immigrant, migrant, and/or newcomer groups, others for whom language may be a barrier include official language minority groups and Indigenous people (Chen, 2017; O'Donnell et al., 2016; Statistics Canada, 2013). Based on their work with northern and remote Indigenous communities, members of the First Mile Consortium emphasize that the dominance of English language content within online spaces can entail re-colonizing dynamics for Indigenous communities who are instead striving to use and protect their own languages (McMahon, 2020; O'Donnell et al., 2016). Beaton et al. found that work in this area "highlights the importance of… localized online resources catered to community-specific needs to help maintain Indigenous control over their knowledge, language, and culture" (Beaton et al., 2016, p. 27).

Online environments can also promote and enable various forms of prejudice ranging from subtle forms of stereotyping to explicit manifestations of hate. Among its educational resources for youth, Media Smarts has produced materials that draw attention to how digital media representations often omit or distort the stories and experiences of whole groups of people—including Indigenous people, people with disabilities, LGBTQ2SAI+ and gender diverse people, people of colour, and religious groups: People with mental health issues are portrayed as criminals; news stories position White males as "experts," report on crimes in racialized ways, and limit coverage of Indigenous communities to topics such as poverty and addiction (Media Smarts, nd-b; see also Reedy, 2019). Further, O'Donnell et al. highlight that much online content that represents Indigenous peoples furthers a colonizing agenda – imposing outsiders' worldviews which misrepresent and objectify Indigenous cultures and contradict "the holistic values that Indigenous cultures uphold" (2016, p. 58).

Resta et al. emphasize that "access to meaningful, high quality, and culturally relevant content in local languages" is an important component of digital equity (2018, p. 988; see also Ali-Hassan et al., 2020; Hadziristic, 2017; McMahon, 2020; O'Donnell et al., 2016). In Reedy's study with Indigenous distance learning students, "many participants clearly expressed that their learning experiences were diminished by the limited extent to which relevant Indigenous content and diverse perspectives were incorporated in their courses" (2019, p. 139). Some students encountered content that reinforced stereotypes, or "presented one Indigenous perspective as if it represented the totality of Indigenous experiences" (2019, p. 140). In education and health sector research described by Reedy (2019) and Jones et al. (2018), Indigenous participants stressed the centrality of relationships to their use of technology. In both settings, participants were less interested in online environments that didn't enable them to connect and build relationships with others. Further, based on her health sector research with Aboriginal women in BC, Sturm stresses:

> It is important for healthcare providers and organizations to provide culturally relevant…
> services and information ensuring that care is safe, responsive, and recognizes the
> context of women's lives… Cultural needs not being met may result in women avoiding
> utilization of a healthcare system... until critically necessary… (2017, p. 11)

Singh, Hayden, Ens et al. (2017) and Bjarnadottir et al. (2016) also emphasize the importance of cultural relevance and cultural utility in their respective discussions on the use of health information by people of South Asian, Chinese and Hispanic descent.

Online media also frequently take up binary and highly problematic stereotypes of masculinity and femininity, which both reflect and perpetuate gender-based discrimination, harassment, and violence (see, e.g., Media Smarts, nd-b). Media Smarts (nd-b) also highlights connections between body dissatisfaction, low self-esteem, self-harm, and bullying which are connected to pervasive media cultures of thinness and gendered beauty ideals as portrayed in online film and TV, advertising, music, and video games. Henwood and Wyatt discuss how "gender inequalities and hierarchies are reproduced in digital spaces, demonstrating that even where women have equal access, possibilities for discrimination and oppression remain" (2019, p. 184). West Coast LEAF's Cyber Misogyny project (West Coast LEAF, nd) has likewise drawn attention to diverse forms of sexist, racist, homophobic, transphobic, and otherwise discriminatory forms of gendered online hatred, harassment and abuse.

The 2018 CIUS found that, across Canada, 10% of internet users reported feeling like a victim of an incident online. These incidents included identity fraud as well as harassment; bullying; misuse of personal pictures, videos or other content; discrimination; and stalking (Statistics Canada, 2019c). Likewise, Media Smarts' 2019 research with Canadian youth found that most youth witnessed casual prejudice at least sometimes while they were online. Among LGBTQ2SAI+ youth respondents, 25% witnessed casual prejudice frequently, compared to 10% of youth overall. Further, 100% of youth who use Facebook reported seeing hate on their feed at some point (Brisson-Boivin, 2019; see also Pawluczuk, 2020).

Other types of negative experiences also detract from online engagement. In the 2018 CIUS, 47% of respondents experienced adverse effects from use of social networking platforms—this included: spending more time on the app than they meant to; engaging in less physical activity; having trouble concentrating; feeling envious, anxious, or depressed; having relationship issues; or feeling bullied or harassed (Statistics Canada, 2019c). In focus groups, young Canadians expressed frustration about the preponderance of poor content available online (including conspiracy theories and false information), which made it difficult for them to learn in digital environments (Steeves, McAleese, & Brisson-Boivin, 2020). The most recent CIUS found that nearly a quarter (23%) of Canadian internet users chose to take a break from, or decrease the time they spent on, the internet during the 12 months preceding the survey (Statistics Canada, 2019a).

Key Themes: Opportunity and Diversity

Taken together, two broad themes are apparent in the bodies of literature that address "second level" digital divides. First, in relation to questions of motivation, comfort, and skill, it is crucial to highlight that these factors are best understood in terms of life circumstances and opportunity— namely, issues of access, and other intersecting, classed, dynamics of advantage and disadvantage. As I have outlined above and as Lee's in-depth interviews illustrate, "for non-users, the issue of skills

and knowledge shortages is not a *cause* of non-use, but rather a *result* of different circumstances..." (2018, p. 168, my emphasis).

Second, it is clear there exists a significant range in levels of experience, expressed interest, and comfort in relation to internet use. Further, experience, expressed interest, awareness, and comfort vary considerably by type of online task. Lee's (2018) research illustrates how many new or limited users had a particular range of tasks they were comfortable in doing online—for instance email, Facebook, research, and reading the news. Lee observed that respondents who only used the internet in limited or narrow ways were often unsure of the other things they could be doing online. In another study examining US immigrants' use of e-health technologies over time, Zhao et al. (2019) found increased use of digital technology for certain kinds of health practices (tracking personal health information and communicating with doctors), but not for other kinds of practices (such as finding a healthcare provider.) In Reedy's study with higher education students engaged in online learning, while all participants had at least basic technology skills, they also described how their comfort with differing activities varied. For instance, one participant emphasized how their previous computer use did not necessarily mean that they were immediately comfortable navigating the school's complicated online learning management system: "we grew up with computers but [the activities] were very limited… you were playing Pac Man or solitaire… You weren't really using it in that sense" (cited in Reedy, 2019, p. 142).

Across Canada, large numbers of people say they go online to use email, or research and read information, but far fewer go online visit government websites or book healthcare appointments (Ipsos Public Affairs, 2015; Statistics Canada, 2019g). Further, one recent poll found that, even though nine in ten respondents indicated they use social media (primarily Facebook), they are not as active on these platforms as might be assumed: while many read or viewed social media regularly, less than four in ten actually shared or created content (Pollara, 2019). As I've described above, experience with many skill and privacy-related digital tasks varies considerably (see Figure 7, above, p. 41). These more specific assessments of online activity illustrate important variations that may exist between different groups of users who may nonetheless all describe themselves as being "online."

"Third Level" Divides: Digital Access to Justice

Various observers cite an upswing in momentum in the field of digital legal technology (see, e.g., Currie, 2016; Smith, 2018, 2019; Sykes, Dickson, & Ewart, 2020). McDonald et al. describe an ongoing wave of digital legal innovation wherein distinctions between legal information, legal advice, and legal resolution are blurring. The same authors cite a list of notable developments including:

> the [now discontinued] Rechtwijzer (Roadmap to Justice) in the Netherlands, the DoNotPay website in the UK and US to fight parking tickets, and Civil Resolution Tribunal in British Columbia, Canada, along with developments such as online courts in the UK, and development of ODR to assist separating couples in Australia." (2019, p. 4)

In their discussion of digital legal technology innovation, Sykes et al. (2020) also highlight the various guided pathways and online resolution services offered on Legal Aid BC's MyLawBC website.

In this context of rapid digitalisation, research in the areas of public legal education and information is increasingly concerned with questions of digital access to justice. McDonald et al. (2019) note that even where "first" and "second" level digital divides have been bridged, a third divide—involving the use of technology to effectively resolve legal problems—is apparent. In this section, I draw on public legal sector research to consider how the digital inequities discussed throughout this paper play out within the specificities of addressing legal issues.

The Complexity and Inaccessibility of Legal Systems

As I've tried to convey throughout this report, digital "divides" are not binary (e.g., between those who have access or do not, and those who are "skilled" or "unskilled"). Rather they are multifaceted divides that play out intersecting and context-specific ways. When it comes to accessing legal resources and addressing legal problems, digital equity issues are compounded by the many barriers associated with Western legal systems. In other words, certain qualities of justice systems themselves function as barriers to accessing digital legal help.

Issues in Legal Help-Seeking: Complexity, Cost, Stress, Urgency and Confidence

Research in the areas of public legal education and information helps to affirm what many who work in community-based and public legal services contexts already know: legal systems are complex, and they are inaccessible to many people. In a series of studies in the UK, Australia and elsewhere, the term "legal capability" has been used to describe a range of overlapping knowledge, skill, psychological, resource, and contextual factors that impact individuals' ability to resolve legal issues (Currie, 2016; Denvir et al., 2018; McDonald et al., 2019; Wintersteiger, 2015). As McDonald et al. describe, this range of factors impact whether people are able to "perceive when they have a legal problem, apply law to their circumstances, access or obtain legal information and assistance as may be required, and take appropriate steps or actions to try to resolve the legal problem" (2019, p. 3). Pleasence and Balmer (2019b) have emphasized that this broader understanding of capability implies substantive freedom from an array of adverse life circumstances that stand in the way of peoples' opportunities and choices. The "Working Legal Capability Matrix" developed by Community Legal Education Ontario (CLEO) builds on both legal capability and health literacy research to especially emphasize intersecting systemic and structural factors—social determinants—that impact peoples'

abilities to respond to legal problems (Brousalis & Mathews, 2016a, 2016b). In this expanded framework, CLEO emphasizes that "capabilities are not static — they are related to one's environment and opportunities" (2016b, p. 8).

People's experience of legal issues often occurs "beyond the site of legal institutions and professionals" (Pleasence & Balmer, 2019b, p. 141). While early intervention can often prevent problems from escalating (Brousalis & Mathews, 2016b; Currie, 2016), many people may not recognize that a given life problem in fact has a legal dimension (Pleasence & Balmer, 2019b) and/or they may not feel they know their rights in a given situation (Brousalis & Mathews, 2016b; Currie, 2016; Denvir et al., 2018). In a 2014 survey of Canadians who had faced legal problems, the largest percentages of respondents (between 35% and 65%) said that, when their problem first occurred, they were "not at all" capable of recognizing their issue, understanding its seriousness, knowing where to go to obtain good information, knowing what help they would need, and knowing enough to deal confidently with the problem (Currie, 2016). CLEO emphasizes that factors such as literacy; discomfort with digital and phone technology; lack of familiarity with legal rights, responsibilities, and systems; stress; and stigma can all act as barriers to recognizing legal components of issues and seeking help. Stigma, notes the authors, "creates difficulties for people to reach out if embarrassed by their personal circumstances or lack of money" (Brousalis & Mathews, 2016b, p. 12). Throughout BC, Pivot Legal Society has documented how people experiencing deep poverty, homelessness, and who use substances, face widespread stigmatization when they seek to access services such as healthcare, income assistance and shelters (Bennett & Larkin, 2018).

Based their review of legal needs surveys from around the world, Pleasence and Balmer describe that between 10% and 20% of people typically take no action to address legal problems; the same authors state that while sometimes inaction is a well-reasoned choice, respondents' reasons, on the whole convey qualities of powerlessness, due to "lack of knowledge, time, money or confidence" (2019b, p. 143; see also Victoria Law Foundation, 2019). The same authors note that many people indicate "real uncertainty as to the most effective way of responding to [legal] problems," that many who act alone may do so because they are unaware of other options or are worried about time, costs, repercussions, or the (in)effectiveness of help (2019b, p. 143, citing Pleasence, 2006). In Ontario focus groups with Legal Aid clients, many participants expressed that they did not know where to begin and couldn't find accessible entry points to legal help (Public Interest Strategy & Communications Inc., 2016).

In a recent survey of low-income BC residents, while about one quarter of respondents sought legal or non-legal help for their issue, about three-in-ten acted alone and about one third did not take any action to resolve their issue (Sentis, 2020, p. 21). When asked why they had not taken action to address a serious problem, the top three reasons were not knowing what to do, believing it would be too stressful, and thinking nothing could be done. Similarly, when asked why they had not sought *legal assistance* for a serious problem, the top reason given was that respondents "thought nothing could be done." Other common reasons were the cost of legal services, not knowing what to do, and believing it would be too stressful (Sentis, 2020, pp. 23-24). Similarly, recent consultations examining Indigenous Peoples' access to BC's Human Rights Tribunal (BCHRT) found that over half of respondents did not know that they could, or how to file a human rights complaint; further, over a quarter "indicated the process was too confusing or overwhelming" (Walkem, 2020, p. 13).

These commonly reported experiences of unfamiliarity with law and of "not knowing what to do" are unsurprising given the technical, jargon-heavy nature of legal processes. Legal processes can require a range of advanced capabilities in official language literacy, oral and/or written communication skills, numeracy, and the construction of arguments and evidence according to particular legal frameworks and criteria (Brousalis & Mathews, 2016b; Walkem, 2020). In some cases, even trained advocates or lawyers have struggled to navigate overly technical legal requirements or language (Rahman, 2011; Walkem, 2020). In Ontario focus groups with legal aid clients, one participant described giving up on a claim because of an inaccessible legal process: "her landlord had taken a $600 deposit… and never returned [it]… After searching online and determining that she needed to go to small claims court, she became overwhelmed by the process and gave up" (Public Interest Strategy & Communications Inc., 2016, p. 31). Likewise, Walkem's report on Indigenous Peoples' access to the BCHRT documents numerous process and procedural issues that created "significant barriers to Indigenous Peoples bringing claims". Among other things, the human rights complaint process was described as overly difficult, and confusing – causing many claims to fail, not on merit, but based on "gatekeeping" issues as well as "technicalities and structural and procedural barriers" (Walkem, 2020, p. 32, p. 36, p. 33).

Further, while legal systems are "set up for experts" (Brousalis & Mathews, 2016b, p. 2), expert legal help is prohibitively expensive. Prochuk et al. describe how, in BC, chronic underfunding of legal aid has meant there are constraints on the number of hours lawyers can spend preparing for and attending court, putting people who experience multiples disadvantages at risk of having to represent themselves—in some cases, against the other party's lawyer (see Prochuk et al., 2020; Walkem, 2020). In BC Provincial Court, about 20% of participants in criminal court cases and 40% of participants in family court cases are unrepresented (Canadian Bar Association-BC Branch, 2017). Internationally, justice sector research commonly identifies a "justice gap" or "missing middle" of people who do not qualify for public legal assistance (such as representation or advice from a lawyer) but are unable to afford private legal services (see, e.g., McDonald et al., 2019). Self-represented litigants make up a considerable proportion of Family Law parties in BC courts (Salter & Thompson, 2017; see also Salyzyn, Isaj, Piva et al., 2017). A 2014 survey on the "costs of justice" found that, on average, respondents across Canada spent an average of $6,100 addressing everyday legal problems (Farrow, Currie, Aylwin et al., 2016). Further, a 2015 survey found the average legal fees for a two-day trial in Canada were $31,330 (Salter & Thompson, 2017, citing McKiernan, 2015). In this context, note Salter and Thompson, "it is not surprising so many people forego resolution of their civil disputes" (2017, p. 118). Recent BCHRT consultations with Indigenous Peoples across BC identified "lack of legal representation, especially Indigenous lawyers… as a significant access to justice issue" (Walkem, 2020, p. 43).

Additional research in this area stresses that, when people do seek legal help, they are most commonly doing so because they are *already* facing an immediate legal issue. In a study prepared for Legal Aid Ontario, researchers explained:

> Adults tend to engage in solution/problem-oriented learning; they seek information to solve problems they already have. They tend not to proactively seek information intended to prepare them for situations in which they do not already find themselves. They are looking for information they can apply to their situation. (Public Interest Strategy & Communications Inc., 2016, p. 5)

Put another way, most people looking for legal resources are not looking for general information "just in case," they are looking for it "just in time" (Forell & McDonald, 2015). While there are a few exceptions to this rule (for instance in relation to legal problems such as wills and future planning) in most cases, people are looking for legal resources that apply to their current situation (Currie, 2016, citing Lawler, 2012; Public Interest Strategy & Communications Inc., 2016). This aspect of legal help-seeking was echoed in a community review of LABC's Aboriginal Legal Aid website; research participants emphasized that users were typically searching for legal help online because they have a legal issue *today* (J. Djwa, personal communication, November 27, 2018). Further, legal needs research in Australia found that because people experiencing marginalization are more likely to face multiple, intersecting problems, they may not be able to access information to help with the right problem at the right time. Thus, the point at which marginalized people seek help is often later than for more advantaged groups (Brousalis & Mathews, 2016a, citing Pleasence et al., 2014). Writing about the BCHRT, Walkem (2020) has documented how Indigenous cultural values that prioritize repairing relationships, as well as experiences of trauma (linked to intergenerational Indian Residential School or child welfare issues), could prevent people from filing complaints in accordance with tribunal time limits.

