Digital Inclusion of Marginalized Seniors

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Digital Inclusion of Marginalized Seniors: Access to Health Care Information

05.15.2018

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Executive Summary

Background

The research study was chosen because, as librarians, the researchers are inherently interested in topics that pertain to issues regarding equal, open and contextual access to information. This particular topic was chosen because the existing literature indicates that while there is a large body of research and study about the digital inclusion and exclusion of seniors, there is a dearth of information on the same topic when additional demographic factors are applied to seniors. This gap in the literature indicates that further study is required in order to determine if there are indeed demographic factors that more significantly impact the digital inclusion and exclusion of seniors. After determining which factors are most significant, plans can be developed in local communities and beyond that address these factors more completely and appropriately. This study focuses upon the marginalized groups of immigrant, Indigenous and rural seniors.

The researchers come to the table with various capabilities that support the research topic. These capabilities include: extensive experience in a hospital library (including patient information support); rural roots; a strong background in Indigenous library services; experience working with seniors, newcomers and second language acquisition; and a working knowledge of data analysis practices.

Methodology

From an interpretivist lens, the research was designed to capture both quantitative and qualitative data by using a case study approach to find out about digital inclusion and the senior population in and around London, Ontario.

To that end, a survey was designed to capture both types of data. This survey was administered in person at various sites at which seniors live or gather. As well, during these site visits, the researchers observed behaviour and identified themes in informal conversations that were recorded in field notes. The survey was also made available to seniors online who did not attend one of the survey administration sites.

The proposed sample size for this study was 400-800 participants, but the final result was 245 individuals.

Key Findings

Upon analysis of the data, several key findings emerged. Some of the findings (and associated recommendations) are based upon the marginalized groups that were determined at the beginning of the study. Other findings relate to further marginalized groups that developed as the results were reviewed or to seniors as a whole because some aspect of homogeneity was discovered. They include the following:

- Many seniors do not use the internet, or, more specifically, do not search for health information online because they have no interest in doing so.
- Barriers such as cost, connectivity and language impedes seniors’ abilities to access information digitally. These barriers are often connected to immigrant or low income groups. In this way, certain social determinants of health impact digital inclusion.
• Issues such as too much or too little trust in the information that is found online creates a problematic situation for seniors who rely on this method of seeking knowledge.
• Seniors’ attitudes and beliefs relating to information-seeking behaviours raise additional concerns about the benefits or disadvantages of using the internet to obtain relevant and reliable health information.
• Gender differences create a situation whereby men’s health concerns become the emotional labour of women (their wives).

Key Recommendations

Recommendations from the study include:

• Ensure seniors have access to health information resources through libraries, doctor’s offices and pharmacies. For example, a subscription to the consumer health information found in UpToDate should be made freely available province-wide.
• In conjunction with the previous recommendation, ensure pharmacists are ready to provide health information in a variety of languages and for seniors with various levels of comprehension. This is an important recommendation since many seniors indicate that the pharmacy is a key resource for health information.
• Provide appropriate training opportunities for seniors so that they can effectively search for information in consumer health databases, and arguably more importantly, gain or hone essential skills to critically evaluate the content. Such opportunities can occur by expanding upon computer literacy courses / sessions found in libraries, community centres, etc.
• Create a subsidy or other such program so any senior can afford a computer in his or her home.
• Develop, perhaps at a provincial level, a collection of curated open access sources so that location or cost of access are not barriers. Librarians are ideally suited to undertake this task.
• Ensure that any sources created for seniors uphold the standards of universal design and best practices for effective website usability.
• Conduct further research on the topic to include such elements as the health conditions or educational background of respondents, location of internet access, or length of time spent searching for information. Finding answers to these questions could lead to other useful recommendations. In addition, a longitudinal study on the topic could be very illuminating since it could determine whether or not behaviours and attitudes about finding health information change over time. That is, would the behaviour and attitude of a senior who is currently in his or her sixties change by the time he or she is 90, or are the differences that were discovered regarding age the result of the age of the senior at the advent of the internet?
1 Introduction

Digital inclusion is the ability of individuals and groups to access and use information and communication technologies. Digital literacy, it follows, encompasses a wide range of skills which enables individuals to succeed in an increasingly digital world.

This project focuses specifically on the digital literacy and inclusion - or possibly exclusion - of seniors in relation to health care information.

As identified in a report from the Media Awareness Network (2010), “unlike schools, which provide the perfect environment for reaching and teaching Canadian youth, developing digital literacy programs for the general public -- which includes seniors, new Canadians and citizens who may be socio-economically, culturally, linguistically or geographically disadvantaged -- poses more challenges” (p. 24). As well, according to a study from the Organization for Economic Co-operation & Development on digital literacy skills, “15 percent of Canadian respondents scored . . . three percentage points worse than the OECD average. The lower scores were largely among seniors, people living in remote areas . . . as well as some immigrants and native Canadians” (Mahoney, 2013, para. 11).