In addition to the urgent quality of many legal issues, research on legal needs and access to justice underscores the importance of stress as a significant dynamic of legal issues (Wintersteiger, 2015). Research undertaken for Legal Aid Ontario found that self-representation in court was stress-inducing for those who could not access representation by a lawyer; people worried about their ability to navigate, comprehend and apply legal information in order to effectively represent themselves before a judge (Public Interest Strategy & Communications Inc., 2016). Pleasence and Balmer (2019b) emphasize that legal issues are often tied to some of the harshest events in people's lives (such as workplace harassment, eviction, family breakup, violence, or a job site injury). A 2014 survey of Canadians with legal problems found that about half (48%) had experienced "extreme stress or emotional problems" because of their issue (Currie, 2016, p. 25). LABC's recent survey of low-income British Columbians also found that 56% described their legal problem(s) as disruptive to daily life. Many respondents reported adverse effects that resulted from their legal issues, including emotional health issues (45%), financial issues (43%), physical health issues (31%), employment issues (29%), safety / security / violence issues (21%), drug or alcohol issues (16%) and issues with children (13%) (Sentis, 2020, p. 7). Further, as Walkem has noted in relation to human rights in BC:

> The experience of discrimination is inherently traumatic. Indigenous respondents overwhelmingly described experiencing fear in response to instances of discrimination, fear of being accused of wrongdoing, not being protected, not being believed, being judged, being told that the discrimination did not matter, or retaliation. (Walkem, 2020, p. 34)

Focus group participants in Ontario commonly described how at the point when they had encountered a legal issue and were seeking help, their situation was a "crisis" (Public Interest Strategy & Communications Inc., 2016, p. 26). An additional set of focus groups with PLEI providers emphasized the same themes:

> Clients often don't reach out until they are in crisis or under a high degree of stress, and many don't know where to go for help. This was true of audiences of all backgrounds and income levels, according to several respondents. This audience

was described as often intimidated, and lacked the confidence to pursue their
cases, find solutions, or even report bad lawyers when they encounter them.
(Public Interest Strategy & Communications Inc., 2016, p. 32)

In UK-based research with young people who were not in education, employment or training, Pleasence, Balmer and Hagell (2015) found that rates of mental illness increased significantly for youth who also faced legal issues such as those related to welfare. Rates of mental illness were even higher for those who faced legal issues and were socially isolated. Youths' mental health appeared to deteriorate as new legal issues emerged, especially in cases where youth were disadvantaged (Pleasence, Balmer, & Hagell, 2015). Writing about the civil justice system in BC, Salter and Thompson highlight how the adversarial, zero-sum nature of court processes often have devastating consequences for parties' relationships with each other, whether in familial, commercial, social, or neighbourhood contexts. It is thus not surprising, they state, that many people would prefer to avoid legal systems altogether (Salter & Thompson, 2017).

Wintersteiger emphasizes that feelings of confidence and self-efficacy have significant impacts on peoples' ability to successfully address legal issues, with older people, recent migrants and people in poor physical or mental health facing greater challenges in this regard (Wintersteiger, 2015; see also Victoria Law Foundation, 2019). Wintersteiger also describes how levels of confidence decline significantly with the onset of each new legal issue; problems related to money, benefits, domestic violence, care proceedings and clinical negligence especially impact confidence and feelings of disempowerment. Denvir et al. draw on psychometric approaches to describe how the kinds of resources, capabilities and confidence required to address legal issues is "socially patterned:"

> Higher general legal confidence (GLC) is expressed by male respondents, with personal experience and the experience of friends and family also proving influential in either raising or diminishing confidence depending on the experience. Most tellingly, positive experiences with the law or legal processes were associated with far higher confidence and negative experience significantly lower scores. Legal self-efficacy (LEF) is typically lower amongst those reporting illness or disability and amongst those without academic qualifications, whilst Legal Anxiety (LAX) is higher in women, those reporting illness or disability, and those without qualifications. (2018, p. 20)

Denvir et al. go on to describe that "having someone to rely on when faced with a problem" is also a significant contributor to feeling able to address legal issues, with personal experience and the experiences of friends and family being important variables. Feeling able to address legal issues, note the authors, is "strongly linked to whether experiences with the law are positive or negative" (Denvir et al., 2018; see also Wintersteiger, 2015). The perceived accessibility and fairness of legal systems shapes approaches to problem resolution (Denvir et al., 2018)—as in the cases of BC respondents who indicated they didn't seek help because they worried about costs, stress, and/or thought "nothing could be done" (see p. 59, above).

Legal Systems and Systemic Injustice

These aspects of legal problems and legal help-seeking begin to illustrate how legal problems are embedded within structural and systemic dynamics of disadvantage: legal problems often stem from conditions of poverty and other intersecting causes of oppression, and their effects can produce further problems, and further barriers to seeking help. Citing a range of international studies, Pleasence and

Balmer underscore that legal problems and their consequences do not fall equally; socioeconomic factors are "'pivotal' in determining who faces problems" (2019b, p. 142). Circumstances such as unemployment, long-term illness or disability put people at increased risk of problem experience. "Socially disadvantaged people report more problems, more serious problems, and more negative consequences from them" (2019b, p. 140; see also Currie & Moore, 2018; Wintersteiger, 2015). Likewise, Currie (2016) draws on a 2014 survey of Canadians who had faced legal problems to note that longstanding disadvantage (e.g., due to unemployment and debt), and issues such as family break-up put people at risk of facing additional legal issues. Currie observes that "experiencing everyday legal problems appears to create momentum… or additive effect," wherein initial issues trigger and/or exacerbate others (2016, p. 13). Pleasence and Balmer observe that that "there are many ways that civil legal problems can contribute to vicious cycles of poverty" (2019b, p. 143).

Such dynamics are documented in a range of community-based studies that offer insight into the experiences of people for whom the justice system is either inaccessible or detrimental. Fenske and Froese (2017) emphasize that access to justice barriers are particularly faced by people living in poverty, Indigenous people, newcomers to Canada, people with health conditions or disabilities, precarious workers, people living in rural or remote areas, and survivors of family violence. Legal issues often entail engagements characterized by "extreme power imbalances" for instance, having to deal with social workers and/or ministry representatives, landlords, judges, and police (Brousalis & Mathews, 2016b, p. 12). In recent community-based research undertaken by West Coast LEAF, dialogue participants described how legal processes caused repeated trauma, dehumanization, and did not result in a sense of closure. They pointed to "widespread discrimination in the legal system based on mental illness, race, trans identity, Indigeneity, class, culture, language, and involvement in sex work" (Prochuk et al., 2020, p. 7). In earlier research, advocates described how Aboriginal women who had experienced criminalization were often hesitant to seek legal support for fear of further victimization through court proceedings (Rahman, 2011). The Canadian Mental Health Association has also described how people with mental health and substance use-related illnesses are often criminalized for health or poverty-related reasons, leading to harmful consequences: "This criminalization adds an additional layer of stigma, exclusion and discrimination as they try to access supportive housing and regular health services. The lack of system coordination leads to acute financial and health crises for many that are avoidable" (CMHA-BC, 2018, p. 5).

Negative encounters resulting in distrust of police are commonly cited as a barrier to accessing justice. The recent release of decade-long data on Vancouver Police "police stops" or "street checks" has shown these activities disproportionately involve Indigenous and Black people, reflecting experiences of being "over policed and under protected" by the justice system (Mazur, 2018, quoting Durocher). Indigenous and Black people are significantly overrepresented in Canadian prisons. In its Gladue decision[21], the Supreme Court of Canada acknowledged the link between this "excessive imprisonment" and "systemic discrimination in the criminal justice system" (as cited in Mazur, 2018). Further, based on their experiences with police and the justice system, women survivors of sexual assault have described: deep

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[21] In its 1999 R. v. Gladue decision, the Supreme Court of Canada clarified a series of considerations, commonly referred to as "Gladue Rights" in which sentencing for Aboriginal offenders must take into account the adverse systemic and intergenerational impacts of colonization, racism, and cultural genocide, as well as Indigenous legal traditions such as restorative justice (see Aboriginal Legal Aid in BC, nd; "R. v. Gladue," 1999).

misgivings about the system's prejudices; insensitive and stigmatizing treatment by police, lawyers, judges, and other justice system personnel; and a range of negative impacts associated with reporting their assault (Prochuk, 2018). A recent national survey has documented "a profound mistrust in police and the legal system among racialized trans and non-binary people, as demonstrated by anticipated discrimination, avoidance, under-reporting of violence, and apparent under-recognition of transphobic hate crimes" (Chih, Wilson-Yang, Dhaliwal et al., 2020, p. 5). A Pivot Legal Society report on the pervasive stigma experienced by people who use substances while experiencing homelessness and deep poverty has documented how policing and court practices (particularly the imposition of "behavioural conditions") fail to acknowledge the complexities and realities of people's lives. Instead, such practices put people at risk of further criminal sanction, and act as barriers to seeking help:

> Across the province, participants shared their experiences with harassment, displacement, threats, racism, and violence at the hands of police and policing institutions... Across all policing jurisdictions, we found that participants share an extreme distrust of police, and are reluctant to call upon them when their safety is at risk or when they are a victim of a crime. (Bennett & Larkin, 2018, p. 5)

The powerful exclusionary effects of systemic discrimination are also documented in Walkem's recent consultation on access to the BCHRT. During consultations, Walkem found that because of pervasive experiences of racism and the fact that Indigenous Peoples' human rights are not adequately recognized "by the state or by the average Canadian" (cited in Walkem, 2020, p. 11), the majority of Indigenous respondents who had experienced discrimination did not file complaints:

> People cited the MMIWG2S Inquiry, overrepresentation of Indigenous Peoples in the criminal justice and child welfare systems, and cases like Colten Boushie – where an Indigenous youth was killed but there were no legal repercussions to the person who killed him – as reasons they did not file complaints with the BCHRT. (Walkem, 2020, p. 11)

Finally, consideration of these systemic barriers requires recognizing the fundamental properties of Canadian law as a product and instrument of colonialism. As Walkem describes, the current way in which human rights are defined and protected does not reflect "Indigenous Peoples' human rights as rights which belong to Peoples" and does not adequately address the particular forms of discrimination faced by Indigenous people, which extend beyond the current protected grounds (of, e.g., race, colour, ancestry or religion) (Walkem, 2020, p. 7). Further, Canadian policing and legal systems have been integral to colonial efforts to extinguish the cultures and sovereignty of Indigenous peoples who have had their own legal systems for thousands upon thousands of years (Truth and Reconciliation Commission of Canada, 2015; see also Yoon-Maxwell, 2019). To have legitimacy with Indigenous Peoples, notes Walkem, legal systems "cannot further the denial and exclusion of Indigenous laws" (Walkem, 2020, p. 14).

Locating and Accessing Digital Legal Resources

When it comes to accessing digital legal resources, the complexity and inaccessibility of legal systems can intersect with conditions of digital exclusion to exacerbate these inequities in access to justice. On one hand, legal needs research in Canada and internationally has shown a steady increase in online legal help-seeking over time (Denvir et al., 2018; Denvir et al., 2014; Pleasence & Balmer, 2019b; Sentis, 2020;

Tan, 2013). Further, 2010-2012 surveys in England and Wales found use of the internet was correlated with knowledge acquisition and increased use of services (Pleasence, Balmer, & Denvir, 2015).

However, the proportion of people who seek legal help online remains relatively small, and recent Canadian surveys suggests that about a third of those who do go online don't find the kind of information or help they're looking for. In a 2014 survey of Canadians who had faced legal problems, about 33% said they attempted to use the internet to resolve the problem (Currie, 2016). Of those who did, over 40% said the material they found was not helpful. When asked to describe what they found, about one third said "nothing very useful." Others found information, organizations that might help, and problem-solving tools (Currie, 2016). In LABC's recent survey of low-income British Columbians, of the 12% of respondents who sought *legal* assistance (instead of taking no action or dealing with the issue on their own), 25% turned to online sources, and two-thirds of those found those online sources useful. Of the 13% of respondents who sought *non-legal* assistance, 38% turned to online sources, and two-thirds found them useful (Sentis, 2020). Additionally, rates of online help-seeking can vary by type of legal problem (Wintersteiger, 2015).

Further, research in this area suggests that those who do seek help online are more likely to be those who are already advantaged in terms of technology access, comfort and skill, and whose circumstances enable them to feel confident in their ability to navigate legal systems. Echoing the trends already apparent in the digital equity literature, those writing about access to justice have highlighted that seniors, people with less formal education, Indigenous and non-Indigenous residents of rural and remote communities, and those without home internet disproportionately face barriers to locating legal help online (Denvir et al., 2014; Pleasence & Balmer, 2019b; Pleasence, Balmer, & Denvir, 2015; Public Interest Strategy & Communications Inc., 2016; Walkem, 2020). In a recent assessment of data on digital access and skill in the context of the UK's digital by default court reforms, Denvir et al. (2018) found that unemployment, fewer educational qualifications, low-income, social housing tenure, and lack of dependent children were all associated with higher levels of digital exclusion. In BC, pop-up user surveys conducted on the MyLawBC and the Clicklaw Wikibook "JP Boyd on Family Law" websites found that respondents had high levels of education (Bertrand & Paetsch, 2016; R.A. Malatest & Associates Ltd, 2019). In the former (MyLawBC) study, users were almost exclusively English speakers (R.A. Malatest & Associates Ltd, 2019). Likewise, preliminary results from a recent survey of users of BC's new Civil Resolution Tribunal (CRT) suggest that, relative to the general population of BC, survey respondents were highly educated, older, and more likely to be born in Canada (Sykes et al., 2020).

Seniors are perhaps most often identified as the group that is the least likely to use the internet when facing legal problems (Denvir et al., 2014; Public Interest Strategy & Communications Inc., 2016). However, research in England and Wales found that, despite having comparatively high levels of internet access and use, young people (aged 18-24) were also less likely to use the internet to seek legal help than other similarly "connected" age cohorts (Denvir, Balmer, & Pleasence, 2011). The same study found that, relative to other age groups, both seniors and youth were less successful in finding useful legal help when they did go online (Denvir et al., 2011, 2014).

Awareness, Repertoire, and Confidence

Some research suggests that lack of awareness of online legal resources may be a key factor in determining rates of internet use for legal issues—particularly when help-seeking is "just in time". As I have mentioned, legal needs surveys frequently indicate high levels of uncertainty about how to address

legal issues, and where to go for help (p. 59, above). In BC, this issue is perhaps exacerbated because BC's unique PLEI sector: While the other provinces tend to have one predominant provider of PLEI for the public, the PLEI sector in BC is comprised of at least six organizations each with one or more kinds of online resources (Byrne, 2014). In 2018, while about 75% of BC residents knew about "Legal Aid" in general, only 28% knew that LABC provided legal information services (such as websites and publications) to all British Columbians regardless of income level (Sentis, 2018a). Elsewhere, in UK research with people seeking housing and homelessness advice, Harris found that "awareness of and ability to access advice and information varied considerably according to their access to certain key resources such as (i) personal or professional networks, (ii) familiarity with the local area, (iii) physical capability, and (iv) time available" (2019, p. 11). In the same study, some younger people with no knowledge of local services used Google Maps on their smartphones to locate local organizations.

More broadly, additional research illustrates how, while people may routinely go online for some kinds of tasks, it may not occur to them to go online for others. In other words, people tend to have online "repertoires," which vary according to their digital opportunities, experiences, and many other factors (see, e.g., Denvir et al., 2014; Lee, 2018). Ipsos' 2016 survey of internet users in Canada found that, while lack of awareness of internet uses was not a leading barrier for online participation overall, it appeared to be a barrier for some types of activities. For instance, in comparison with the 84% of users who knew about online banking, fewer respondents were aware that you could: find trustworthy health information online (68%), access government services (such as renewing a license) (58%), or book health care appointments (38%) online (Ipsos Public Affairs, 2016). A similar dynamic was apparent in Crosby et al.'s (2018) surveys with Ontario seniors; in that study, seniors over the age of 80 most often did not see a connection between seeking health information and going online. Likewise, when survey respondents in England and Wales were asked where they would seek help in relation to a hypothetical legal problem, the internet was rarely mentioned. Only six percent of respondents indicated they would seek help online for a money dispute; for divorce, only four percent suggested the internet or a website (Denvir et al., 2018). In each of LABC's province-wide legal needs surveys (2013, 2018, 2020), it is worth noting that respondents more commonly turned to the internet for non-legal, versus legal help (Sentis, 2020; Tan, 2013). This pattern may point to differences in the types of resources people expect to be able to find online.

Further, lack of awareness of online resources is likely only one in a series of factors that influences whether people are inclined to seek out help online. In LABC's most recent legal needs survey, 84% of respondents who wished they'd had more assistance agreed that "additional or better information" either might have helped (29%), or definitely would have helped (55%) the outcome of their legal issue (Sentis, 2020). However, in their summary of research on legal help seeking, Forell and McDonald emphasize that responses indicating lack of knowledge or awareness as a reason for not seeking help are usually clustered with other reasons—for example, that addressing the issue would be too stressful, would take too long, would damage relationships, and/or would cost too much (2015, pp. 5-6). In other words, lack of knowledge is rarely the only issue.

In their discussion of self-help legal resources, McDonald et al (2019) likewise emphasize that knowing where and how to search for relevant resources depends on a range of other "legal capability" and confidence-related factors. For instance, survey research in England and Wales found that online searchers had greater success when they knew to define their issue as "legal" (Pleasence, Balmer, & Denvir, 2015). Further, as McDonald et al. (2019) suggest and as I have noted above (pp. 59-62), a great

deal of research in the access to justice sector stresses the significance of confidence or "self-efficacy" in relation to legal help-seeking. Put simply, taking action to resolve a legal issue requires that people believe legal systems might offer a solution, and believe themselves to be capable of addressing that issue. As I have described above (p. 62), feeling able to address legal issues is "strongly linked" to whether one's personal, familial, and/or community experiences with legal systems have been positive or negative (Denvir et al., 2018, p. 20). Consequently, research in this area illustrates that individuals and communities who have faced systemic and structural discrimination in their interactions with the legal system—especially, those who are Black, Indigenous and people of colour; recent immigrants; youth; gender diverse people; and people who are poor—were much less likely to express confidence that the legal system could help them (Brousalis & Mathews, 2016b; Prochuk, 2018; Prochuk et al., 2020; Public Interest Strategy & Communications Inc., 2016; Walkem, 2020). People with less formal education; people with stress- or trauma- related issues, those with mental health issues; and seniors have also been found to express lack of confidence in addressing legal issues (Brousalis & Mathews, 2016b; Public Interest Strategy & Communications Inc., 2016; Ries et al., 2016; Victoria Law Foundation, 2019). In relation to this, it's also worth noting that in BC, skepticism about the effectiveness of legal systems appears fairly widespread. In LABC's recent survey of low-income BC residents, fewer than half respondents agreed that the laws and justice system in Canadian society are essentially fair (49%), and that BC's justice system is effective at resolving legal problems (42%) (Sentis, 2020, p. 7).

As I've noted, further barriers to online-help seeking are posed by the legal system's highly technical and inaccessible concepts, languages, and processes (p. 60, above). Given that legal systems are "designed for experts," (Brousalis & Mathews, 2016b, p. 2) many people likely don't expect to be able to understand or use the legal information that they find (McDonald et al., 2019; Public Interest Strategy & Communications Inc., 2016). It is likely, note McDonald et al., "that those who do not think [self-help resources] will be helpful to them do not even try to obtain or use them." In this way, legal information and especially self-help resources "may just not be 'on their radar' as a realistic option to potentially help" (2019, p. 15).

Online Searches

For those who are able and inclined to search for legal resources online, an important variable to consider relates to the universe of legal information available on the internet. As Byrne has noted, "the sheer volume of publicly available legal information on the web and elsewhere makes it difficult for the user to assess what is reliable, current or authoritative" (2014, p. 4). Early survey research from England and Wales suggests it's difficult to prioritize and/or recall information in such an environment; in that research, most respondents didn't remember what website(s) they'd used to address their legal issue. Instead, many reported that "Google" was the main site they'd used. This finding also highlights the crucial role played by search engines (Pleasence, Balmer, & Denvir, 2015).

In this context, additional research has drawn attention to the role of online algorithms and the ways that search engines (most commonly Google) produce results. Of particular relevance is one recent US-based study by Hagan and Li (2020) which audited the quality of Google search results in response to queries about common legal problems. In this study, the authors used a series of common legal issue queries (generated by non-expert participants in response to problem scenarios) and then used these queries to run searches from several different U.S. jurisdictions. The study findings illustrate various ways in which search engine results are structured in accordance with private and for-profit interests to

the detriment of users requiring accessible legal help. In Hagan and Li's study, the best performing webpages were overwhelmingly commercial sites that delivered short, generalized information which was not jurisdictionally relevant or actionable in the sense of offering specific content about what the law says, what steps to take, what processes and timelines to expect, and how to find free and/or low-cost legal services. Instead, these pages were designed to advertise and refer visitors to commercial services related to the issue. Government and public interest legal sites in general performed very poorly in search results for all topics apart from domestic violence. However, even domestic violence queries commonly returned results that included commercial lifestyle web pages (e.g., about improving relationships.) Further, while search engine advertisements were targeted to the jurisdiction from which the search was conducted, the search engine results often included pages from other jurisdictions. The exception to this was in situations where queries actually included the name of a jurisdiction (e.g. a city or state.) In addition to these issues, the authors describe additional search-related problems observed by helping professionals, including: fee-for-service third parties posing as government agencies; and inappropriate, non-actionable, results generated for urgent or emergency legal situations (such as those involving restraining orders, family violence, or eviction) (Hagan & Li, 2020).

One 2019 review of LABC's MyLawBC website also highlights challenges relating to the searchability of online resources. The study found that when searchers found the site—either by using a search engine or via a link from a related site – "they really liked it." However, the site was not appearing in search results—rarely reaching the first page, let alone the top five pages of results. One issue was that the site's publications were largely invisible to Google's search engine (Tandan & Djwa, 2019). This type of evaluation research and learning is enabling LABC to improve the "discoverability" of its digital tools.

Given these examples, it is not surprising that the literature on legal help-seeking points to experiences of information overload and/or overwhelm on the part of those who do seek legal help online. The large volume of information, and the often-mixed results generated by search engines can produce significant uncertainty about which online resource is most relevant and accurate in relation to the searcher's specific legal issue and situation (Crowe, Field, Toohey et al., 2019; Public Interest Strategy & Communications Inc., 2016; Wintersteiger, 2015). As in Hagan and Li's (2020) study, the literature in this area frequently points to the issue of jurisdictional relevance wherein searchers end up browsing legal information from other jurisdictions without realizing the information doesn't apply to them (Byrne, 2014; Crowe et al., 2019; Denvir, 2014). Further, in her research on young people's use of the internet for legal information. Denvir (2014) found that her study participants tended to browse commercial, versus government or public interest, sites, unless they were cued to think about the site provider. In light of the issues discussed in Hagan and Li's (2020) audit, this latter finding may relate more to the tendencies of search engines than to searchers' preferences.

The technical and inaccessible nature of legal systems also presents a barrier when searching online. Locating appropriate legal information requires more than digital skills in navigating web browsers and search engines. It also requires sufficient familiarity with legal terminology to formulate search terms; and interpret, evaluate, and apply any information that is located (Brousalis & Mathews, 2016b; Forell & McDonald, 2015; Wintersteiger, 2015). Denvir et al. stress that:

> It is not difficult to find information online but using this information is often highly problematic. Use requires the ability to distinguish between reputable sources of information, understand the significance of jurisdiction, have an awareness of legal

processes, and to assess the appropriate action to take. In other words, resolving a problem online requires legal capability as much as digital capability (2018, p. 19).

In Crowe et al.'s (2019) Australia-based research on "Googling" for legal information, the nature of participants' search results meant that they had trouble navigating and making sense of the information they found; they struggled to discern what was relevant, apply information to their situation, and identify clear, actionable processes or next steps they could take to resolve their issues. Denvir's study participants used discussion boards and sought out stories from peers or social settings that seemed similar to their issues, but in doing so they commonly looked at content that was inaccurate or did not apply in their circumstances (Denvir, 2014, 2016). Similar dynamics are reported in relation to seeking health information online. In Sturm's (2017) research with Indigenous women in a small BC city, research participants emphasized that had sufficient comfort and experience in online environments to be able to locate large quantities of health information, and most participants described several methods they used to assess credibility. However, some still worried they did know have sufficient scientific and medical knowledge to understand and/or accurately assess all the information they found.

In contexts where people are searching "just in time" and/or for people who have limited time and/or data to spend on online searches, the variable quality of search results can be especially problematic. Denvir (2014, 2016) found that the young people in her study took efficiency and convenience-oriented approaches to searching online. They spent limited time on each site, and none went beyond the first page of results generated by the search engine. Summarizing Denvir's findings, Hagan and Li describe how Denvir's youth participants:

> used search engines as directories, to present a list of help options and important facts to know. Most people were not browsing extensively, doing research with a critical approach, or seeking out complex information. Rather, they were relying on the search results pages to prioritize the right information and organizations to them, so they could efficiently figure out what to do next. If search engines did not present clear, apparently relevant, seemingly accurate information in and efficient way, people tended to give up with the search for help online. (Hagan & Li, 2020, p. 6, paraphrasing Denvir, 2016)

Similarly, earlier survey research in England and Wales found that most people who looked for legal help online spent relatively little time – an hour or less (Pleasence, Balmer, & Denvir, 2015).

Impacts of Stress and Trauma

Finally, people's abilities to both find and use online information can be significantly hampered by trauma, and by the conditions of stress that frequently accompany legal problems (see above, p. 61). In Ontario focus groups:

> Stress, anger, panic and frustration were most commonly used to describe the feeling of looking for legal information, with two participants indicating that they experienced suicidal thoughts. This level of hopelessness derived both from the stress of the situation and the general feeling that the system was not designed to help them. Clients with little to no literacy or those who suffered from learning disabilities indicated that these were compounding factors, though most participants suggested a common sense of being 'overwhelmed', or being in a 'fog' that made addressing the legal problem feel 'worse than the problem itself'. Clients also

expressed that they can feel vulnerable when stressed and are more likely to simply agree to avoid conflict (Public Interest Strategy & Communications Inc., 2016, p. 30).

The same 2016 research, undertaken for Legal Aid Ontario, includes a review of research on stress and learning, describing how stress impacts people's ability to find, understand, and apply legal information to any problem they are facing or hoping to avoid. "Stress," note the authors, "uses up working memory… and makes it harder to 'connect the dots'" (Public Interest Strategy & Communications Inc., 2016, p. 6): Reduced working memory increases the time required to process information and makes it harder to make inferences about the intended meaning of information. The same authors describe how stress also increases distractibility, in part by increasing the likelihood that users will focus their attention on stressors and threats, versus on information that is more relevant to their concern. Further, stress impairs learner's ability to shift between tasks and contexts, and to focus on more than one than one task at once (Public Interest Strategy & Communications Inc., 2016). As an "extreme form of stress", trauma can also produce similar, often long lasting, learning challenges (Perry, 2006).

Legal Aid Ontario's literature review also details how stress results in the reduced ability to problem-solve. With reduced working memory, stressed learners more often resort to more complicated and ineffective, often process-based, methods of problem solving rather than being able to rely on information they've already learned. Further, stress was found to undermine context-dependent memory, which can help learners to recall information based on environmental similarities. Studies with both elderly and younger adults found that even anticipation of stress was enough to significantly impact cognitive performance (Public Interest Strategy & Communications Inc., 2016).

In their review of the literature, Public Interest Strategy & Communications also identify a series of factors that can compound the effects of stress in the context of seeking legal resources. For instance, when resources are provided in the language in which a reader is not fluent, the reader's working memory is consumed with interpretation – decreasing ability to make inferences and apply new knowledge. The effects of stress are further compounded by neuroatypical conditions, mood and/or mental health issues, self-perceptions of competence and efficacy, as well as expectations about the outcome of a legal issue. Anxiety and self-doubt impact cognition in "much the same way as stress… Those who doubt their ability to comprehend and apply the information before them will find their working memory monopolized by that doubt" (Public Interest Strategy & Communications Inc., 2016, p. 8). In this way, the technical and inaccessible nature of legal systems is likely to present an even greater barrier for those under stress, and those who have experienced trauma.

The same research suggests how those who have faced multiple hardships, self-doubt, and insecurity (due to, e.g., anxiety, racism, colonial trauma, and/or systemic discrimination), face additional barriers that heighten stress and impact their capacity to locate and use digital legal resources. Further, people who have been repeatedly denied access to welfare and disability benefits were found to be more likely to accept responsibility for legal issues when they were not at fault (Public Interest Strategy & Communications Inc., 2016). Additional research emphasizes how traumatic stress (whether past or present) can cause conditions of persistent hyper- and/or hypo- arousal. This can manifest, for instance, as chronic anxiety, sensitivity to non-verbal cues, and reactivity; but also overwhelm, apparent withdrawal, and hopelessness. The impacts of trauma can make it very difficult to respond to questions, begin tasks, consider alternative viewpoints, maintain self-esteem, and engage in planning

and decision-making (Perry, 2006; see also Walkem, 2020). These themes in the literature were further borne out in Ontario focus group discussion:

> Those who discussed feeling stress explained they had difficulty remembering information when asked about it later, and had difficulty applying it to their own situation. Some also reported feeling a sense of anxiety in searching for information online due to the large amount of materials. Two participants noted that they read about possible negative outcomes associated with their legal problems, causing heightened anxiety and 'racing thoughts' that impacted their ability to concentrate. In the majority of cases, participants indicated that their stress was relieved to a degree after having spoken to someone and accessing information (Public Interest Strategy & Communications Inc., 2016, p. 30).

Legal "Navigation"

Given all these challenges, the research suggests that people are often looking for legal help in the form of a service provider, advisor, or navigator who can help them understand legal processes, clarify their options, and identify next steps (CHRC, 2016; McDonald et al., 2019). People turn to trusted personal and community networks for help, and expect that community organizations should be able to refer them to appropriate online or offline resources. In Ontario, Legal Aid clients describe having sought help from libraries, family and friends, band offices, doctors, government services, food banks, settlement agencies, community centres, Native Friendship Centres, and landlord-tenant organizations. Seniors, note the researchers, were nearly unanimous in their preferences for libraries. In the same focus group research, most participants reported seeking help in several places, and most wished they'd been referred to legal help earlier (Public Interest Strategy & Communications Inc., 2016). Likewise, in Sturm's (2017) eHealth research, Aboriginal women in a small BC city stated that they wanted more guidance from healthcare providers; they suggested that healthcare providers could guide patients to appropriate sites, and/or provide a package of materials that was tailored to their concerns and issues.

Further, legal help-seeking research suggests that even when people do go online to seek assistance, a considerable minority are not seeking information or self-help resources about the problem itself but are instead looking for a person or service who can provide guidance. In their research on legal help-seeking among seniors, Denvir et al. (2014) found that while younger age groups often saw the internet as a means in itself—they went online to find information to resolve their problem—older users more often used the internet as a means to an end. While using the internet for information remained the most important strategy overall, older people appeared more inclined to use the internet as a "signposting" tool—that is, like a resource through which to locate offline services or help. For instance, seniors often went online to find "someone to sort out the problem," to "identify an appropriate source of advice," and/or get contact details to speak with an advisor by phone or in person. The same authors suggest that part of the reason seniors may see less need to use the internet in general is that they already have alternative methods of meeting their signposting needs—such as through community directories, family or friends (Denvir et al., 2014).

In their qualitative interviews with people seeking legal help, Crowe et al. (2019) found that people were often looking for face-to-face or phone-based help. Likewise, among Canadian respondents who sought assistance for legal issues on the internet, while some found information or problem-solving tools, about one in six said they located "organizations that might help" (Moore, 2018). In Ontario focus groups,

many participants said that when they went online for legal help, they did not expect to understand the information they found; instead, they were seeking a "next step" to take for guidance, such as a 1-800 phone number they could call (Public Interest Strategy & Communications Inc., 2016).

Research on legal self-help suggests that many people look online at some point, but this is typically only one strategy among many. For instance, earlier survey data from Australia suggests that self-help resources were only used for about 20% of legal problems and were rarely the only source of help used (McDonald et al., 2019). Likewise, Ontario focus group participants described "piecing together" material from many different (online and offline) sources (Public Interest Strategy & Communications Inc., 2016).

In various reports, participants describe that one-to-one help from a knowledgeable legal advisor or navigator lowers stress and provides reassurance that they have the right information and are taking the appropriate next steps for their issue. Walkem's (2020) report on Indigenous Peoples' access to justice through the BCHRT especially highlights the importance of access to trained legal help that is culturally knowledgeable and culturally appropriate—ideally through representation by an Indigenous lawyer. Other research in this area suggests people do not necessarily distinguish between needing "legal advice" and "legal information", meaning they are not necessarily looking for formal legal advice, but rather knowledgeable guidance and navigation (Public Interest Strategy & Communications Inc., 2016). In Ontario, interviews with PLEI providers suggested that people often needed help filling out forms or being connected with appropriate services or resources. In the same study, client focus groups particularly emphasized the need for guidance around legal processes and "next steps": participants described the experience of having information, but "hitting a wall" in terms of knowing what to do next. It was at this point they wanted help identifying appropriate options and actions (Public Interest Strategy & Communications Inc., 2016). The importance of receiving responsive, effective help from someone knowledgeable about the legal system is also highlighted by Pleasence and Balmer's account of "referral fatigue":

> When people seek help from an inappropriate source, it diminishes the likelihood that they will go on to obtain appropriate aid. The phenomenon of "referral fatigue" means that even those who receive a referral become progressively less likely to act on a referral, the more times they are referred on. (Pleasence & Balmer, 2019b, p. 143, after Pleasence, 2006)

In earlier research undertaken by West Coast LEAF, access to in-person services was found to be extremely important for those with literacy issues; further, Indigenous women clients strongly preferred face-to-face services versus digital resources that felt impersonal (Rahman, 2011; see also CHRC, 2016). Speaking about access to human rights justice for Indigenous women across Canada, one roundtable participant explained: "No matter how plain [the] language, our people cannot go through this process alone" (CHRC, 2016). Likewise, Harris' research participants who were experiencing homelessness in the UK expressed a "clear preference for face-to-face-advice." Many described having to wait for extended periods to hear back from landlords or service providers to return calls and/or emails, and this exacerbated feelings of anxiety and stress. "Face-to-face communications were therefore seen as a more immediate and reliable source of advice" (Harris, 2019, pp. 11-12). In the same study, service providers emphasized that face-to-face interactions were particularly crucial given the circumstances of crisis which often accompanied requests for help: "the level of anxiety and stress we see is massive. I've

seen young women where their whole body is shaking" (Harris, 2019, p. 12). In their analysis of recent Australian survey data, the Victoria Law Foundation describes how people with serious mental health issues were much more likely to view legal systems as inaccessible, and also far more likely to see a need for professional legal help, irrespective of whether the problem in question was serious or minor (Victoria Law Foundation, 2019).

Using Digital Legal Resources

As I've described above, (p. 65) a relatively small, (typically highly educated,) proportion of people appear to seek legal help online, and about a third of those who do go online say they didn't get the kind of information or help they were looking for. In recent evaluations of LABC's MyLawBC website, some 60-75% of respondents overall agreed the site was easy to use, that information was easy to find, and that they were more knowledgeable after using the resource. However, on each measure, a substantive minority faced difficulties in using that tool. Of those who started, but didn't complete, one of the site's guided pathways, about 25% said it was difficult to find what they were looking for. In a brief "pop-up" survey undertaken as part of the same project, while 53% said they found what they were looking for, 33% "weren't sure." Overall, site analytics indicate that completion rates for the site's guided pathways vary from 15% to 50%. In some cases, users didn't find their issue listed, while some just wanted to explore, and some opted for other resources (R.A. Malatest & Associates Ltd, 2019). For those who faced challenges, it's difficult to say whether these related to digital comfort and skill, the complexity of legal processes and jargon, site design, or some combination of the myriad barriers described throughout this review.

Overall, authors working in the access to justice and legal technology sectors describe an absence of data offering insights into the experiences of users—with studies such as the latter MyLawBC evaluation being notable and highly valuable exceptions (Smith, 2019). Denvir et al. (2018) state that there is little specific data on how individuals use online legal services, and specifically, few studies documenting the experiences of those using online court systems. Much of the commentary on ODR is provided by those who create and/or implement those systems, rather than being rooted in the perspectives of users (Sykes et al., 2020, citing Cambridge Pro Bono Project).

"Digital-only" Services and Digital Exclusion

The research that is available offers some insight into how, even when people can locate and access an appropriate digital legal resource, many of the same barriers I have already described can prevent effective use of that resource. Recent Australian survey data illustrates widespread apprehension with respect to engaging with legal systems online. In response to survey questions that asked whether respondents would be comfortable "communicating with a lawyer entirely online" and "going through a court case entirely online," more than two thirds indicated they would be "uncomfortable" or "very uncomfortable" (N. Balmer, personal communication, October 7, 2020). Writing in the context of court reforms in England and Wales, Denvir et al. (2018) draw together a range of data to estimate that some 15% to 20% of the population may lack the kinds of digital access, experience, and skills required to use that jurisdiction's digital by default court systems.

Denvir et al. further describe how a 2017 census survey trial in the Isle of Wight tested the idea that audiences could be persuaded to take up digital modes of access if this were the only option provided. Researchers found this was not the case. Among those provided with an online-only

response option, response rates peaked at 23%. In contrast, among those who were given the option of a paper questionnaire, much higher response rates of 43% were recorded. This example suggests that, while some people may adapt to online requirements, digital modes of access may increase barriers to the point that others simply opt out of participation (Denvir et al., 2018).