If these findings are accurate, measures must be taken to alleviate this digital divide in order to ensure the health and well-being of Canadian seniors.

1.1 Statement of Purpose

This research project aims to investigate the various methods seniors use to in order to access health care information. More specifically, this research will focus on seniors’ information-seeking behaviours in an online environment in order to identify potential obstacles to the retrieval of accurate and accessible health care information.

The project began in the spring of 2017. A proposal, including an in-depth literature review and listing of potential community partners was submitted to eCampus Ontario. Funding and Research Ethics Board approval were granted in the fall of 2017. This was followed by confirmation of research partners and the development of the research instrument (survey), with a plan for its administration to take place in the spring of 2018. The data analysis and final report were completed in the 6 weeks after completion of survey administration.

1.2 Project Objectives

In order to advance the understanding of digital inclusion and digital exclusion, it is necessary to first understand why and how digital inclusion and exclusion are occurring. 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 needs of seniors. These needs are experienced along multiple axes of inequities pertaining to age, race, ethnicity, national origin, and religion” (p. 3). This trend is noticeably pronounced in health care. However, the possibility of factors other than age may also contribute to the digital inclusion and exclusion of seniors.
Determining if, and which, other factors have an impact on the digital inclusion/exclusion of seniors allows for the advancement of programs and opportunities to expand the rates of digital inclusion and digital literacy amongst seniors. Furthermore, the findings of this research project will help with the development and delivery of more inclusive, thoughtful, and comprehensive health care information services for seniors.

2 Methodology

2.1 Research Questions

The research questions are:

1. Which factors most significantly impact a senior’s access to the Internet and other digital technologies when searching for health care information? Services for seniors are often developed based on the assumption that people over the age of 65 are a homogenous group, that their experiences are the same, and that their age is the most important factor in their identity. Is this true? Or do other factors such as ethnicity, cultural beliefs, and geographic location play a more significant role in their access to digital technologies?

2. What factors most significantly impact the rates of digital literacy and adoption or uptake amongst seniors when looking for health care information? As with barriers to access, the question of age or other factors such as ethnicity, cultural beliefs, and geographic location needs to be investigated in order to understand their impact on the rates of digital literacy adoption and uptake amongst seniors.

2.2 Research Design

This study was considered from a cross-sectional perspective. Based on the theoretical lens of interpretivism, the research was approached so as to look at the seniors’ actions and the written representations of their thoughts and beliefs to seek further meaning. As Vosloo (2014) indicates, Weber maintains “all humans are attempting to make sense of their worlds. In so doing, they continuously interpret, create, give meaning, define, justify and rationalise daily actions.” (p. 307). These humans include both the researcher and the researched. “Interpretivism thus focuses on exploring the complexity of social phenomena with a view to gaining understanding” (Vosloo, 2014, p. 307).

With this perspective in mind, a case study approach was selected in order to look closely at seniors in relation to their participation in an online environment. This method was selected to enable the gathering of information that would allow the researchers to better understand the actions of the seniors relating to digital use. In addition to this understanding of the actions, the method was also used to provide a glimpse of what could possibly be behind these actions so as to be able to make recommendations for changing or maintaining the status quo.
2.3 Instruments

The instrument for this research study is a survey (see appendix). It consists of a total of 32 questions that range in purpose from gathering demographic data to asking for information about type and frequency of internet use, health information gathering behaviours, and thoughts and opinions regarding these activities. Questions were devised to collect both quantitative and qualitative data. Many questions asked for specific responses such as whether or not seniors go online independently or what type of health information they seek. Other questions asked what the participants thought about certain online activities or the lack thereof. Comments were solicited in many of these cases as a second part of a quantitative question. In addition, several questions allowed participants to respond as in-depth as they preferred in order to convey their thoughts, feelings and beliefs. Because of the resources available for the study, one-on-one interviews with participants were not possible, but these final types of questions allowed the researchers to gain some of the insight that may have been expressed during an interview process.

Participants were not required to answer all of the questions. Based on their answers to several strategic questions, they were directed to skip questions in order to move through the survey. This strategy was adopted in order to accommodate both those participants who do or do not access the internet and/or search for health information online. As well, the researchers were cognizant of the importance of keeping to a minimum the amount of time a participant spent completing the survey so as to be able to alleviate, to some degree, the potential for survey fatigue.

The survey was available to participants in either a print or an online format depending upon their preferences.

A minor instrument used throughout the study relates to the observations that were noted by the researchers at each of the survey sites. This anecdotal information can be used to expand upon the survey data.

2.4 Sample

The target sample size for this research project was 400-800 responses based on the population of the London census metropolitan area. The sample population consisted of men and women over the age of 60 who lived in London or the surrounding area. The final sample was 245 individuals who met the survey requirements.

A purposive sample was used in terms of wanting to find typical members of the population concerned. To this end, community partners were targeted to include locations where the over 60 population would typically gather or be in residence. Beyond this method used to determine the sample size, it was a sample of convenience that depended upon who happened to pass by the spot in which the survey was located.