Several documents provide detailed accounts of how shifts to "digital-only" service provision have led to legal or quasi-legal processes becoming more stringent and/or complex, less supportive, and more costly for users. Hart (2017) recounts that, in surveys about the impacts of increased reliance on technology in legal processes, while rural legal practitioners in Australia reported advantages (in terms of reduced travel time, improved efficiency, and improved access to information) they also stressed disadvantages: First, the shift to digital filing was accompanied by stricter requirements that would be difficult to meet without expertise. Other elements of the processes had shifted administrative work from the service provider to the service user. Respondents noted that websites were sometimes poorly designed and/or not up to date. Some also described poor instruction and/or lack of instruction about use of digital tools, and inadequate administrative and tech support on the part of court staff: when practitioners called for technical help, they were told that the help requested constituted "legal advice," such that assistance with the digital technology was denied. Others described a lack of functionality due to rural bandwidth restrictions (Hart, 2017). Likewise, BCPIAC's Ombudsperson complaint about systemic barriers to welfare access details problems related to the new digital "integrated case management" software system implemented as part of BC's shift to a centralized system for administering social assistance benefits. Ministry workers required to use the new system detailed how the new software caused "inefficiency and increased workloads, lost or incorrect/incomplete information, frequent errors and system crashes" (BCPIAC, 2015, p. 7).

Preliminary results from Sykes et al.'s surveys with users of BC's new online civil resolution tribunal illustrate some satisfaction, but also themes of frustration, mistrust, and desire for help. Of those who had previous court experience, most thought the CRT was a better experience, and most said it was easier than going to court. However, a large minority said it was either a "somewhat" or "much" worse experience (43%), or "somewhat" or "much" harder (33%) (Sykes et al., 2020, slides 17-18). Further, in their examination of judicial responses to domestic violence during the pandemic in Canada, Koshan et al. draw attention to the "significant procedural complexity accompanying virtual motions" as a key barrier for women seeking protection from violence (2021, p. 4). In Ontario, for instance, the transition to online formats was accompanied by requirements to include a range of additional supporting materials as well as page limits and time limits—increasing both difficulty and cost for participants. The same authors found that the judicial decisions they surveyed reflected little awareness of the heightened risk of violence that has been occurring during the pandemic (Koshan et al., 2021).

Shifts to "digital only" approaches to welfare and benefit provision have especially been highlighted as problematic. In Harris' (2019) research with people in the UK who were homeless or underhoused, access to different types of devices noticeably impacted people's ability to manage their benefit claims. While most owned smartphones, welfare forms were extremely difficult to complete by phone. Some participants managed to complete their claims via community access computers, but these efforts were hampered by limited opening hours, and lack of training and help. Interviewees also described having chaotic lives that made it difficult to keep appointments and access computers regularly. In several cases, participants reported that their lack of access to technology prevented them from meeting the conditions of their claim and caused them to be "sanctioned." Harris also noted generational effects;

both participants experiencing homelessness and support staff highlighted how the digitalization of welfare benefits was having a disproportionate impact on older people.

Likewise, BCPIAC's 2015 Ombudsperson complaint described how BC's move to an online-only welfare application system entailed significant and discriminatory barriers for welfare applicants. Many of these applicants could not afford phones, computers, or internet; did not have stable housing; experienced health and (dis)ability related challenges; and/or spoke languages other than English. The online form asked for detailed information about income, assets, bank accounts, citizenship and immigration, employment and housing history, and current living arrangements, among other questions, and took between 30-90 minutes to complete—even with all the necessary information on hand. One advocate described how this one-size-fits-all online tool appeared to be designed "for wealthy people who own significant assets" such that the majority of the process was "irrelevant" to their clients (cited in BCPIAC, 2015, p. 23). The online intake application was extremely lengthy—involving over 90 screens—each of which had to be completed in full prior to moving to the next screen; further the online interface made no mention of the availability of technical, substantive, or translation support. Unsurprisingly, an online satisfaction survey designed to gain client input about service delivery channels garnered a response rate of only 2.2% (BCPIAC 2015).

In the same submission, complainant organizations stressed that this digital-only format entailed significant barriers for applicants who were not comfortable or skilled in using digital technology, who experienced intersecting issues related to age, language, literacy, health and/or (dis)ability, and lack of access to technology:

> many of those applying for assistance do not own or have regular access to a computer, and those with a computer will not generally have internet access. This means that those applicants will have to use a computer in a public place (such as a library, community agency, or kiosk in a Ministry office) or borrow a friend or family member's computer. Some public computers, such as those at public libraries, have limits on the length of time people can use them; further, we have heard that applicants using computers in public libraries regularly ask library staff for assistance with the application. The application process is time-consuming. Requiring it be done online may mean lengthy delays for some people who do not have regular access to a computer. Further, some applicants are uncomfortable dealing with matters as deeply personal and private as applying for income assistance on public computers— and in certain cases, that discomfort is directly related to (and exacerbated by) the applicant's disability. (BCPIAC, 2015, pp. 21-22)

Likewise, Harris stresses that digital by default approaches rely on all sorts of problematic assumptions—namely that users have regular access to a computer, sufficient digital skill and confidence to independently mange online claims, the required literacy and information processing capabilities, the time and resources to access public computers, "and the stability, security, and support to do all of the above on a regular basis" (Harris, 2019, p. 16). Writing about access to justice in BC during the COVID-19 pandemic, Prochuk et al. describe how sudden shifts to phone and videoconference-based legal proceedings have entailed a patchwork of platforms, unclear instructions, and insufficient recourse for those excluded by technological barriers. However, the same authors emphasize that when digital technology is accessible and delivered effectively, "remote legal processes and services could increase accessibility for people with disabilities, people who lack transportation to

attend court, and survivors of violence who feel greater safety when they can avoid being in the physical presence of an abuser" (Prochuk et al., 2020, p. 9).

Task-specific Considerations

As I've described above (e.g., p. 45, 57), there is significant range in (e.g., "operational" versus information-related or "strategic") digital skills, repertoires, and capacities among users. Sufficient access and skill for emailing, browsing or social media use does not equate to the types of connectivity, convenient technology access, experience, and comfort that may be required for legal tasks. Such tasks can be complex, unfamiliar, stressful, and/or technology intensive—for instance, entailing lengthy applications and/or online forms; scanning, printing, and assembling documents; or indexing, paginating and hyperlinking bundles of evidence, etc. (Denvir et al., 2018; Koshan et al., 2021). Writing about the move to online courts in the UK and Wales, Denvir et al. stress: "Digital exclusion must be conceptualised as extending beyond just internet exclusion/capability, so as to include exclusion [from] the software or hardware (such as scanning tools and PDF compilation software) required to interact with an end-to-end digital court system" (2018, p. 11). These types of accessory technologies and related skills, note the authors, are not typically measured within population-level measures of internet use (Denvir et al., 2018).

Denvir et al. draw on data from the UK that illustrate how effective use of online legal services appears to vary considerably by task. For one relatively simple task—use of a prison visit booking system—76% of those who began the task completed it. However, the more legally complex "lasting power of attorney service" had a 57% completion rate. Further, completion rates for the Civil Courts "accelerated possession service online" reached only 36% during the period under study (Denvir et al. 2018, p. 21). In another example, of those who visited government services related to Court fines, 56% obtained information from a website, yet only 36% of these users went on to complete their transaction online (Denvir et al., 2018). Likewise, in Harris' research on the digitization of welfare benefits in the UK, while older people were disproportionately impacted by digitization, several younger, regular computer users also had difficulty using government sites. Harris notes: "They used the Internet primarily for social media, while tasks such as uploading a CV and applying and searching for jobs proved challenging" (2019, p. 10).

The data summarized by Denvir et al. also illustrate variations in the proportions of people who seek assistance with digital tasks. For the online census conducted in the Isle of Wight, only five percent of participants took up the offer of face-to-face assisted digital support at partner libraries. However, in the case of a Rural Payments online system, 37% made a request for assisted digital support when that system shifted online. Denvir et al. suggest these differences may relate to the "interplay between digital and other forms of capability" (Denvir et al., 2018, p. 8), the type of task involved, the barriers faced by the audience to whom the resource is targeted, as well as users' motivation to accomplish that task despite associated costs or barriers (Denvir et al., 2018).

Several studies also highlight how the ability to complete certain online legal tasks can depend on the technology available to users. Denvir et al. cite UK data showing that that browsing or appointment booking services are more often accessed via mobile phones, while more complex processes (e.g. lasting power of attorney, and employment tribunal services) are far more commonly accessed by desktop. Even where completion of such activities by smartphone is possible, it may be extremely costly (Denvir et al., 2018). Based on a survey of legal technology in the US, Sandefur et al. likewise

underscore that that some digital legal tools are quite data intensive, such that those with cell phone-only internet access (more commonly people with low-income, racialized people and those with less formal education) may incur large data costs in using the tools (Sandefur, Chang, Hyder et al., 2019).

Legal Complexity and Legal Capability

A key theme that emerges in this area is that there is need to understand that "digital capability is not the same as legal capability and both forms of capability are likely to be required" to successfully navigate some kinds of legal resources and services (Denvir et al., 2018, p. v). In a synthesis of legal capability research, CLEO describes how, even if someone has sufficient access to digital technology and has managed to determine the "next steps" required to address their issue, taking these steps can require a significant degree of legal knowledge and skill, including: an understanding of specific aspects of applicable laws, processes, and options; organizational tasks such as note-taking, record-keeping, and scheduling; and undertaking oral and written advocacy (Brousalis & Mathews, 2016b). Based on their survey of literature discussing the effectiveness of CLEI, Forell and McDonald note that "non-routine legal tasks involving the exercise of substantial discretions are particularly ill-suited to self-help strategies" (2015, p. 4).

Recent Australian survey data enlisting Pleasence and Balmer's (2019a) General Legal Confidence scale illustrates how, consistent with other research in this area, "respondents rarely exhibited a 'High' level of General Legal Confidence, with the majority reporting 'Medium' levels." Unsurprisingly, respondents with higher levels of digital capability reported more comfort with "communicating with a lawyer entirely online" and "going through a court case entirely online, as did respondents with higher levels of legal capability. However, survey findings "indicated little relationship between the levels of digital and legal capability" exhibited by respondents. Based on these findings, and as in Denvir et al.'s (2018) analysis, Balmer observes that "comfort with performing online legal tasks is maximised where respondents possess *both* legal confidence and digital capability." This suggests that interventions which focus solely on improved digital capability are unlikely to be adequate on their own—legal capability must also be addressed (N. Balmer, personal communication, October 7, 2020).

In Sykes et al.'s (2020) study examining user experiences in BC's new Civil Resolution Tribunal (CRT), some users found the online tribunal to be much more convenient and cost-effective. However, others reported it was not user friendly or accessible, in part due to technical legal information. One respondent stated: "the information about the law was no where in ordinary language or understandable. It was being in total darkness, attempting to find / provide clarity, with ambiguous rules and processes that constantly changed. Not just or fair" (cited in Sykes et al., 2020, slide 19). While digital legal services may not demand a greater degree of legal capability than offline services (Denvir et al., 2018), the unfamiliarity of online formats can heighten users' stress or discomfort as they seek to understand their issue (Macevičiūtė & Manžuch, 2018; Public Interest Strategy & Communications Inc., 2016). Writing in the context of digital by default court reforms in England and Wales, Denvir et al. (2018) underscore that the levels of "legal capability" required to make use of online court systems are routinely underestimated in digital service assessments. McDonald et al. note similar challenges apparent in health sector research, which has "widely shown that … service provider assumptions about health literacy and comprehension are often incorrect, and that communication failure is a commonly cited cause of adverse health events and patient complaints" (2019, p. 19; see also Sturm, 2017). Because of these issues, researchers working in this area suggest further research is

needed to better understand "the relationship between digital capability, legal capability and online interaction with the law" and to evaluate interventions aimed at increasing both forms of capability in relation to using digital legal tools (N. Balmer, personal communication, October 7, 2020; see also McDonald et al., 2019).

Some studies point to specific aspects of legal systems that pose difficulties for those attempting to navigate legal issues. First, without formal training in the intricacies of legal processes, many struggle with understanding these processes and identifying next steps. In Fenske and Froese's (2017) Manitoba-based research, one community legal educator explained that increasing numbers of people trying to navigate legal processes on their own had resulted in calls of increasing complexity and increased numbers of procedural questions. In focus groups conducted for Legal Aid Ontario, many participants described how confusion about legal process was a significant barrier; they wanted more practical and procedural information – for instance, about trials and court proceedings. In the same study, self-represented litigants described not knowing what they were getting into: they hadn't understood the time, financial commitments, and complexity of the tasks that would be involved. This resulted in unnecessary levels of stress and anxiety which impacted their mental and physical health (Public Interest Strategy & Communications Inc., 2016). Salyzyn et al. cite an earlier Canadian study in which self-represented litigants had difficulty determining which court forms were necessary to complete (Salyzyn et al., 2017, citing Macfarlane, 2013).

The complexity of court forms themselves is also frequently cited as a barrier to engagement with legal systems—whether online or offline. Surveys in England and Wales found that of those involved in divorce or dissolution proceedings who were involved in filing court papers, 71% received help in making these filings, and only 28% completed the proceedings independently. Further, just over half of those who obtained help said they would have had difficulties completing the paperwork without assistance. Even among those who completed the forms independently, a small number reported this was "fairly" or "very" difficult (Denvir et al., 2018).

In their study of court forms in Ontario, Salyzyn et al. (2017) examined four different legal forms related to everyday issues (e.g., small claims, tenant rights, divorce proceedings) and noted a number of recurring challenges for users: Forms often required users to: "generate information that requires expert legal knowledge; infer the meaning of technical legal terms; and move between multiple information sources (including, for example, searching on a website to find a correct court address)" (2017, p. 4). Further the forms often included "distractors" such as overly broad requests or use of unclear terms, and the instructional guides intended to assist users in completing the forms were themselves a source of confusion due to being overly complex or incomplete. In an earlier study cited by the same authors, divorce-related forms were found to include difficult language and terminology, use references to undefined terms, and require overwhelming amounts of detail (Salyzyn et al., 2017, citing Macfarlane, 2013). Salyzyn et al. (2017) also found a significant range in the levels of complexity of tasks associated with the various forms. Further, in many cases the associated instructional guides were more complex than the forms themselves. The same authors suggest that where digital legal tools can be used to eliminate complexity (e.g., guiding users with a step-by-step approach), some of these barriers could be mitigated. However, they go on to emphasize the following:

> the observation… that a number of the court forms… involve generating information which necessitates expert legal knowledge suggests that there are some barriers that [self represented litigants] face which cannot be dealt with by form redesign or a move to an interactive digital environment. In some cases, specific and detailed legal knowledge would appear to be essential in order to optimally complete forms. (Salyzyn et al., 2017, p. 34)

Salyzyn et al. further suggest this is particularly true in the case of Family Law, wherein the difficulty of forms and complexity of issues means it would be difficult to simply design forms "such that expertise would no longer be a huge advantage" (2017, p. 34). Given this observation, these authors emphasize the need for affordable forms of legal advice and/or coaching irrespective of well-designed digital tools.

Intersecting Barriers

Other types of barriers clearly intersect with barriers in the digital and legal realms, to further impact different peoples' ability to benefit from digital legal resources. As I've noted above, BCPIAC's 2015 Ombudsperson complaint about systemic barriers to welfare access describes increased barriers for clients with physical and intellectual disabilities, mental health issues, and those who face language and literacy-based barriers. Similar factors are also highlighted by Harris (2019). In Harris' research, housing and homelessness service providers described often having to provide intensive one-to-one assistance with completing online welfare benefit claims; this process was often made much more difficult for those who faced language or literacy barriers. In the same study, service providers observed that people with mental health issues sometimes faced additional barriers because of how interactions with technology could lead to feelings of anxiety or paranoia. In their survey of legal technology in the US, Sandefur et al. (2019) found that most digital legal tools were text-heavy, irrespective of the audience for whom they were designed:

> Fully 75% of existing tools require English-language facility. Most tools are designed to be used only by people who are both sighted and literate in at least one language. Only 16% of tools provide at least some of the material offered though a means other than written text, such as a video. (2019, p. 13)

Other studies have highlighted problems in relation to cultural appropriateness and relevance. Writing about the experiences of Indigenous communities in Australia, Chen (2017) cites the example of some online processes for privacy and identity confirmation that disregarded and/or disrespected local Indigenous traditions. Further, in McDonald et al.'s analysis of Australian data on the use of self-help legal resources, the authors found that while Indigenous people were just as likely to use self help resources, they were the only group of respondents who were significantly less likely to rate these resources as helpful. McDonald et al. note that "this finding clearly signals [self help resources] as potentially being culturally inappropriate to the legal needs of Indigenous Australians" (2019, p. 15).

Design of Supports

Barriers are also identified in relation to the design of (e.g., phone-based, web chat, or in-person) supports intended to aid those using digital legal tools. Denvir et al. (2018) observe that discussions of assisted use of digital services often don't give consideration to the impacts of single or multiple disabilities, health conditions, changing abilities and temporary impairments or situational limitations such as loud or overly bright environments, or lack of a safe and private space in which go online. For instance, the authors note, online chat features "may be prohibitive for users with physical disabilities

where they fail to comply with WCAG guidelines" (Denvir et al., 2018, p. 26). The same authors go on to emphasize that, given legal issues are more often experienced by people who face these and other compounding barriers, this lack of consideration is a significant issue.

Several studies especially underscore the limitations of phone-based supports. BCPIAC's 2015 Ombudsperson complaint about systemic barriers to welfare access details various barriers that phone-based assistance can entail. Given that many who experience poverty cannot afford phones, and those who can often rely on "pay as you go" plans, the Ministry phone system's lengthy wait times, frequent disconnections, arbitrary call-limits, together with users' inability to be available for the ministry's "call-back" service, meant phone-based service was unaffordable and ineffective for many clients (BCPIAC, 2015; see also BC Ombudsperson, 2018). Even the cost of leaving a message to be called back has been shown to limit the participation of users struggling with affordability (Denvir et al., 2018). Denvir et al. (2018) and Pleasence and Balmer (2019b) further note that users' phone costs can be increased when translation is required. In Humphry's (2019) research, one participant who experienced homelessness and relied on her phone to access centralized government services described how prolonged periods of waiting on hold resulted in catastrophic spending and severe financial stress which significantly worsened her mental health.

BCPIAC's Ombudsperson complaint also details how the Ministry's centralized phone system's complicated automated directory was particularly difficult to navigate for clients with intellectual disabilities, mental health issues and limited proficiency in English. Further, many of those who got through found it difficult and/or uncomfortable to communicate about their complex and sensitive personal issues by phone. Again, this was particularly the case for those with disabilities, health, and/or language-related barriers, and for those forced to use public access phones that lacked privacy (see also Denvir et al., 2018). Denvir et al.'s (2018) review of research on assisted digital supports also found that variable quality in translation could significantly detract from the effectiveness of the assistance received.