To some degree, the ‘average’ urban senior was considered to be an informal control group since it is believed that these are the seniors who are most often thought of and encountered in the research literature. Other groups of seniors, namely rural and immigrant, are compared against the urban group. Although the indigenous population of seniors was considered a marginalized group to be studied in this project, the inability to reach a research agreement with local communities necessitated their omission from the study.
2.5 Data Collection

Data collection occurred mainly on site at the research partners’ locations. These locations included twelve branches in the Middlesex and Huron County Library systems, two seniors’ centres in London, a retirement residence, and the South London Neighbourhood Resource Centre. The survey was also conducted at Cherryhill Mall in London which is a part of a thriving seniors community. The Mall has become an unofficial community centre.

At each of these sites, the three researchers were on hand for several hours to request participation and walk people through the survey process. The process began with obtaining consent from anyone who wished to proceed. At these sites, no seniors opted to complete the survey online via a laptop; their preference was to complete the survey on paper that was then transferred by the researchers to the online survey in SurveyMonkey.

Throughout the sessions at each of the sites, the researchers naturally observed the seniors’ behaviours, including those who engaged with the researchers but chose not to participate. As well, the researchers held informal, ad hoc conversations with seniors who participated and those who did not. Field notes were made to capture the essence of what was observed and heard.

When administering the survey at the South London Neighbourhood Resource Centre, it was necessary to provide interpreters to assist the Spanish- and Arabic-speaking seniors who participate in the Centre’s activities. The consent letter was translated into these languages to ensure that all respondents fully understood what participation entailed. The interpreters read each question to the participants in their language of choice. The participants then indicated their answers on the printed survey. When comments were made, the participants told the interpreters what they wanted to say, and the interpreters then translated the comments verbatim to English for the researcher. The researchers then recorded the comments in English on the individual participant’s copy of the survey.

The survey was also made available online. This link was posted on the Facebook pages of the county library systems. It was also posted on the researchers’ Facebook page. A minimal number of responses were received through this method.

2.6 Data Analysis

Upon completion of the survey administration, a preliminary analysis was performed by the Statistical Consulting and Collaborative Research Unit at the University of Waterloo. A report was prepared by this unit that provided the researchers with limited results of comparative data. However, most of the data analysis was completed by the researchers themselves using the analysis reports provided by SurveyMonkey. To begin the process, the responses for each question were reviewed in order to identify trends and themes. Then, results were cross-tabulated to see how different factors impacted each other. For example, data across questions was compared according to age, income, and marginalized groups. To further break down the data related to immigrant participants, the impact of the length of time in Canada was also analyzed.

In order to clearly identify themes or trends, the comments were coded by the researchers as well. This task necessitated the process of colour-coding the data to group expressions of common viewpoints and make
note of disparate opinions, values and attitudes. This activity provided a thick description of the participants’ experiences relating to digital inclusion.

As these activities revealed commonalities and differences, researchers considered the significance and meaning in order to outline the study’s findings and discuss the results and recommendations.

2.7 Limitations

There were a number of limitations to this study due to a variety of factors.

The final sample size did not reach the projected numbers for participants thereby limiting some of the conclusions that could be proposed because of too few responses.

As well, there were considerably more female respondents than male, which may mean that any of the findings could be skewed because of unequal gender representation. The survey results reveal that 76.61% of respondents were female vs. the 55.91% senior female population in the London census metropolitan area.

A final limitation is the lack of partnership reached with the Indigenous communities. Despite several different approaches taken to initiate contact with community leaders and organizations, this population was not included in the survey administration as planned. While this result was to some degree disappointing, it was not unexpected given the context of research within Indigenous communities. As identified in the First Nations Ethics Guide on Research and Aboriginal Traditional Knowledge, the connection between western scientific methods and Aboriginal knowledge (AK) is fraught with difficulties. "Many deem integrationist research and implementation methods as another form of colonization and exploitation, where knowledge is categorized into hierarchies and AK can be devalued, exposed, abused or used against Aboriginal empowerment to self-govern their resources” (Assembly of First Nations, n.d., p. 3).
3 Overall Findings

Participants navigated the survey based upon their answers to several strategic questions. All respondents were asked to answer questions 1, 2, 25-31. Those who use the internet were asked to answer questions 3-5, 20, and 21. Those who use the internet and look for health information online were asked to answer questions 6-19. Those who do not use the internet at all were asked to answer questions 22-24. Only those participants who identified as immigrants were asked to answer question 32.

**Question 1: Which age group do you belong to? (n=242)**

The majority of the respondents are aged 65-69.

**Question 2: Do you use the internet on your own without any help from family or friends? (n=241)**

The majority of seniors (80.91%) do independently use the internet.

By reviewing this data according to group, income, age and gender, further aspects of this question can be identified.

More rural seniors (97.14%) use the internet independently as compared to those who identified as urban (80.72%) or immigrant (62.5%). Online participation rate is higher for new immigrants (those who have been in Canada for under 6 years) at 80%.
The rate of independent internet use increases as income increases.