Denvir et al. (2018) further notes that it is difficult to determine the best ways to reach those in need of assistance and/or alternatives for digital legal services. As I've described above, in cases where people don't have access to online technology, they typically use a variety of other sources of help and information – including family, friends, the other party in a dispute, and print or in-person resources. Although people may be able to get help from friends and family, complexity and skill-related barriers and/or the sensitive and private nature of legal issues may still preclude or limit the effectiveness of these options; further, some systems restrict the involvement of "proxy" internet users (Denvir et al., 2018).

Support and Guidance

Even once people have located and are using digital legal resources, assistance from an advisor or "navigator" remains important. In Crowe et al.'s 's (2019) research on online legal help-seeking in Australia, participants' difficulties in navigating online resources meant that they commonly used online legal information in conjunction with other personal, trusted sources of information – either friends, family, or trusted service providers who could help them make sense of the plethora of online information and determine how it applied to their situation. In some cases, interviewees found the guidance they received from personal contacts more useful than guidance provided by a legal expert.

The themes described in Crowe et al.'s (2019) qualitative study are also apparent in broader survey research. Currie's (2016) analysis of a Canada-wide legal needs survey found that, when faced with a legal issue, asking friends and relatives was a common strategy, with many (68%) describing these resources as either "somewhat" or "very" helpful. Of the slightly smaller proportions of respondents who searched online for help, fewer (58%) found the internet either "somewhat" or "very" helpful. Further, while fewer than a third of respondents sought non-legal assistance from an organization to address their issue, more than two thirds (68% to 84%) of those who did described this source of assistance as either "somewhat" or "very" helpful (Currie, 2016). Recent BC surveys indicate similar trends – people more often turn to family, friends, or other trusted advisors, and these supports are ranked as more helpful than the internet (Sentis, 2020). These types of personal support and accompaniment are thought to play an important role in buffering stress (Currie, 2016; Public Interest Strategy & Communications Inc., 2016). Likewise, Perry's (2006) discussion of Trauma-Informed Learning emphasizes how a supportive, respectful facilitator can help to provide sufficient structure and predictability such that those impacted by trauma feel safe enough to learn.

Several of the same broad surveys indicate that a substantive minority of those who did address legal issues on their own felt they would have benefited from guidance and/or help. Currie describes how, across Canada, 42% of "self-helpers" (those who did not obtain professional legal or non-legal advice) felt the outcome of their issue would have been better had they obtained help. When asked what kind of help would have been most useful, majorities wished they'd had better information (80%); someone to explain the legal aspects and help with forms (68%); and/or an advocate who could intervene on their behalf (69%). A smaller group would have liked to have had a lawyer (33%) (Currie, 2016).

Likewise, recent BC legal needs surveys suggest that, of those who resolved a problem without legal assistance, about 40% believe their situation would have worked out better with more assistance. When asked what types of help might have improved the outcome of their issue, respondents suggested that additional or better information (about 87%); someone to deal with or intervene with the other party (around 81%); someone to explain legal aspects and help with forms (around 82%); or a lawyer (71%) would have helped them achieve a better outcome (Sentis, 2020). Likewise, Salyzyn et al. (2017) cite numerous studies describing how self represented litigants struggled to complete the necessary court forms and wished they'd had someone who could help.

In their analysis of earlier Australian survey data, McDonald et al. (2019) found that using self-help resources in conjunction with an advisor significantly increased satisfaction with legal outcomes. This finding is also supported by Sykes et al.'s ongoing research in BC: In this latter study, users were asked about their experiences using the online "Solutions Explorer"—a guided pathway which functions as the first step for users of BC's new Civil Resolution Tribunal. Survey responses indicate noticeable differences in satisfaction with use of the Solution Explorer, based on whether or not people had someone else help them use the tool (see Figure 9).

Figure 9: "How Effective was the [BCCRT] Solution Explorer for You?"
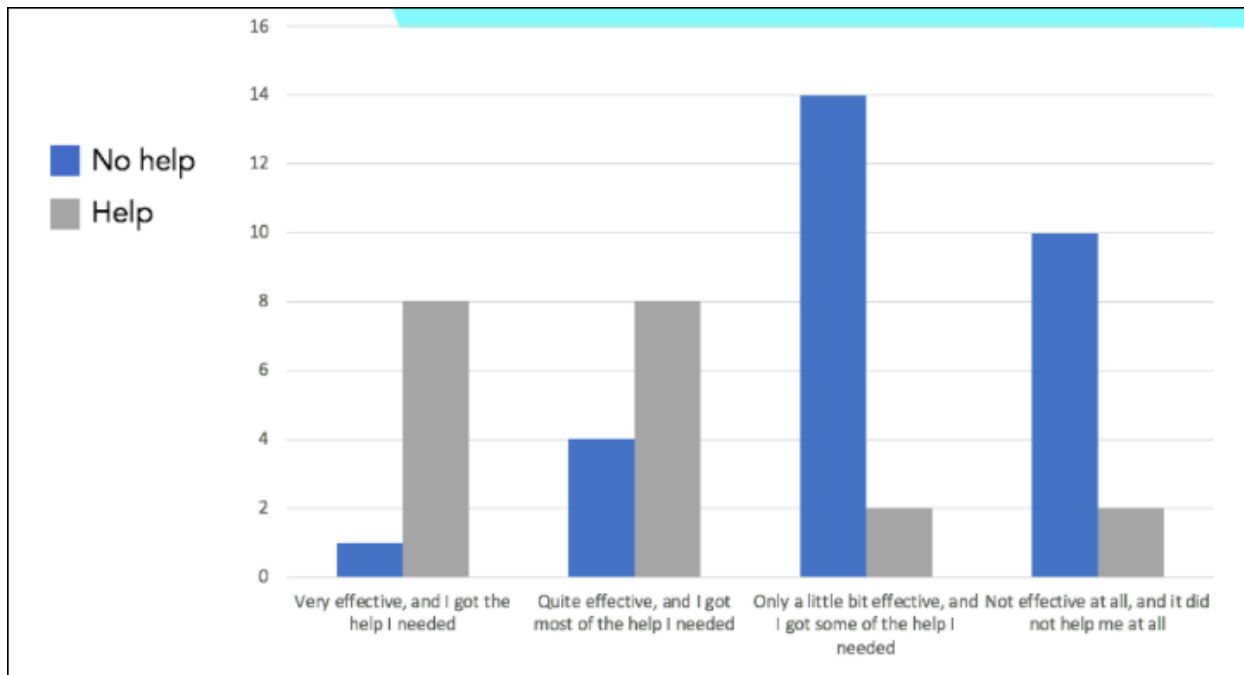
Source: Sykes, 2020. User Experiences of BC's Online Civil Resolution Tribunal, slide 14.

In describing these results, Sykes et al. note:

> A majority of people who had someone else help them (usually a friend, and sometimes a lawyer) said that the Solution Explorer was able to give them all, or most of the help they needed. In contrast, most people who used the Solution Explorer alone said that the Solution Explorer only gave them some help, or none at all.

> This breakdown shows one of the themes that we're seeing in our results – even though the CRT is designed with the user in mind, people still benefit from having an actual human helper while they use it. (Sykes et al., 2020, slide 14)

Lack of access to digital and/or legal navigators has also become a more significant barrier in the context of the COVID-19 pandemic. The sudden closure of many community centres, libraries and other types of community programs not only cut off access to technology, but also resulted in layoffs of the staff who have for years been acting as "proxy social service counters" at these locations (Smythe, 2020, para 11). In this context, notes Smythe (2020), under-resourced community workers and organizations are once again filling service gaps through phone-based and other forms of physically distanced support (see also Rhinesmith & Kennedy, 2020).

Promising Interventions

My review of literature also sought to identify promising approaches to increasing digital equity in BC's public legal sector. Given the broad approach taken in this review, promising interventions were also approached broadly, exploring issues and initiatives beyond the PLEI sector. In general, many interventions respond to two key challenges: First, "how can those users who feel able to use digital legal resources be best supported to do so?" And second, what adjustments and supports are necessary to safeguard [and expand] access to justice for those who may otherwise be excluded? (McDonald et al., 2019, p. 21.) Many of the emergent suggestions echo those which are already well-known to PLEI providers, and within the fields of digital and user experience design. While a detailed treatment of each topic is beyond the scope of this report, what follows is a high-level overview of key themes that emerge across various studies, supplemented with illustrative examples and discussion.

Connectivity and Affordability

Access to the internet, and the ability to participate in online environments fully and equitably has been recognized by the U.N. as a human right (Human Rights Council, 2018). The Canadian Radio-television and Telecommunications Commission (CRTC) has recognized broadband internet as a basic service (CRTC, 2016). However, as described throughout this report, various studies illustrate how the right to adequate online access and participation remains unrealized for many across what is called BC.

Many reports call for interventions to improve connectivity and technology access throughout the province. While larger-scale infrastructure and public policy initiatives are largely outside the role of public legal service providers, public legal sector organizations can still look to support community-led initiatives and advocacy in these areas whenever possible. Further, attention to connectivity and access issues is clearly crucial in working alongside communities to deliver services effectively within each local technology environment (or "digital ecosystem").

Infrastructure and Connectivity Initiatives

Governments at the provincial and federal levels identify expansion of connectivity to rural and remote areas of the province as a priority. A 2018 Auditor General's report found the federal government had failed to develop a national broadband strategy and to effectively administer public connectivity funding for maximum benefit to rural and remote communities (Office of the Auditor General of Canada, 2018). Subsequently, Canada's government has released two strategies: *High-Speed Access for All: Canada's Connectivity Strategy*, as well as the *Rural Economic Development Strategy*. These two plans outline the need to invest in broadband infrastructure, address affordability, and enhance digital literacy to achieve sufficient internet access for rural communities and across the country (KPMG, 2019). In March 2019, the Province of BC committed $50 million in funding for projects expanding broadband to rural and Indigenous communities, and a further $90 million was allocated in September 2020 as part of BC's Economic Recovery Plan in the context of the COVID-19 pandemic (Government of British Columbia, nd-b; Ministry of Citizens' Services, 2020).

Advocates across the lands called Canada have highlighted various ways in which digital infrastructure funding has fallen short of meeting community needs—highlighting issues to be addressed by current and future funding initiatives. In the Canadian Internet Registration Authority (CIRA)'s national survey of non-profit and small ISP organizations in the digital sector, respondents described intense competition

for small pools of funding, a lack of consistent funding, and short timelines for funding which detract from project effectiveness. The same organizations described how funding parameters are often too complex or two precise, resulting in application processes which are inaccessible to grassroots and non-profit organizations (CIRA, 2018). Another recent study found that First Nations communities in BC, Alberta and Manitoba faced numerous barriers in collecting the type of data required to apply for the CRTC's Broadband Fund (Cybera, 2020).

In CIRA's (2018) study, respondents described how the market-driven nature of broadband infrastructure across Canada has coincided with inadequate allocation of public resources, and lack of access to infrastructure that would support small, local, and non-profit providers to deliver high quality and affordable services to underserved rural, remote, and urban communities. Key suggestions emerging from this research indicate the need to review funding models to better support grassroots organizations; to increase Canada-based peering and internet exchange points (IXP) which help keep online data in Canada; and to prioritize and support "first-mile" connectivity initiatives that enable community ownership and local innovation (CIRA, 2018; see also McMahon, 2020; Beaton et al., 2016). Especially now that access to the internet has been recognized as a human right, digital equity advocates are calling for increased public involvement in provision and management of infrastructure, connectivity, and access initiatives (Digital Justice for BC Working Group, 2020; Smythe, 2020). As Smythe has stated "we need to have a conversation about the risks of entrusting vital Internet infrastructure to private interests" (2020, para 7).

Reports and advocacy on connectivity in BC also highlight the need to recognize the technology leadership of Indigenous governments and communities, who have co-developed the Indigenous Framework for Innovation and Technology (IFIT). An initiative of the First Nations Technology Council, IFIT "offers a roadmap for Indigenous communities, government, industry, and other members of the technology ecosystem to coordinate a comprehensive and collaborative approach to achieving digital equity, technological advancement, and economic reconciliation for Indigenous people in British Columbia" (First Nations Technology Council, nd, para 1). Importantly, the First Nations Technology Council has expressed concern that previous provincial and federal investments have fallen short of what is needed to connect all 203 Indigenous communities in BC. The IFIT roadmap outlines regional priorities and identifies challenges that emerged through a series of engagement discussions on how nations envision technology supporting self-determination (First Nations Technology Council, nd).

In its policy framework, the Digital Justice for BC Working Group (of which the First Nations Technology Council is a member) emphasizes the links between First Nations' leadership in the areas of connectivity and access, and the broader principles of Indigenous sovereignty which are reflected in the United Nations Declaration on the Rights of Indigenous People (UNDRIP)[22]. In 2019, the BC government committed to align BC's laws with UNDRIP with the passing of the Declaration on the Rights of Indigenous Peoples Act (Government of British Columbia, nd-a). "Indigenous sovereignty over all territory including land, air, and water" explains the Digital Justice for BC Working Group, also entails "spectrum sovereignty" and thus requires Indigenous peoples' full participation "in decisions related to Internet infrastructure both on and off-reserve" (Digital Justice for BC Working Group, 2020, see Campaign Principles).

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[22] The 2007 Declaration can be found at: www.un.org/esa/socdev/unpfii/documents/DRIPS_en.pdf

Affordable Access to Internet and Digital Technology

Many reports stress the need for initiatives that address the affordability of internet services and technology. In its Blueprint for Justice, the BC Poverty Reduction Coalition (BCPRC) has called for BC's government to provide publicly-funded, universal, high speed and home-based internet for all BC residents. The same document also calls for the implementation of $10-a-month home-based internet access for all those living at or below the Market Basket Measure poverty line, and all those accessing education in BC (BCPRC, nd). The Digital Justice for BC Working Group further explains how connectivity and housing affordability can be linked:

> The pandemic has further revealed that affordable, fast, unlimited Internet access is as essential to a home as a fridge and stove, as heat and hot water; we would not build a home without them. To close the digital divide, we further suggest government begins to build $10-a-month access into all affordable housing in B.C., including B.C. Housing units, supported and non-profit housing including affordable rental and assisted living, existing and new modular units, and shelters and transition housing (Digital Justice for BC Working grp, 2020, para 10).

Broad-based affordability programs are also recommended in Chen's (2017) Australia-based research, and in CIRA's (2018) research with non-profit and small-scale internet sector organizations and experts across Canada. The Nova Scotia College of Social Workers has likewise called for governments to provide free internet access for low-income Canadians and fixed-income seniors during the COVID-19 pandemic, as well as unlimited low-income internet and wireless plans in the longer term (Findlay, Saulnier, & Stratford, 2020) As in the BCPRC Blueprint for Justice, CIRA stresses that affordability programs must consider both price and quality, and must prioritize home access. In CIRA's survey, most respondents "agree home internet access is no longer a luxury, but essential for fully participating in society" (CIRA, 2018).

Further suggestions in the literature address the issue of mobile plan pricing and associated data restrictions. Writing about access to online government services in Australia, Chen proposes that key digital service platforms could be "un-metered"—meaning exempt from counting towards users' data consumption, (much like there are no phone charges associated with dialing 911). This solution would necessitate collaboration between internet service providers and government or public sector organizations to identify websites and/or apps that should be granted unmetered access. To illustrate, Chen identifies several services and/or platforms which are already granted unmetered access through various types of partnerships and/or reimbursement arrangements. Chen underscores that "these examples demonstrate that the technical capability exists to un-meter specific websites and apps" (2017, p. 37). In discussing digital equity in BC, Smythe argues that cell phone plans and data caps remain unnecessarily expensive and restrictive; Internet Service Providers, states Smythe, "need to drop prohibitive data caps" (Smythe, 2020, para 7).

Much of the research reviewed also highlights the need for affordable access to digital devices and related technology. In their research with US-based digital equity coalition organizations, Rhinesmith and Kennedy (2020) found that lack of access to affordable devices emerged as an underrecognized key issue with the onset of the COVID-19 pandemic. The same authors described a Maine Digital Inclusion Initiative in which a digital equity organization coordinated cell-enabled tablets for older adults (aged 70 and up) to help combat pandemic-related social isolation.

Likewise, in May of 2020, the Social Planning and Research Council of BC (SPARC BC) accessed the provincial Homelessness Community Action Grant Program and, through partnerships with 7-Eleven and Telus, worked with community organizations to distribute 3,500 mobile phones to low-income and underhoused people around the province. As one Vancouver community advocate has described, these phones have functioned as "lifelines," enabling distribution of important health information and coordination of vital services for people in need of support (Ministry of Social Development and Poverty Reduction, 2020). Beyond this crucial yet time-limited measure, the BC Poverty Reduction Coalition has called for the provision of a BC Technology Fund and non-repayable grant to anyone accessing the aforementioned $10-a-month internet initiative (BCPRC, nd). Based on their survey with seniors in Ontario, Crosby et al. (2018) have likewise called for technology subsidies that would enable seniors to afford a computer at home. Additional initiatives in this area include used device refurbishing and reuse initiatives, such as those undertaken by the grassroots and largely volunteer-based network Free Geek.[23]

Public, Holistic, Community-led Approaches

With respect to both infrastructure and affordability, advocates stress the need for public initiatives which are holistic and sustainable rather than piecemeal. In their recent policy recommendations to the province, the Digital Justice for BC Working Group notes that the federal Connecting Families program "disqualifies families when children turn 18 and prioritizes only very low-income families" (Digital Justice for BC Working Group, para 11). Likewise, a time-limited pricing discount offered by Telus is available only to those on disability assistance. The authors stress that while such programs reflect steps in the right direction, they prioritize access for just two of the thirteen equity-seeking groups recognized within BC's Poverty Reduction Strategy Act[24]. Instead, the working group advocates a universal and human rights-based approach which places first priority on ensuring access for those who are hardest to connect (Digital Justice for BC Working Group, 2020). In the US, organizations working as part of digital equity coalitions likewise described tensions in relation to funding directed towards the urgent, short term and sometimes "band-aid" interventions required by the COVID-19 pandemic, and the sustained investments required to address digital equity in the long term (Rhinesmith & Kennedy, 2020). Smythe argues that "Canada needs an inclusive digital strategy designed for all its citizens rather than compensatory programs tacked around the edges (2020, para 13).