Compared to seniors between the age of 60 and 69, more elderly seniors (70 and over) are less likely to use the internet on their own.

77.84% of women use the internet independently vs. 88.24% of males.

**Question 3: How often do you use the internet on your own without any help from family or friends? (n=195)**

Of the seniors who do independently use the internet, 80.51% of those individuals indicated that they are online every day.

Age does not impact the frequency of independent internet use.

There was a difference in independent internet usage between seniors who identified as urban versus rural, with 80.72% of urban seniors responding ‘yes’ compared to 97.14% of rural seniors.
Question 4: In what ways do you participate? (n=192)

Email, information seeking, and social media usage are the top activities.

Seniors who identify as rural are more likely to use the internet for these combined activities (97.14%) than their urban counterparts (80.72%).
Question 5: Do you look for health information online? (n=195)

The majority of seniors (81.54%) indicate that they do use the internet for this purpose.

88.06% of urban seniors responded ‘yes’ compared to 79.41% of rural seniors.
The survey results also demonstrate that seniors in the older age groups (85 years and above) are significantly less likely to look for health information online.

**Question 6: How often do you use the internet to look for health information? (n=157)**

Lower income groups look for health information less often than their higher income counterparts. Those with an annual household income of $20,000 or less have the lowest rate of frequency.

Males look for health information online at a rate of 75.56% as compared to 84.62% for females.
Question 7: What kind of health information are you looking for? (n=155)

As the chart demonstrates, no clear preference was indicated as to where they get their information.

Question 8: Where do you look for health information on the internet? (n=153)

As the chart demonstrates, no clear preference was indicated as to where they get their information.

Use of government websites decline as income increased.
Question 9: Why do you like to use these sources for health information? (n=153)

55.41% of respondents indicate the clarity of information.

Question 10: How do you search for health information? (n=156)
Question 11: How often do you find the health information you are looking for? (n=157)

- **Always**
- **Sometimes**
- **Never**

Question 12: Thinking of your answer to the previous question, if you selected ‘Sometimes’ or ‘Never’, please explain some of the reasons why you think that is. (n=61)

See discussion for any relevant comments.

Question 13: Are you satisfied with the information you find? (n=152)
Question 14: Is the information you find easy to navigate? (n=152)
Question 15: Is the information you find easy to understand? (n=152)
Question 16: Is the information you find useful? Does it answer your question(s)? (n=152)
Question 17: How trustworthy do you feel the information is? (n=152)

Questions 13 – 17 address different aspects of the information seeking process. No seniors selected the ‘Never’ option for any of these aspects. ‘Sometimes’ is overwhelmingly the most frequent response followed by ‘Always’.

For question 17, seniors in the 70-74 age group are the least likely to select “very trustworthy” as the preferred option.
Question 18: Do you think there is room for improvement in the health information you find online? (n=152)

Questions 19, 21, and 24: In what ways do you find health information?

This question was asked of three groups: those who use the internet to look for health information (Q19, n=151), those who use the internet, but not to seek health information (Q21, n=29) and those who do not use the internet independently at all (Q24, n=40).

Consulting a doctor or other medical professional is the top selection at 87.19% for all respondents, followed by (in order of preference) a visit to the pharmacist, consultations with friends, consultations with family, and library research.

Immigrants who do not use the internet at all indicate that they much less often go to the pharmacy to seek health information than other respondents.
Question 20: What are the reasons you do not look for health information online? (n=29)

These respondents use the internet, but do not look for health information online.

Question 22: What are the reasons you do not use the internet? (n=44)

This question was answered by people who indicate they do not use the internet at all.

Lack of access to a computer is, in fact, the most significant barrier across all groups of seniors, with 56.52% of participants selecting this as the reason for not using the internet.

By reviewing this data for the immigrant respondents, several tendencies develop. Nearly 45% of immigrant respondents cite language issues as a barrier to online searching. This number is even higher for respondents who indicate that they have been in Canada for between 6-20 years, with 71.43% citing language issues as
the reason they do not use the internet. 67% of immigrants who have been in Canada for over 20 years cite access issues as the most prevalent reason for lack of participation in an online environment.

8% of seniors in the 60-69 age group responded with “It is not important to me”, compared to 60% of seniors aged 90 and over.

Lower income seniors more strongly selected reasons that can be seen as barriers for not using the internet than any other group.
Question 23: What might encourage you to use the internet on your own without any help from family or friends? (n=39)

This question is answered only by those who do not use the internet.
Improved access and greater assistance were top selections. Seniors 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. These responses made up 71.75% of the total.

A great many seniors have a lack of interest in participating in an online environment. 35% of seniors indicated that nothing would incentivize them. While immigrant seniors as a whole demonstrated disinterest in internet use at 44.44%, those who have been in Canada for 6-20 years indicated the highest level of disinterest at 71%.
As seniors age, their participation in an online environment decreases. Despite this decrease, seniors indicate that not finding information online is acceptable.
Question 26: Thinking about your answer to the previous question, please comment about why you feel this way. (n=150)

See discussion for any relevant comments.

Question 27: How do you feel your level of participation in an online environment affects your overall health and wellbeing? (n=225)

Once seniors are past the age of 80, they most often do not see a connection between participating in an online environment and their health.

Higher income seniors are more likely to believe that participating in an online environment positively affects their health and wellbeing.
Question 28: Do you have any other comments or questions? (n=39)
See discussion for any relevant comments.

Question 29: What is your gender? (n=218)

![Gender Bar Chart]

Question 30: What is your best estimate of your total annual household income before taxes? (n=177)

![Income Bar Chart]

Immigrant seniors comprise 47.50% of the lowest income bracket (n=177)
Question 31: In addition to being a senior, how else do you identify? (n=224)

Note that 30.80% of total respondents chose not to identify with additional groups. As findings relating to these groups are listed throughout the report, this factor must be kept in mind.

Question 32: How long have you lived in Canada? (n=48)

4 Discussion

The survey revealed that the majority of seniors are digitally active. As the results are more closely examined, however, it appears that they may not have the high level of digital literacy required to adequately navigate an online environment. There are multiple compounding factors for this assertion.

Inclusion

For the most part, seniors feel good about their level of participation in an online environment, as evidenced by question 25, and this can be interpreted as a feeling of inclusion. Seniors do not, however, seem to feel there is a connection between this participation and their health and well-being as indicated by question 27.
While this overall feeling of inclusion is good, there are other factors to consider that speak to the benefit and value of their participation.

**Marginalized Groups**

The core purpose of the study is to identify possible differences in seniors’ experiences of and attitudes towards internet use from the perspective of identified marginalized groups (rural, indigenous, and immigrant). As these participants responded to the survey, it became apparent that, in addition to belonging to the identified groups, other demographic factors such as income and age create significant marginalization for seniors as well.

For example, the most elderly seniors had unique perspectives that can be further analyzed. As well, as has been indicated, in general, people feel good about their online participation, but immigrants less so as indicated by question 25.

While certain differences can be seen between the groups, it should be acknowledged that at times there is a cohesion of thought. For example, of the senior immigrants who do look online for health information, the results are comparable with the other groups, with ~80% of respondents engaging in this behaviour.

Other examples of impact of marginalization can be found in subsequent discussion sections.

**Information Seeking Behaviour**

Seniors were asked to identify their search processes and preferences as well as evaluation ability. Looking at this data from a librarian perspective, several issues or concerns can be identified relating to information literacy skills. According to the American Library Association (ALA) (2000), information literacy is a set of abilities requiring individuals to “recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information.” (p. 2). “Information literacy . . . is increasingly important in the contemporary environment of rapid technological change and proliferating information resources” (ALA, 2000, p. 2).

According to question 9, many seniors indicated they often rely on the first source listed in the search results. This behaviour indicates a lack of understanding of the importance of a more thorough and methodical approach in order to find more relevant or credible information sources. For instance, one respondent stated simply, “I ‘google’ a topic and then read what comes up.”

Another issue relating to information seeking behaviour is the reliance upon just using the Google search engine rather than a guided search strategy. There appears to be little understanding that Google is merely a search tool and not necessarily a systematic search process. One particularly insightful comment is “. . . I am not sure how to go about finding reliable info. or narrowing it down to the specific info. I want. Sometimes it’s very frustrating because I just don’t know the correct terms to use and get too much useless info.”.

Potentially inaccurate perceptions of skill is evidenced in questions 12-18, whereby zero participants indicated ‘Never’ to describe their experiences regarding the satisfaction, navigability, understandability, usefulness, trustworthiness of the information they found. As library professionals, there is a degree of skepticism regarding these favourable responses. To some extent, this may be a situation where the adage “You don’t know what you don’t know” applies. The fact that respondents either answered always or
sometimes to this group of questions related to their opinion of online content is not necessarily a good thing.

**Trustworthiness of Information**

To further discuss the theme of trustworthiness and the connected concept of reliability, comments from questions 12, 13, 15-18 and 26 were assessed. Many assertions are made acknowledging that there is a lack of knowledge or skill to adequately discern what is a credible source. At the same time, most responses indicate a wariness about the trustworthiness of information available online in general as well as the ability to make that distinction. One respondent states that “[there is] so much junk science and dangerous non-credible material and marketing scams; much of the info. is unsafe”. This sentiment is expressed by many other seniors. Respondents also use words like “contradictory” or “questionable” to describe the online information. Most concerning, however, are the comments that indicate a lack of caution regarding what information is found. To the question related to level of satisfaction with the information found, one senior’s response is “It’s [sic] right information”.