At the same time, within literature on both connectivity and technology access, a commonly-identified best practice is the need to ensure that initiatives are community-designed and responsive to the needs and priorities of service users (Beaton et al., 2016; Chen, 2017; McMahon, 2020). In both Canada and the U.S., various local—often underfunded and grassroots—organizations have been working on digital equity issues alongside impacted communities for many years prior to the onset of the COVID-19 pandemic. These pre-existing networks can be crucial sources of local knowledge and experience (see, e.g., Beaton et al., 2016; CIRA, 2020; Rinesmith & Kennedy, 2020). In Rhinesmith and Kennedy's (2020) research, digital equity organizations described difficulties in getting politicians and ISPs on board with community-based initiatives. However, the same research illustrates that there is a clear and important role to be played by governments in supporting these initiatives through funding and policy. In its policy

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[23] See, e.g.: www.freegeekvancouver.org/
[24] Available: www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/18040

recommendations, the Digital Justice for BC Working Group puts forth a set of principles through which governments can support "intentional, planned, consultative infrastructure development":

> Current piecemeal, one-off buildouts and compensatory programs continue to exclude the most marginalized communities. We propose the development of a collaborative, participatory framework and approach to telecom infrastructure development that enables citizens to have input and impact in B.C. Digital Justice for B.C. supports and amplifies existing digital rights campaigns and community-led organizing by those most impacted by the issue. (Digital Justice for BC Working Group, 2020, see Campaign Principles)

"Digital Ecosystems" and "Enabling Environments": Community-level Supports

A second set of interventions addressed within numerous publications underscores the need to support additional qualities of "enabling environments" or "healthy digital equity ecosystems" at the community level. "Enabling environments" include infrastructure, policies, practices, and other conditions that support community-led practices of digital inclusion (McMahon, 2020). Likewise, a focus on "digital equity ecosystems" grasps digital equity in terms of "interactions between individuals, populations, communities, and their larger sociotechnical environments that all play a role in shaping the digital inclusion work in local communities to promote more equitable access to technology and social and racial justice" (Rhinesmith & Kennedy, 2020, p. 6).

Digital Skills, Digital Literacy, and Technical Support

Various reports outline how key elements of these enabling local environments include the presence of technical support, and digital skills and mentorship programs. Both the BC Poverty Reduction Coalition's Blueprint for Justice (BCPRC, nd) and CIRA's (2018) research with small-scale internet sector organizations across Canada call for increased funding for basic digital literacy programs – particularly for those who have not had opportunities to learn digital skills in contexts of formal education and professional training. Both documents further underscore the need for content focused on cybersecurity and privacy training to support less experienced users in navigating issues of online safety, security, privacy, and disinformation. The Digital Justice for BC Working Group has called for increased training "to be universally accessible throughout the province at publicly-funded, publicly-available settings such as community centres and libraries, and in a diversity of educational and non-profit settings" (Digital Justice for BC Working Group, 2020; see Information Sheet).

Chen (2017)'s Australia-based research likewise highlights the need for free or subsidized digital literacy resources. Chen suggests that any such programs should include practical training on how to access important government and/or public services (such as legal resources). During the pandemic, some US organizations launched virtual tech support and tech learning services, as well as "tech tents" and other pop-up sessions in local communities (Rhinesmith & Kennedy, 2020). At the national level in the US, one organization is working to expand a "Digital Navigators" model, in which supportive helpers "address the whole digital inclusion process—home connectivity, devices, and digital skills—with community members through repeated interactions" (NDIA, nd). The same organization is now working to better integrate and embed this model of support within existing adult education and workforce training programs (Rhinesmith & Kennedy, 2020).

Several studies specifically call for age-appropriate peer-based education and support for seniors (Chen, 2017; Crosby et al., Marston et al., 2019) in addition to programs tailored for other groups (such youth, newcomers, and people with disabilities) who are known to face barriers to gaining digital skills and experience (CIRA, 2018). The First Nations Technology Council has also called for varying types of digital skills programs designed for and by Indigenous communities (First Nations Technology Council, nd; see also Beaton et al., 2016). CIRA (2018)'s cross-Canada research highlights a problematic pattern in digital literacy funding wherein "trendy" digital issues (such as teaching coding to youth) receive significant resources relative to the basic digital skills programs needed by those who face multiple barriers to access and engagement. In a related critique, Pawluczuk's discussion of the "big data divide" problematizes how many digital literacy initiatives are corporate-led and do not adequately focus on the skills or analyses required for critical digital literacy—including interrogating collection of user data, surveillance, and predictive algorithms. Pawluczuk argues that a human rights approach to digital literacy necessitates supporting and empowering learners to also navigate the "political, cultural, and societal dimensions of data" (2020, p. 11).

Community Access Points

Additional suggestions in the literature stress the value of community access points where people can access internet or use connected computers and accessory technology such as printers, and scanners—with technical support as needed. In BC and elsewhere, the COVID-19 pandemic has also sparked an increase in community-level efforts to extend access to public Wi-Fi through various kinds of partnerships (see Ministry of Social Development and Poverty Reduction, 2020; Rhinesmith & Kennedy, 2020). Further, Chen (2018) highlights the value of providing free charging stations, in addition to Wi-Fi, in public spaces that are accessible to those who experience housing instability and/or homelessness. Smythe (2019) argues that community technology centres can, in addition to providing access, be valuable sites of personalized, peer-based critical learning about digital platforms and environments. Likewise, respondents in CIRA's (2018) survey stressed that "access points with guided, consistent, trusted help are necessary" (2018, see Digital Access).

In April 2020, the BC government announced one-time grant funding of $3 million to provide enhanced access to digital services within public libraries; this funding was primarily aimed at expanding online resource collections but also supports technology and Wi-Fi expansion and digital literacy programs (Ministry of Education, 2020). While this is an important investment, the Digital Justice for BC Working Group and others have warned about the strain of downloading internet and access programs onto library systems and staff (see p. 36 above). Further, the Working Group underscores how public Wi-Fi and community access—while necessary—are not acceptable replacements for the kind of high quality, at-home access that so crucially determines users' abilities to fully engage online:

> the availability of very time-limited Internet access through libraries, only open during workdays and with limited hours on the weekend, does not meet the needs of communities experiencing digital inequity... [E]very British Columbian has a right to highspeed, unlimited, at-home access regardless of… available publicly accessible Internet services. (Digital Justice for BC Working Group, 2020, see Information Sheet)

Once again, the literature in this area stresses that both kinds of (skills and access) initiatives need to be considered in community-specific and community-designed ways (see, e.g., Beaton et al., 2016; CIRA, 2018; First Nations Technology Council, nd; McMahon, 2020). Based on their review of research on

unequal ICT availability, adoption and use in rural areas, Salemink et al. found that "generic policies in this field neglect specific local needs" (2017, p. 360). They thus stress the need for approaches to access and skill development which are community-specific and responsive to local priorities. Further, one early study on community access centres in Indigenous communities in Australia found that key elements of success included: active community support; community involvement in centre development and management; a focus on contribution to the community and its future; active involvement in outreach activities; and delivery of skills training—especially training that focused on expanding opportunities for youth (O'Donnell et al., 2016, citing Daly, 2005).

At the same time (as I have discussed above, p. 76) Denvir et al. (2014) stress that technology access and general ITC skills do not, in-and-of-themselves, guarantee users' ability to benefit from digital legal resources. Numerous other factors—particularly the technical complexity and stress associated with legal problems—may necessitate additional supports irrespective of digital access and skill. For this reason, approaches that combine technology access with access to a knowledgeable advisor may be especially promising, as I summarize below.

Coalition-building and Digital Equity Planning

More broadly, Rhinesmith and Kennedy's (2020) discussion of "digital equity ecosystems" especially illustrates the importance of digital equity coalition-building and planning at the community level. Based on their research with digital equity organizations in the US, these authors describe how such coalitions often include a broad range of organizations—including libraries, community-based organizations, housing authorities, health care providers, workforce training services, non-profits, religious institutions, local governments, and increasingly, school boards. The established relationships developed within such coalitions and networks have been key to enabling effective responses to the urgent digital equity concerns that emerged during the COVID-19 health crisis (Rhinesmith & Kennedy, 2020; Smythe, 2020).

Digital equity coalitions have also been active in sharing information and resources and making links between technology access and social and racial justice. For instance, one Portland-based network has been exploring what it means to "lead with race" in implementing its Digital Action Plan strategy (see Rhinesmith & Kennedy, 2020). The structural and intersectional approach adopted by the Digital Justice for BC Working Group likewise proposes "a clearly defined equity approach that prioritizes on and off reserve Indigenous access, the leadership of the First Nations Technology Council, and access for racialized and newcomer communities" (2020, para 8).

Rhinesmith and Kennedy (2020) further describe how local coalitions have been instrumental in accessing and coordinating funding, raising awareness of digital equity as a policy issue, and advocating for action on the part of local leaders. In some cases, digital equity coalitions have worked with local elected officials to develop digital equity plans at the municipal or regional level. In one example, the Greater Cleveland Digital Equity Coalition collaboratively identified "digital inclusion and advocacy and connectivity gaps with a goal of finding short- and long-term solutions" (cited in Rhinesmith & Kennedy, 2020, p. 11). The City of Portland's Office for Community Technology, along with Multnomah county and the county library, co-lead implementation of a community-driven Digital Equity Action Plan while also convening a Digital Inclusion Network. In Seattle, the City government, with the support of many local organizations, played a key role in coordinating the planning efforts of local agencies and officials. On

July 28, 2020, the City of Seattle passed an "Internet for All" resolution, committing to a "vision of making broadband internet service accessible, reliable, and affordable to all residents and non-profits" (cited in Rhinesmith & Kennedy p. 17).

Legal Resource Outreach and Integration

Other relevant interventions which are described in the literature relate to outreach, and integration of online legal resource provision with delivery of other kinds of services.

Outreach through Trusted Intermediaries

Based on the reasons I have described, and as is well-known in the PLEI sector, many people—especially those who have low-income, are linguistic minorities, who live in isolated communities, and/or who face multiple barriers—go to trusted community-based contacts for help with legal problems. The role of these trusted "intermediaries" (such as community workers, helping professionals or volunteers, and Elders) is thought to be especially vital within rural, remote, and Indigenous communities which are frequently under-resourced, with few legal services available. For these reasons, much literature emphasizes that the ability of intermediaries to effectively recognize legal issues, provide reassurance, and refer people to appropriate resources is key in facilitating access to justice (see, e.g., CHRC, 2016; Cohl, Lassonde, Mathews et al., 2018; Forell & McDonald, 2015; McDonald et al., 2019; Public Interest Strategy & Communications Inc., 2016). While a diverse array of community-based actors is active in facilitating access to "just in time" legal help, some intermediaries (e.g., those in lifelong learning, literacy, and training / education sectors) can also be supported to incorporate "just in case" legal information and education resources within existing programs (Wintersteiger, 2015).

Given this, many reports stress the need to ensure community-based intermediaries are equipped to provide effective, trauma-informed legal education, information, and referrals, and to assist with online legal aid applications where these are available (see, e.g., CHRC, 2016; Fenske & Froese, 2017). As Finlay (2018) writes in the UK, there is need for investments in "trusted faces" in "trusted places." However, providing regular and effective training for intermediaries across BC entails challenges: Frequent changes in the legal landscape, and high rates of staff turnover in community agencies means that public legal service providers must constantly update resources and training materials despite significant resource constraints (Murray, 2019).

Recent consultations undertaken on behalf of LABC affirm the value of training and outreach efforts to support community-based intermediaries in increasing access to digital legal resources (Bluesky, 2019; Johnson & Van Eerden, 2019; R.A. Malatest & Associates Ltd, 2019). LABC's online 2019 survey of community workers across BC indicated a considerable appetite for both in-person and online modes of training; survey responses suggested many respondents likely have sufficient internet access at work to support the audio and/or video streaming requirements of common online training platforms. This was also the case for a majority of community-based intermediary respondents in rural and/or remote settings. At the same time, even among those with sufficient access to complete the online survey, there was a small but noteworthy proportion of intermediaries who faced technical barriers to accessing training online. The same survey found most respondents would like more frequent training; most were interested in training between two and six times per year. Feedback also indicated interest in a range of formats and a range of subjects which are addressed by LABC and other PLEI providers (Murray, 2019; see also Byrne, 2014, Public Interest Strategy & Communications Inc., 2016).

Many of the same LABC (Indigenous PLEI, PLEI in Languages other than English, and online training) consultation reports also underscore the importance of delivering regular communication and resource updates to province-wide networks of intermediaries—with monthly or bimonthly emails / ebulletins standing out as a preferred format. Within these processes, consultation participants indicated that regular, email-based updates would help them to be aware of available services and resources and would also enable them to easily pass on this information to others in their communities and networks. These same documents, alongside other reports on best practices in delivery of PLEI, further suggest the value of equipping intermediaries with ready-made materials they can use to identify legal issues and promote both online and offline resources to clients (Bluesky, 2019; Johnson & Van Eerden, 2019; Murray, 2019; see also CHRC, 2016; Currie, 2015; Crosby et al., 2018). Authors of LABC's PLEI in Languages other then English report state: "it is important to note that intermediaries have a distinct preference for active distribution of materials, i.e. those methods where the material is sent... as opposed to simply being posted on a site for their reference" (Johnson & Van Eerden, 2019, p. 24).

Integration of Access and Services

Several studies point to the value of co-locating computer and phone access with legal and other kinds of services—providing access to technology, and technical support, alongside the help of a knowledgeable navigator who can assist with various types of service-related online tasks (see, e.g., Chen, 2017; Denvir et al., 2018). Libraries (and similar public or community spaces) are often highlighted as keys point of access (Gann, 2019; O'Donnell et al., 2016, citing Hudson, 2012, 2015; Public Interest Strategy & Communications Inc., 2016). However, as I've discussed (above, p. 36), many reports underscore that financially stretched community organizations should not be expected to take on additional service delivery and/or legal navigation roles in the absence of additional funding and resources – including provision of training for staff. In their discussion of assisted digital supports, Denvir et al. (2018) discuss further considerations relevant to a co-location or "service hub" model, including: the need to ensure users have sufficient time, and privacy to undertake the sometimes lengthy and sensitive tasks that digital legal or quasi-legal tasks may entail. They also discuss benefits and disadvantages in relation to "pre-booking" and "walk-in" models, and cite the utility of appointment and documentation reminders (see also Social Spider CIC, 2016).

In a variation of this theme, some authors point to the value of a "hub and spoke" approach, wherein services are made available via "satellite" locations in local communities—ideally in spaces where people already access help (see, e.g., Fenske & Froese, 2017). For instance, in their discussion of how telehealth models might assist in delivery of legal services to older adults, Ries et al. (2016) recommend the establishment of partnerships with local community organizations who could facilitate access to technology:

> for persons without suitable home computing technology, local health care and community organisations like neighbourhood centres could be enlisted to provide a private space with computer access where the client can consult with a legal professional... staff at these venues could assist older clients in accessing and using the technology" (Ries et al., 2016, p. 11).

In their research on "hub and spoke" approaches, Fenske and Froese (2017) emphasize that sufficient and stable funding is key to ensuring efficiency and effectiveness. With respect to these kinds of co-location and/or partnerships, the research surveyed signals the importance of ensuring that "spoke" organizations are adequately resourced to provide not just the technology itself—but also

maintenance, technical support, and technical user assistance as needed (e.g., Beaton et al., 2016; CMHA-BC, 2018; Denvir et al., 2018; Ries et al., 2016). Further, access to justice research underscores that many who face multiple kinds of disadvantage will require assistance that extends beyond the scope of legal experts. Effective support is thus likely to require "joined up health, social and legal support to be effective" (Wintersteiger, 2015, p. 25; see also Pleasence, Balmer, & Hagell, 2015; Victoria Law Foundation, 2019).

Search Engine Optimization and Discoverability

The research surveyed also discusses online presence and online outreach—a large and technical area that cannot be fully addressed in this report. Further, the rapid pace at which search engine and social media technologies change will likely require a constant re-evaluation of strategies in this area. These caveats notwithstanding, the literature reviewed here offers some high-level considerations and examples.

One series of suggestions apparent in the literature relates to ensuring websites and/or resources are optimized for the best possible search engine results. As I have described above, there exists an overwhelming amount of legal information online, and search engine queries may not return results that are jurisdictionally relevant, actionable, credible, and affordable (see e.g., Byrne, 2014; Denvir, 2014; Hagan & Li, 2020; Wintersteiger, 2015). Based on their audit of google search engine results for common legal issue queries, Hagan and Li (2020) suggest several strategies that could be pursued to improve search engine results, so that those searching for legal information are more likely to locate resources which are most relevant and appropriate for their needs and circumstances.

Some research in this area illustrates the value of understanding the types of strategies people use when searching for legal information online. In Denvir's (2016) research, young people searching for legal information online typically used either: directed, close-ended questions; stories with questions at the end, or simple decontextualized phrases. In their audit of search engine results, Hagan and Li (2020) first asked lay users to generate multiple search queries for selected "life problems" topics; this resulted in hundreds of queries that could be used to accurately understand search practices and results, without presupposing that searchers will know to include legal and/or jurisdictional terms in their queries.

Hagan and Li also describe suggestions for improving information mark-up and availability. They recommend the use of Schema.org[25]—a standard system of "markup" language—as a tool that assists search engines in understanding how to present information on sites in response to particular search queries and locations. Schema.org was also been recommended to improve the discoverability of MyLawBC (Tandan & Djwa, 2019). Hagan and Li explain how it works:

> Legal aid and court organizations could use Schema.org markup to make clear their jurisdiction area served; the issue areas they serve; what kinds of services they offer; and how people can access their services. If they were applying markup to their general pages, as well as to specific pages with help for particular problem scenarios, they would likely place more highly on the search results pages and potentially be shown in call-out boxes on these pages (2020, p. 27).

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[25] See: https://schema.org

Additional examples highlighted by Hagan and Li (2020) have emerged through collaborative sectoral efforts such as "The Voting Information Project" jointly undertaken by Pew Charitable Trusts, Google, and local electoral offices in the US. This initiative established a system of authoritative, detailed, step-by-step and actionable local information that is provided to people searching for information on their local elections. The information is deliberately presented in "call-outs" (prominent boxes of text) on search page results; these call-outs also flag the importance of jurisdiction, providing a dropdown list of possible jurisdictions that invite the viewer to consider and select the most appropriate option. A similar initiative has involved Google's production of health information panels; in this latter effort, Google worked with medical subject matter experts "to distill, vet, and present clear synopses[26] of the health problem scenario that a person is searching about" (Hagan & Li, 2020, p. 28). As in the Voting Information Project, this information is then presented in a highly visible "call-out" positioned at the top of search results. Hagan and Li (2020) suggest that similar kinds of initiatives could be undertaken through partnerships involving search engine providers and sectoral-level collaboration among organizations in the public legal sector.