Connected to this concept of trustworthiness is the participants’ confidence in their skills and abilities. As the researchers are familiar with the complexities involved in information seeking, retrieval and evaluation, comments such as “I’m not stupid” may be interpreted as an overconfidence on the part of participants. When considering health information, overconfidence in skills and abilities can potentially be as problematic as a reluctance to participate online at all because of a lack of confidence.

Interestingly, seniors who shop online are more likely to search for health information online. An inference that can be made is that some seniors are quite trusting when it comes to locating and sharing information online. The question may also be asked, if they trust the online shopping environment, does this mean they trust online sources or their ability to discern reliable content?

Despite the problematic issue of trustworthiness, many indications of a positive search approach are found as some participants speak about the need to keep searching to find relevant information. This iterative search behaviour is an important component of information literacy. For example, one senior mentions having “persistence until I find the information I need”. Another respondent said “I delve into it until I’m satisfied”.

Regardless of the accuracy of the information found online or seniors’ perceptions of their level of skill, the survey indicates that some respondents feel that the act of participating digitally provides them with a better understanding of things. Feeling informed can translate into a feeling of control which, in turn, may be a positive outcome. One respondent said “I can’t say that I feel ‘good’ about it, but I do feel that I have been informed. How I use that is up to me”.

**Access & Barriers**

A key component of the survey addresses the issues of access and potential barriers that are encountered by the senior population in their efforts to become digitally literate.

According to question 22, over half of those participants who do not use the internet cite a lack of access to a computer as the reason. In other words, this lack of access is a barrier. Based on the question as written, it is not completely clear what respondents understand lack of access to mean. This lack of access could be
involuntary due to factors such as cost or connectivity issues. There could also be a voluntary lack of access because some seniors indicate in questions 22 and 23 that they are not interested in going online or that it is not important to them. One respondent indicated that “I can’t be bothered. I’m too old”. A result of this perspective means that having health information only available online is a barrier, at least for seniors in this category.

Responses to question 23 indicate that improved access might incentivize some seniors. When asked what factors might encourage internet use, 26.09% indicated a desire for a computer inside one’s residence and 10.87% indicated an increased ability to afford a computer and/or internet access. The ability to afford a computer and/or internet highlights the situation of information privilege as many better quality resources are behind a paywall. The situation exacerbates the current environment whereby many citizens experience a digital divide.

Accessible information is also important. In fact, nearly a quarter (22%) of all respondents cite language issues as a reason why they do not use the internet. It follows, then, that many respondents assert that easier language, online help which reads text aloud, and the ability to read information in a language of their choice would be possible incentives. These selections comprise ~41% of the response total for question 23.

Numerous comments focus on the challenge of comprehending the medical terminology used at many health-related web sites. One respondent makes the claim that “some sites have a bit too much jargon that is health or academically based without clear explanation”, while another simply states, “I get mixed up with ‘medical’ terms”.

**Rate of Access, Frequency of Access & Satisfaction**

It was stated previously that the majority of seniors are quite digitally active. When considering the rate of access, it should be noted that, compared to seniors between the age of 60 and 69, more elderly seniors (those over the age of 80) are less likely to use the internet independently. Question 3 indicates that internet use decreases drastically with age, with 90% of individuals in the 60-70 age group online compared to only 28% of individuals in the over 90 age group. Seniors who are older than 85 years old are significantly less likely to look for health information online, even if they do use the internet on their own.

There are many possible reasons for this connection between age and internet usage. Perhaps there is disinterest in learning new skills. Certainly, question 23 demonstrates that interest in internet usage decreases with age; 8% of seniors in the 60-69 age group cited lack of interest as the reason for not using the internet compared to 60% of seniors over 90.

It is also possible that these older seniors are not aware of the benefits they may gain. Question 27 demonstrates that seniors who feel that participation in an online environment affects their overall health and well-being in a positive way are more likely to use the internet for both general and health-seeking purposes. Once seniors are past age 80, however, they are less likely to see a connection between participation in an online environment and their overall health.

Senior immigrants are, as a whole, less likely to access the internet without assistance, regardless of what age group into which they fit.
A strong connection between frequency of general internet use and online health research is apparent, as seniors who access the internet on their own every day are more likely to look for health information online than those who access the internet less frequently, as can be seen in questions 3 and 5.

Connections between frequency of access and satisfaction levels can also be made. For instance, seniors who use the internet weekly are both more likely to find what they are looking for and more likely to state that they “always” find the information useful. These findings are demonstrated by questions 11 and 16, respectively.

Interestingly, those who access the internet daily (the highest frequency) report decreased satisfaction levels. One inference that can be made by reviewing responses and comments is that simply using the internet does not guarantee that effective search techniques are being utilized. Another possible explanation is that when seniors use the internet at this rate of frequency, they do build skills that allow for better evaluation of what they find.

Still regarding satisfaction levels, a strong correlation can be seen with the perceived trustworthiness of content. Specifically, seniors who trust the online source are more likely to be satisfied with the health information they find. This connection is indicated by the ~80% of participants who selected the ‘Always’ and ‘Very Trustworthy’ responses to questions 13 and 17 respectively. Some respondents comment that the sites they use are “approved, authoritative sites”. Specific sites such as Mayo Clinic are mentioned. Respondents also made comments such as “I am always able to find relevant info.”.

**Emotional Labour**

It is worth noting that the impact of frequent access is weaker for male seniors. More specifically, male seniors who access the internet daily without assistance are significantly less likely to look for health information online than are their female counterparts. While this survey does not address the reasons for this gender-based discrepancy, some anecdotal evidence appears in the researchers’ field notes, which may provide a further avenue of study. Many potential male participants agreed to take the survey, but then, instead of completing the survey themselves, they had their wives do so on their behalf. Several male participants also indicated in their responses, and verbally to the researchers, that if they have questions about their health, they ask their wives to find the answers for them. In her seminal work, Hochschild (2012) defines emotional labour as a mix of physical and mental labour taken on by women as an expected part of their role in society. “This kind of labor calls for a coordination of mind and feeling, and it sometimes draws on a source of self that we honor as deep and integral to our individuality.” (Hochschild, 2012, p.7). It is possible that wives end up doing this kind of information seeking on behalf of their husbands as an extenuation of the emotional labour they have previously taken on in their relationship.

**Social Determinants of Health**

Throughout the analysis of the survey responses, researchers’ field notes, and the themes that emerged, there are many parallels with factors considered to be social determinants of health. For example, many seniors in lower income brackets identify lack of access to a computer in the home, as well as the unaffordability of internet access as reasons that they do not use the internet at all, or to find health information. A lower
income has proven to be a barrier to accessing healthcare, and it is quite compelling to see this pattern mirrored in terms of access to health care information.

It is worth noting that in question 8, it was determined that the use of government websites declines as income increases. Could this be because people with lower incomes are already familiar with government websites to access information about programs such as ODSP or Ontario Works?

Also of interest was the discovery in question 10 that seniors in the lowest income bracket are twice as likely to use libraries as those in higher income brackets. This is presumably so that they can access computers to use the internet and find health information. Of the seniors in the lowest income group, 62.5% indicated in question 22 that not having access to a computer is a reason that they do not use the internet. By comparison, all participants in the highest income group indicated that they do use the internet.

Further, the lowest income group has a higher rate of compounding factors for low participation rates, with 50% of the lowest income participants identifying, in question 20, additional issues such as language barriers and the need for physical help using a computer, as reasons they do not look for health information online. Conversely, of those participants in the highest income group, only one participant indicated that they do not look for health information online, while providing the explanation that it is just not important to them.

Question 27 also indicates a correlation between income and perceived benefits of online access. Seniors in the higher income brackets were more likely to say that they feel that internet use has a positive impact on their health than those in the lower income brackets. For instance, ~67% of seniors who earn over 100,000 per year feel there is a positive connection compared to 30% of seniors who earn less than 20,000 per year.

Indigenous community

Although several Indigenous communities and organizations were approached in an attempt to form a working partnership, ultimately no partnerships were reached. The researchers cannot draw any definite conclusions about why certain communities or organizations did not respond. The researchers were fortunate enough to meet with two individuals who work with the senior population at a local Indigenous community centre in London, Ontario. Ultimately, the seniors who access programming and services at this centre respectfully declined to participate in the survey, but initial discussion with the community centre staff members provided some insight into reasons why Indigenous seniors may or may not have wanted to participate in this survey. These reasons may relate to why these seniors do or do not participate in the larger online environment. The main theme from this discussion was a complete lack of interest on the part of Indigenous seniors. Through this discussion, some possible reasons for disinterest were explored:

- No desire to add a new form of communication/information seeking to their lives after living so long without it
- Poor internet access on reserves
- High cost of both computers and other devices, smart phones and internet access
- A desire for more, not less, face-to-face human interaction as a group with a strong oral tradition

As more and more government services and private businesses continue to become online-focused, or online-only service models, Indigenous seniors are increasingly excluded from accessing health care information.
5 Recommendations

When asked for ideas about how to improve the health information found online, seniors had very few suggestions. The following are recommendations to be made based upon the results of the study.

1. Ensure seniors have access to appropriate health information resources through libraries, doctor’s offices and pharmacies. For example, a subscription to the consumer health information found in UpToDate should be made freely available province-wide. Libraries are a natural location in which to find such resources, and the survey results indicate that seniors rely very heavily upon the information they obtain during a doctor’s visit or a stop in the pharmacy. It is important to provide reliable information at the point of need.

2. In conjunction with the previous recommendation, ensure pharmacists are ready to provide health information in a variety of languages and for seniors with various levels of comprehension. This is an important recommendation since many seniors indicated that the pharmacy was a key resource for health information.

3. Provide appropriate training opportunities for seniors so that they can effectively search for information in consumer health databases, and arguably more importantly, gain or hone essential skills to critically evaluate the content. Such opportunities can occur by expanding upon computer literacy courses / sessions found in libraries, community centres, etc.