Tandan & Djwa's (2019) review of LABC's MyLawBC website offers additional considerations in this area. To improve the discoverability of that site, report authors recommended several changes ranging from minor code alterations and changes in heading structure, to adjusting the text included in the sites various guided pathways. Among other suggestions, the authors pointed to particular ways in which the site could improve use of keywords, more prominently feature its array of high-value publications, and increase cross-linking between the sites providers in the sector. While these suggestions were specific to that 2019 evaluation of MyLawBC, the broader lesson from such research is that public legal service providers need to actively seek out and apply the latest techniques known to improve discoverability. This is likely to be an ongoing challenge for online content providers given ongoing rapid changes in search engine technology.

Online Outreach via Social Media, especially Facebook

Another online outreach consideration that emerges through various studies concerns the widespread use of Facebook (and increasingly, Instagram) and how these popular social media platforms could be better used to provide people with information in the online spaces where they already engage. Based on research with those who face a variety of barriers to accessing digital technology in Australia, Chen (2017) suggests that widely-used platforms such as Facebook Messenger can offer low-cost channels for accessing services where a public Wi-Fi connection is provided. Chen suggests that the use of popular platforms also helps to reduce barriers related to digital comfort and skill because many people will already be familiar and comfortable in using these tools. In research with street-involved youth, Selfridge states that use of social media platforms and technologies "is vital to reaching youth" (2017, p. 211). Social media marketing (e.g., via Facebook, Twitter, and YouTube) was also suggested in roundtables with Indigenous women as an effective means to raise awareness and provide information about human rights (CHRC, 2016).

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[26] Google's description of how they produce this information can be found at: support.google.com/websearch/answer/2364942?hl=en (as cited in Hagan & Li, 2020).

Outside general discussion of Facebook as a highly popular platform, there was little detailed discussion of Facebook-based outreach in the other literature surveyed for this review. However, the fields of digital marketing and digital communications offer an array of insights and strategies that can be taken up by public legal sector providers to conduct effective online outreach. At the same time, the critical research surveyed emphasizes that such efforts must consider the fraught algorithmic and privacy-related dynamics that characterize Facebook and social media platforms more generally. Selfridge (2017) outlines the need for workers and agencies to establish safe, private, and effective practices in relation to digital communication; she further advocates for inter-agency sharing of policy and practices in this area. Wintersteiger asserts that enabling increased access to legal resources will require "a coordinated effort on and offline, to help users find what they need, when they need it" (2015, p. 25).

An Online Province-wide Legal Resources Portal

In relation to outreach and integration of digital legal services, the potential value of an online "one-stop-shop," or single point of entry portal emerges as a final theme that is mentioned in some reports. Several studies suggest the use of an app, or a clear and simple domain (for example, "LegalHelpBC.ca") that could be widely advertised, recognized as credible, and serve as a user-friendly pathway and/or directory to assist public audiences in locating high quality and jurisdictionally relevant legal education and information sites (see, e.g., Fenske & Froese, 2017; Social Spider, 2016). Sturm (2017) notes that this suggestion has frequently emerged within the health sector, where lay audiences face similar challenges with respect to identifying high quality and credible resources amongst the overwhelming array of health information available online (see also Crosby et al., 2018). In research undertaken for Legal Aid Ontario, participants consistently identified the need for common, reliable and clearly-defined entry points. This was thought to assist people in knowing where to look for help, and to provide assurance of reliability and trustworthiness (Public Interest Strategy & Communications Inc., 2016). Based on his analysis of Canadian data on legal help-seeking, Currie likewise stresses the value of "widely known citizen-friendly entry points" (2016, p. 42).

In their discussion of online legal resources, Hagan and Li (2020) cite the example of the Congressionally-funded non-profit The Legal Services Corporation (LSC) which has been funding state-based efforts to establish local websites offering legal information and referrals to in-person services. The authors specifically highlight two new centralized websites in the states of Hawaii and Alaska which are being designed to offer more intelligent support as part of a "Legal Navigator Project." These new websites are being designed to assist users in making sense of their problem scenario, identify the legal procedures and options relevant to their jurisdiction, and to connect them with appropriate free or low-cost providers who can assist them in completing the necessary tasks (Hagan & Li, 2020).

This type of solution may be relevant in BC, given the decentralized nature of BC's PLEI sector. Byrne's discussion of PLEI formats and delivery channels in BC notes that attitudes in the sector vary regarding the "comparatively numerous website offerings in the province" (2014, p. 48). Challenges that are perceived to be associated with a "one-stop" portal model involve keeping such a site updated and ensuring ongoing collaboration across multiple providers. Some also suggest that many different sites, in varying formats, increase the chances that people will find information in a way that is tailored to their needs and interests (Byrne, 2014). On the other hand, well-documented challenges related to legal complexity, information overwhelm, search engine functions, and difficulties locating information online

(see above, pp. 67-69) suggest it may be worth considering how a common domain or portal model could be implemented in a way that benefits all BC public legal service providers and their audiences.

While assessing the practicality or value of a "portal" model is beyond the scope of this review, it's worth noting that any efforts in this area would need to avoid duplicating the existing array of high-quality resources in BC's public legal sector, including the Clicklaw[27] site which already aggregates many such resources. Instead, the research surveyed suggests the potential utility of a portal may be: first, in acting as a highly visible "gateway" to BC's array of resources—driving increased traffic to existing sites through a single, well-advertised, and credible online point of access; and second, in use of guided pathway and / or triage features—presenting lay users with a series of questions about their situation, and then directing them to the legal services and resources which are most relevant to their needs.

In one grassroots community-level variation of this "portal" model, the Downtown Eastside Literacy Roundtable has developed a mobile-optimized website, LinkVan.ca, through which neighbourhood residents can connect to local resources (see Figure 10, below).

Figure 10: LinkVan.ca Homepage
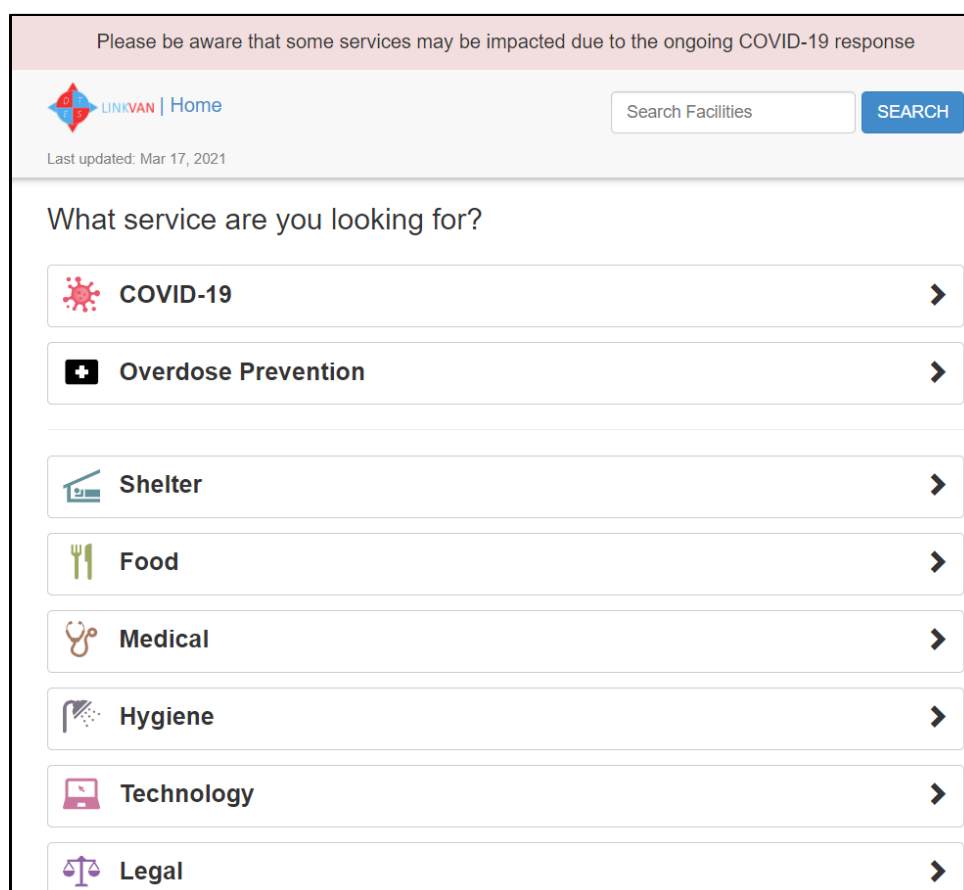
Source: LinkVan.ca, 2021. LinkVan Home.

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[27] Available at: www.clicklaw.bc.ca/

The LinkVan site focuses on basic services providing access to shelter, food, medical care, legal help and technology access points, among others. It was able to quickly adapt in the context of the COVID-19 pandemic to become a key public health information hub (Smythe, 2020). The site's clear and simple interface enables users to select a type of service and view a list of service providers (with contact and location information, and services details) ordered by proximity and/or opening hours. Notably, LinkVan developers used open source code that can be adapted for use in other locations (Linkvan.ca, 2021).

Digital Design and Digital Content

A further set of interventions which are addressed in many studies relate to site and content design. Once again, this is a large and technical area which is not covered in detail in this review. However, it is possible to identify several high-level principles that stand out in relation to the barriers described throughout this report.

Clarity of Purpose and Audience

One of these principles relates to the tension between a) producing material that is targeted and appropriate (in level of difficulty, etc.) for particular users and issues, and b) producing material which is sufficiently general to help as many people as possible (Forell & McDonald, 2015). Generally, the PLEI literature suggests the need to be clear about what kind of material is being produced, for who, and for what purpose (e.g., Byrne, 2014; Forell & McDonald, 2015; Public Interest Strategy & Communications, Inc., 2016; Wintersteiger, 2015).

Forell and McDonald underscore the difference between forms of CLEI aimed at "self-help," and those which instead aim to "broaden the awareness of legal problems and of particular services as source of assistance" (2015, p. 5). In their model for understanding different types of Community Legal Education and Information, the same authors suggest that, while self-help resources may be of value to those seeking information "just in case" and/or those who face minimal barriers with respect to digital and/or legal access, in many other situations CLEI will be best used as a means of connecting people with more intensive forms of support (Forell & McDonald, 2015). Likewise, McDonald et al.'s (2019) discussion of legal self-help resources underscores that both uptake and effectiveness of resources will vary by type of legal problem, and by users' experiences. Digital legal self-help resources, they note "may be more effective as a strategy to enhance access to justice and better meet the legal needs of the 'missing middle' than as a substitute for legal advice for public legal assistance clients" (2019, p. 1).

Practical and Actionable Content

The literature in this area also repeatedly underscores the value of content that is practical and actionable—meaning that it is relevant to the user's specific issue, and clearly identifies a series of actions and/or "next steps" for the user. As I've described (above, p. 78), in Australian research and in Ontario focus groups, participants stressed the need for process-oriented and scenario-based content, such as that which included practical examples and clearly-identified actions and next steps (Crowe et al., 2019; Public Interest Strategy & Communications Inc., 2016). McDonald et al. likewise note that self-help resources "may be useful as self-diagnosis tools, particularly where they help to frame a problem as 'legal', formulate strategies for action, [and] support more informed decisions about what needs to be done next to… progress resolution of the matter" (2019, p. 17). Information about process is key in

ensuring people know what they are opting into (Denvir et al., 2018), and helps users know what to expect—a key element in reducing stress (Public Interest Strategy & Communications, Inc., 2016.)

Likewise, Hagan and Li's (2020) audit of search engine results highlights the value of information that is specific to the searcher's jurisdiction, which is adequately detailed and actionable, and which builds legal capability. Hagan and Li's audit framework favours online legal resources which "tell the user exactly how a process works, or exactly what the law says." However, note the authors, "this is not to be confused with overly specific information, that lists out lawyerly details on exceptions, citations, and edge cases" (Hagan & Li, 2020, p. 7). Additional criteria suggested by the same framework are reflected in the following questions: "How helpful is the site in building legal capability?" "Does the site provide Problem-Understanding Support to a user, so they can understand the nature of their issue and their options? Or does it provide Skills-Building Support, so they can take action to resolve their issue?" (Hagan & Li, 2020, p. 7). Finally, the same audit queries whether a given online resource directs users to free or low costs services relevant to their issue (Hagan & Li, 2020). Based on a different review of digital legal tools in the US, Sandefur et al. (2019) assert that improved coordination and the relaxation of certain conventions in the legal sector are necessary so that digital tools can "do more" in terms assisting users to take action on justice problems by automating some kinds of tasks.

User-centred Design

An additional, high-level principle highlighted in the research is that of user-centred design, which emphasizes the need to design both online and offline services, processes, and content from the perspective of users entering a service environment, as opposed to from the perspective of the institution / service provider. Currie recounts one study in which the legal resources examined contained too much general legal information about laws and legal systems, as well as the mandate and functions of the associated institutions. In this case, "the goals of the organization appeared to overshadow the objectives of the user" (Currie, 2016, p. 19). Sossin (2017) stresses that while "courts – and most other dispute resolution bodies – have been designed by and for lawyers rather than clients," design thinking instead "leads by definition to a bottom-up process" of understanding the ecosystem of services and the problem(s) as experienced by users. "The focus of design thinking is usability" (Sossin, 2017, p. 88, p. 89, p 91; see also Victoria Law Foundation, 2019).

A further characteristic of this approach is its orientation to practical learning via prototyping and early and ongoing testing with users (Sossin, 2017). Sossin's discussion of the application of design thinking to administrative justice in Canada overviews a number of design thinking pilot initiatives—for instance the development of a Track My Life app that helps youth to record and access their personal information; a Court Messaging Project that enables courts to send automated messages with reminders and tips to help self-represented litigants; and several initiatives that have entailed the redesign of lengthy court forms to produce a visually clear and easy-to-understand format for use by non-lawyers (Sossin, 2017). Elsewhere, researchers, users, and advisors co-developed a prototype elicitation diary app designed to help disability claimants document their day-to-day experiences in a way that could generate effective arguments and evidence for their disability claims (Watson, Kirkham, & Kharrufa, 2020). Notably, this disability claim diary was also offered in paper form, reflecting awareness that many who could benefit from this tool may face barriers to using it online. Further, the diary app was designed as a tool to be used in conjunction with help from a knowledgeable advisor—for instance, through prompting discussion of issues that might otherwise be missed (Watson et al., 2020).

As this latter example highlights, it's important to acknowledge the limitations of design thinking in cases where it focuses on innovation as an end in-and-of-itself, and/or on technical / technological solutions, rather than on the "tried and true" in-person approaches that remain vital for some users. For instance, in Hagan's discussion of a design thinking exercise in developing and evaluating different types of digital self-help tools for use by those facing legal issues in traffic court, users expressed interest in some of these tools; above all, however, what participants most wanted was help from a legal advisor (Hagan, 2019).

Sossin notes that as a partial corrective to the technology-centric focus of design thinking as it has been applied within the legal sector, "some organizations dedicated to access to justice are focusing on cohering and coordinating technical standards… in order to ensure technology does not simply reproduce and exacerbate many of the current dysfunctions in the justice system…" (2017, p. 92). More generally, however, the issues described throughout this report make clear that even the most well-designed and user-centred digital resources will remain inaccessible to some users.

Triage Principles and Guided Pathways

Along the same lines, and as I've noted above, triage and guided-pathway approaches are commonly highlighted in the research as promising techniques through which to assist people in locating and using the resources that are most relevant to their issues and needs. The idea of triage simply refers to the "effective channelling of people to needed service" (Public Interest Strategy & Communications, Inc., 2016, p. 13, citing ACAJCFM, 2013). In their discussion of best practices in PLEI delivery, Public Interest Strategy & Communications, Inc. (2016) explains:

> An effective system of triage will determine the needs of the user, and pose questions regarding the urgency of the problem that may help indicate the level of distress a user may be experiencing. This approach can in turn be used to prioritize the resources to which they are referred. (Public Interest Strategy & Communications Inc., 2016)

Denvir et al. (2018) describe how new digital by default UK court systems have proposed to use triage tools to establish whether assisted digital support will be required, and if so what type.

Guided pathways have emerged as a promising model of digital information and service delivery through which to implement triage principles. Guided pathways refer to user-centred design approaches that guide users interactively (via a series of progressively more specific questions and options) through their issue. Users thus move through the tool and their issue in a step-by-step way, from problem diagnosis to solution. The step-by-step approach of guided pathways is thought to be especially helpful for clients who face barriers to navigating legal systems and for those with only a general understanding of their legal issue. Guided pathways aim to be simple, uncluttered, and coherent in terms of their organizational flow and layout (Public Interest Strategy & Communications, Inc., 2016; see also Wintersteiger, 2015). These features "diminish the number of inferences clients are required to make" and are thus beneficial to stressed learners, among others (Public Interest Strategy & Communications, Inc., 2016, p. 18).

As in the US Legal Navigation Project examples described by Hagan and Li (above, p. 94), these approaches can be applied within specific tools as well as in the context of a portal. In the former category, LABC's MyLawBC and the BC CRT's Solution Explorer offer local examples which are very well-

regarded within the legal technology field (Smith, 2018, 2019; Sykes et al., 2020). Salter and Thompson (2017) describe how the BC CRT Solution Explorer seeks to avoid unnecessary costs and conflict by guiding users towards alternative and early forms of dispute resolution wherever possible.

In the latter category, Sandefur et al. (2019) emphasize the value of a prospective "one-stop-shop" legal portal that:

> consists of a natural language interface that diagnoses the legal aspects of a user's life situation, offers possible routes to solution, and then facilitates taking action toward a solution by compiling evidence of a complaint and creating or filing a legal document with a court or other agency (Sandefur et al., 2019, p. 7).

Further discussion and promising examples of triage and guided pathway approaches are provided in the 2016 best practices review undertaken on behalf of Legal Aid Ontario (Public Interest Strategy & Communications, Inc., 2016) as well as the numerous legal technology reports authored by Roger Smith (e.g., Smith 2018, 2019). At the same time, Wintersteiger (2015) describes how these various kinds of interactive and guided technologies can not simply be transplanted across uses and jurisdictions; instead, they must be designed in reference to local funding and service delivery contexts.

Accessibility and Ease of Use

Much additional research discusses design-related interventions relating to guidelines on accessibility, of which only a sample can be addressed here. These considerations relate to, among other things, ease of use and navigation, simplification of processes; plain language, audio and video content, and multi-lingual content (see, e.g., Byrne, 2014; R.A. Malatest & Associates Ltd, 2019; Watson et al., 2020). In Ontario focus groups, participants also expressed a preference for content that was visual (versus text-based), with appealing design, colour and imagery, and use of larger font (Public Interest Strategy & Communications, Inc., 2016). Offering information in a range of formats (including audio, video, and graphic visual aids—e.g., images and diagrams) is known to assist those with literacy challenges (Chen, 2017; Public Interest Strategy & Communications, Inc., 2016). Based on research with those who face a variety of barriers to accessing digital technology in Australia, Chen further advocates offering multilingual support on digital platforms, including audio and text-based translations that are accurate and culturally relevant, as well as multi-lingual live chat features (Chen, 2017). While the delivery of content in plain language is vital to those who face language or literacy-related barriers, all users benefit from information that is clear and easy to understand (Chen, 2017; Denvir et al., 2018).

At the same time, some of the same reports note that multi-media content places greater demand on bandwidth and should thus be carefully considered in relation to issues of data limits and internet bandwidth constraints (Chen, 2017; Public Interest Strategy & Communications, Inc., 2016). To better support those with poor or unreliable internet access, Chen (2017) suggests that digital forms should enable auto-saving, and/or should be made available in downloadable and offline formats. Design of content also needs to compatible with older technology (Taylor & Packham, 2016), and to consider the increasing number of users (especially those with lower incomes) whose primary method of internet access is via mobile phone (Byrne, 2014; Finlay, 2018; Sandefur et al., 2019).

In Australia, Chen describes how "'getting lost' on digital government platforms is a common experience for consumers who are not familiar with online interfaces" (2017, p. 67). Likewise, in her discussion of best practices in the delivery of PLEI, Byrne emphasizes the importance of effective content

management: "the organization of the site is as important if not more important than the volume of content in the site" (2014, p. 63). Good practices in this area include the effective use of headings, categories, tabs, breadcrumb trails, and links with scroll over titles to assist users in understanding "where am I? where was I? where can I go for more information?" (Byrne, 2014, p. 34; see also Chen, 2017). Chen (2017) also notes the value of using universal and intuitive symbols as visual indications of where to go for additional information or assistance. Well-designed and functional website search, saving, and printing features can also be key to improving navigability and usefulness (Bertrand & Paetsch, 2016; PH1 Research Inc., personal communication, March 11, 2021).

Numerous studies underscore the importance of ensuring that digital legal resources adhere to Web Content Accessibility Guidelines (WCAG) 2.0, which indicate whether online content will be accessible to a wider range of people with disabilities (Chen, 2017; Denvir et al., 2018). In one audit of over 200 websites of higher education institutions in the US, Taylor and Burnett assessed each site based on whether a person using screen reading technology could navigate from the site's home page to a page with instructions on how to apply. Interestingly, the authors found that five types of errors accounted for 85% of the problems they identified across all sites. Among these were Level A 1.1.1 errors related to non-text content (such as pictures, buttons, and hyperlinks). "Non-text content" state the authors, should always contain text that tells the user what the non-text content is and how to interact with it" (Taylor & Burnett, 2019, p. 12).

In the same study, additional errors fell within the category of Level A 1.3.1 (Information and relationships) and pertained to how web elements (such as text, images, hyperlinks, menus) are related to each other "and whether the website contains enough information for the user to understand how to navigate from one element to the next" (Taylor & Burnett, 2019, p. 12). Other common errors were Level A 2.4.4 (Link purpose) errors, which mean that users would be unable to determine the purpose of a link from its text-based description. The fourth type of frequent error identified by authors were Level A 4.1.2 (Name, role, value) errors which relate to:

> how web elements are described to the user and whether or not the website contains enough information for the user to understand how to interact with the element and if the element requires interaction to complete a certain process. For instance, if a webpage contains a checkbox, and the checkbox needs to be checked in order for a user to navigate from that webpage to another, the webpage should include enough information to tell the user to check the checkbox and whether the checkbox has already been checked or not (Taylor & Burnett, 2019, pp. 12-13).

The last key error category identified in Taylor and Burnett's study were Level AA 1.4.4 (Resize text) errors. This guideline requires that on-screen text can be resized to up to 200% of its original size, without the use of assistive technology. Beyond these most common five groupings of errors, other issues related to on-screen videos which lacked captions (Level A 1.2.2), web page colour schemes that lacked sufficient contrast (Level AA 1.4.3), and failure to ensure that all content was accessible through a keyboard interface or assistive technology (Level A 2.1.1) (Taylor & Burnett, 2019). As I've noted above, Chen (2017) also stresses the importance of WCAG guidelines on avoiding flashing content, avoiding CAPTCHA verification, and using easy-to-read fonts and colour schemes. Taylor and Burnett's research illustrates how, despite that WCAG guidelines are well-known and many are relatively simple to implement, the accessibility of sites is frequently compromised through failures to ensure the guidelines' consistent application.

In their consideration of best practices in PLEI delivery, Public Interest Strategy & Communications, Inc. (2016) outlines several guidelines that may assist the delivery of PLEI to stressed learners. Given the impacts of stress on learning, the authors suggest that efforts to reduce stress (e.g., through in-person support) prior to referrals to self-help resources may bolster users' abilities to access, retain and later apply that information. Other suggestions to support stressed learners include: the delivery of PLEI in a way that supports people in making appropriate connections to real-world situations; and ensuring that users are provided with up-front information about what to expect (e.g., in terms of expense, time, and complexity) within a given process. The same authors also note that stressed users may struggle to scan for relevant information, which can lead to abandoning use of a tool; this suggests digital resources should incorporate easy options through which a user can find support – for instance via a live chat option or phone-based support (Public Interest Strategy & Communications, Inc., 2016).

As in the case of new online court systems being implemented in the UK and Wales, the accessibility of online legal services is also envisioned to be enabled through the provision of "assisted digital supports"—for instance phone, web-chat, and face-to-face assistance (Denvir et al., 2018; Fenske & Froese, 2017). While these modes of assistance may indeed assist some users in being able to benefit from digital legal resources, there remain limitations associated with both phone-based and online chat formats, which may significantly impact some users (see above, pp. 79-80). Both Finlay (2018) and Denvir et al. (2018) stress that additional work is needed in this area to inform effective design and delivery of assisted digital supports. Denvir et al.'s (2018) analysis makes clear that that such supports need to be adequately planned and funded, and not only implemented as an afterthought.

Cultural Relevance and Cultural Safety

Ensuring that content is culturally useful, relevant, and safe is also commonly identified as of vital importance for Indigenous users and others (Beaton et al., 2016; Chen, 2017; McMahon, 2020; O'Donnell et al., 2016; Reedy, 2019; Singh et al., 2017). Based a review of health sector research, Sturm (2017) notes that web-based information which is culturally relevant, appropriate and specific to Indigenous audiences is more likely to be viewed and used by that audience. It is important, however, that such content avoids homogenizing representations of "pan-Aboriginal Nativeness" and is developed by and/or with the specific Indigenous communities in question (Sturm, 2017; see also McMahon, 2020; O'Donnell et al., 2016). Singh et al.'s (2017) discussion of culturally relevant health information likewise emphasizes the importance of community involvement in resource development to ensure that messages, translations, and modes of delivery respond to communities' needs. Walkem's (2020) discussion of Indigenous Peoples' access to the BCHRT suggests that web content should use: case-based examples that are specific to Indigenous Peoples; short videos to illustrate the process; and a guide to walk people through the process. Other research points to the value of technologies that can be used to support relationship-building, meaningful conversations, and modes of service delivery that incorporate local languages, and traditional practices and ceremony (Jones et al., 2017; Reedy, 2019).

Co-Design, User Testing and Evaluation

Research on digital design and content also emphasizes the importance of co-design, user testing, and the meaningful collection of data to inform evaluation and improvement of digital legal tools. Chen (2017) highlights the need for ongoing collaboration and feedback from those who will be users of digital legal tools, stressing that co-design "should begin in the early development stage of a digital government platform as retrofitting community accessibility features after the platform is launched can

cost more and cause disruption to [users] (2017, p. 66). In his discussion of digital legal technology, Smith describes how one digital legal tech developer engaged users in testing through "sampling by location"—setting up testing stations in community spaces (e.g., a mall) to reach different user groups in spaces where they already gathered (Smith, 2018). Hinderer Sova and Nielsen (nd) offer a long list of "tips and tricks" for those wishing to conduct usability studies. The same authors name three key elements for user testing – namely: 1) solicit feedback from representative users; 2) ask them to perform representative tasks; and 3) "shut up" and let users do the talking. In their review of PLEI delivery best practices, Public Interest Strategy & Communications, Inc. suggests the value of interactive assessment tools that enable users to offer their comments about the usefulness of the resource, and also enables them to flag technical problems (Public Interest Strategy & Communications, Inc., 2016).

A number of studies particularly focus on the need for evaluation in relation to new online court systems (Denvir et al., 2018; Finlay, 2018; Skyes et al., 2020). In the Canadian context, Salyzyn et al. (2017) have demonstrated the need for robust testing of court forms – both online and offline. Writing about online courts in the UK, Finlay (2018) stresses the need for end-to-end pilots of online justice services such that feedback heard at later stages can also be used to inform improvements at earlier states of the process. Finlay (2018) further emphasizes that online court providers should think carefully about collecting and making available the widest possible range of data to support research and evaluation of these systems by external experts.

Both Denvir et al. (2018) and Finlay (2018) also stress the importance of evaluation in relation to assisted digital supports. Denvir et al.'s comments on this topic suggest concern that many of the proposed evaluation metrics proposed in one UK pilot initiative reflect more concern for service "efficiency" (meeting internal timeframes) than for the experiences of users. Likewise, Finlay (2018) emphasizes that assisted digital supports must be tested with specific attention to the experiences of those who face multiple barriers—for instance, those who experience homelessness, those who are detained, and those in rural and/or remote areas with limited internet service.

Byrne (2014), along with many others, emphasizes the importance of linking evaluation practices to clear objectives and audiences identified in relation to a given resource. For instance, Tandan & Djwa's (2019) discussion of evaluation in relation to the guided pathways of MyLawBC offers a useful discussion of potential outcome measures related to: user behaviours (e.g. how many start or abandon a guided pathway); user actions (e.g. number of downloads); and user attitudes (e.g., level of difficulty, reported success, and willingness to return to the resource again). The same authors suggest a care-do-impact "conversion funnel" approach to evaluating digital resources that considers the entirety of a user's experience in locating, using, and benefiting from the digital tool: "In order to fully understand the conversion funnel, begin tracking why visitors come to MyLawBC as well as why they exit and what actions are taken once they exit" (Tandan & Djwa, 2019, p. 11).

Robust Privacy and Security

Finally, additional research emphasizes that, in cases where user data is collected and stored as part an online legal resource, digital legal resources need to enact best practices in the secure, private, and ethical management of data. This is particularly important considering heightened debate over data security in the context of decentralized cloud-based storage platforms (Chen, 2017). In its recent report on disaggregated data, BC's Office of the Human Rights Commissioner highlights the internationally recognized Five Safes model of data privacy and security; the model emphasizes how data management

should entail "Safe: People, Projects, Data, Settings, [and] Outputs" (Garner & Perry, 2020, p. 11). The same report underscores the need to extend the kinds of protections afforded to personal information to de-identified data as well; it further recommends robust practices of Privacy Impact Assessment that consider potential for both individual and community harms (Garner & Perry, 2020).

Other principles relevant to the collection, storage, use, and disclosure of data include the First Nations principles of Ownership, Control, Access, and Possession (OCAP®). These principles are rooted in awareness of how research and collection of data about Indigenous people and communities has often been undertaken in the interests of colonial, exploitative and racist institutions. OCAP® principles provide a framework through which First Nations are enacting their inherent rights to data sovereignty and ensuring that data initiatives minimize harms and maximize benefits for Indigenous people and communities (The First Nations Information Governance Centre (FNIGC), 2019).

Concern for privacy and security most obviously applies in cases where users' personal information is collected and stored as part of an online legal tool or service; however, these expanded understandings of data security and stewardship also apply to data that will be stored, used, and disclosed in aggregate – such as for purposes of evaluation and measuring outcomes. More broadly, the Digital Justice for BC Working Group has emphasized the need for a human-rights based policy framework which addresses not only equity and access, but also issues of digital privacy and surveillance (Digital Justice for BC Working Group, 2020).

Enhancement of Offline, One-to-one, and Complementary Supports

Finally, within many bodies of research, a cross-cutting series of suggestions stress the need to preserve and enhance face-to-face, and other offline and personalized channels for service-delivery and assistance—whether in the form of knowledgeable referrals, legal "navigation" guidance, or more intensive forms of advice. As is described throughout this report, numerous studies echo the findings of Crowe et al., whose research participants consistently expressed "preferences for human contact in their information experience" (2019, p. 113). In the same research, guidance received from a knowledgeable helper or navigator who could walk users through processes and identify next steps was crucial in helping people to feel reassured and less overwhelmed (Crowe et al., 2019). The safety and predictability that can be cultivated through trusted, empathetic, culturally knowledgeable, and process-based guidance is especially vital for those impacted by trauma (McCallum, 2020; Perry, 2006; Walkem, 2020).

Based on research with diverse groups who face a variety of barriers to accessing digital technology in Australia, Chen (2017) highlights a common preference for "human engagement," especially for more complex forms of issues. In Ontario focus group research, participants were interested in online legal resources, insofar as these were offered as one option among other types of supports (Public Interest Strategy & Communications, Inc., 2016). In a recent submission on court access and mental health, the Australia-based Victoria Law Foundation describes how research findings "point to in-court programs (e.g. navigator schemes) to help guide people… through what is often complex and stressful processes that they typically feel [are] inaccessible" (Victoria Law Foundation, 2019, p. 3). Further, an important overarching insight is highlighted by the authors of one health sector study; these researchers caution that a predominant focus on mitigating barriers to use of digital tools "may be inadvertently placing individual responsibility in addressing these barriers" on users who

experience the greatest disparities (Antonio, Petrovskaya, & Lau, 2019, p. 871). A focus on the use and usability of digital tools, urge the same authors, should not distract from the crucial impacts of the socio-technical-economic-political contexts which lay at the root of inequities and which necessitate structural and policy-level interventions.

In line with the issues discussed throughout this report, several studies underscore that some groups of people are disproportionately at risk of being excluded through digital by default approaches to legal service provision. Based on their review of international legal needs survey research, Pleasence and Balmer observe:

> Men, young people, and those with poor English-language skills, lower levels of education, mental health problems, the lowest incomes, as well as those living outside major cities were more likely than other respondents to use in-person visits as their only means of seeking assistance (2019b, pp. 144-145).

Chen (2017) also stresses that in-person help may be especially crucial for those who speak languages other than English, people with disabilities, seniors, and those who face connectivity and/or affordability barriers. Likewise, based on her study examining the legal help-seeking practices of older adults, Denvir et al. (2014) note that:

> Whilst the 'young old' will utilise the internet to a greater degree and will require websites which are tailored to their needs, those individuals at the older end of the age spectrum may best be served by continued access to face-to-face or outreach advice. (2014, p. 670)

On the whole, the literature illustrates how digital resources have high value as part of a suite of options that should be made available to people in ways that are timely, targeted, "joined-up," and appropriate in relation to peoples' situation and needs (Chen, 2017; Forell & McDonald, 2015; Kahlon, 2017; Pleasence & Balmer, 2019b; Pleasence, Coumarelos, Forell et al., 2014; Wintersteiger, 2015). Forell and McDonald's (2015) oft-cited model for understanding different types of Community Legal Education and Information offers a typology through which to consider technology use in light of the diverse needs of different audiences—depending on the nature and urgency of their issue legal issue, and the extent of the barriers they may face. In cases where users are seeking information about an issue in advance ("just in case")—as is sometimes true with respect to preparing a will, or for educational resources such as those designed for students or for training trusted intermediaries—and for audiences who face fewer barriers, there may be more scope for use of digital technology. However, for those seeking help "just in time," for whom their legal issue(s) constitute a crisis, and/or for those who face the types of barriers described throughout this report, Forell and McDonald (2015) caution that there is less scope for technology use due to the importance of human support and relationship-building.

Related to this, several reports offer the specific example of videoconferencing as a mode of online service provision through which it may be possible to leverage digital technology benefits and also offer access to one-to-one, personalized support and guidance. These studies have documented interest in and/or benefits of telehealth-style "tele law" services for diverse user groups, including residents of remote Indigenous communities, survivors of violence, people with disabilities, and seniors (Fenske & Froese, 2017; Jones et al., 2017; Prochuk et al., 2020; Ries et al., 2016). However, accessibility considerations (e.g., related to connectivity, speed, bandwidth, device affordability, digital skill and comfort, and privacy) obviously play a pivotal role in determining whether, how, and for

whom videoconferencing is appropriate. Once again, the virtual legal clinic, or hub and spoke, model described by Ries et al. (2016) (above, p. 91), may help to increase access to videoconference-based legal services and support.

More generally, Forell and McDonald (2015) highlight the need to treat various forms of PLEI as resources that could and should be integrated with more intensive forms of assistance. McDonald et al. (2019) cite useful insights in health sector research, where studies have shown that patients are better able to comprehend healthcare information when it is delivered through a combination of verbal and written instructions. The same authors' analysis of Australian survey data shows how reported legal problem outcomes were improved when advisors provided a custom set of resources. As in Sykes et al.'s (2020) BC CRT research (above, p. 82), Wintersteiger emphasizes that earlier UK survey data "strongly suggest the continuing importance of combined on and offline assistance for legal problems" (2015, p. 23). Likewise, in contrast to those who argue the need to keep users in a "digital mindset," Finlay advocates for the benefits of a "multi-channel approach" through which users can be supported to "move with ease between digital access, phone assistance, face-to-face assistance, and paper" (2018, p. iv).

All in all, a clear overarching message from the literature is that digital legal resources and services should not be regarded as stand-alone and/or cost-saving substitutes for more personalized and supportive kinds of legal help (see especially Forell & McDonald, 2015; Kahlon, 2017; Public Interest Strategy & Communications, Inc., 2016). As legal technology expert Roger Smith has put it, "technology can supplement but not supplant personal assistance" (2019, p. 44). In general, the combined literatures on digital equity and access to justice highlight that many barriers to online participation occur long before someone ends up online. Further, many of the same groups who are most vulnerable to legal issues and most likely to face unequal access to justice, are *also* those who face the greatest barriers to accessing resources online. Because issues of digital exclusion are structural, systemic and complex, they cannot be resolved only through better digital design. Taken together, the research in these areas underscores the need to treat digital legal resources as complementary—as part of a spectrum of services and resources that may be effective for some people but not for others, and which may be most effective when used in combination with supportive, trauma-informed and relationship-based assistance.

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