Based on the survey results, there appears to be a lack of skill to search effectively and inability to adequately assess the content of what is found. In addition, there appears to be lack of awareness of what reliable information can be found in the more regulated content in consumer health databases.

4. Create an easily-accessible government subsidy or other such program so that any senior can afford a computer in his or her home. There could also be a component that covers the cost of internet access thereby alleviating the issues that arose in the research regarding cost and connectivity.

5. Develop, perhaps at a provincial level, a collection of curated open access sources so that location or cost of access are not barriers. Librarians are ideally suited to undertake this task. Such a program could be connected to or administered by local health agencies such as the Local Health Integration Networks (LHINs), or by regional library systems, or attached at an appropriate level to the Ministry of Health and Long Term Care.

6. In connection to the previous recommendation, efforts should be made to ensure that any sources created for seniors uphold the standards of universal design and best practices for effective website usability.

7. Conduct further research on the topic to better understand additional factors that influence seniors’ health information-seeking behaviour and attitudes. Finding answers to these questions could lead to other useful recommendations. These factors include:
   - **Health conditions of the respondents**
     How would the analysis of the responses differ if the health status or conditions of the respondents were known? Would there be differences in health information-seeking behaviours and needs seen between healthy individuals and those with newly-diagnosed or chronic conditions?
• **Educational background of respondents**
  Would the results display differences in respondents’ skills, attitudes and overall internet use based upon educational criteria?

• **Location of internet access**
  Questions about where participants currently or would prefer to access the internet could provide information to use in order to best provide support at the point of need.

• **A longitudinal study**
  Such a study could be very effective since it could determine whether or not behaviours and attitudes about looking for health information changes over time. That is, would the behaviour and attitude of a senior in his or her sixties now change by the time he or she is 90, or are the differences that were discovered regarding age the result of the age of the senior at the advent of the internet?

• **Connection between online participation and health**
  When asked about whether or not participation in the online environment positively impacts the participants’ health, many seniors indicated that they believe that it does. A study that asked questions that could explore the connection and the veracity of the participants’ beliefs could provide data to increase efforts to provide consumer health information if the connection is proven to be true.

• **Choices**
  Asking questions about why respondents make the choices they do about using the internet or finding health information online would provide a richer tapestry of data. This data could be utilized to make overall decisions about the best approaches for ensuring seniors’ have access to the health information they need and want. For example, if it is consistently found that seniors of any age choose to look for health information online only because it is their only option, but not their preference, there may be a need to consider other solutions than methods to promote digital inclusion.
6 References


7 Appendix

Digital Inclusion Research Study Survey

Please answer the following questions

1. Which age group do you belong to?
   - 60-64
   - 65-69
   - 70-74
   - 75-79
   - 80-84
   - 85-89
   - 90 and over

2. Do you use the internet on your own without any help from family or friends?
   - Yes  PLEASE GO TO QUESTION 3
   - No   PLEASE GO TO QUESTION 22

3. How often do you use the internet on your own without any help from family or friends?
   - Every day
   - Every week
   - Once a month
   - A few times a month
   - At least once every two months
   - Sometimes, but less often than every two months

4. In what ways do you participate? (select all that apply)
   - Online shopping
   - Entertainment (for example: online movies, electronic books)
   - Social media (for example: Facebook, Twitter)
   - Email
   - Information seeking
5. Do you look for health information online?
○ Yes PLEASE GO TO QUESTION 6
○ No PLEASE GO TO QUESTION 20

6. How often do you use the internet to look for health information?
○ Every day
○ Every week
○ Once a month
○ A few times a month
○ At least once every two months
○ Sometimes, but less often than every two months

7. What kind of health information are you looking for? (select all that apply)
○ Condition- or disease-related e.g. information about diabetes
○ Medication-related e.g. what are the side effects of my prescription drug?
○ Treatment-related e.g. is surgery the best option for my condition?
○ Related to accessing health services (doctors, hospitals, clinics, etc.) e.g. what lab do I go to for blood work
○ Other: (please explain)

8. Where do you look for health information on the internet? (select all that apply)
○ Government websites (for example: seniors.gc.ca, drugs.com)
○ Popular websites (for example: WebMD, MedlinePlus)
○ Sources suggested by my doctor or other health professional
○ Sources suggested by libraries
○ Associations (for example: Canadian Cancer Society website)
○ I don’t know / I don’t remember
○ Other: (please explain)
9. **Why do you like to use these sources for health information?**
   - I trust this website
   - It was recommended by family or friends
   - It provided clear information
   - It was one of the first websites that appeared in my search
   - I don’t know / I don’t remember
   - Other: (please explain)

10. **How do you search for health information?**
    - Google or other search engine
    - Typing in the web address
    - A database at a public library (A database is a collection of records of books and articles)
    - Other: (please explain)

11. **How often do you find the health information you are looking for?**
    - Always
    - Sometimes
    - Never

12. **Thinking of your answer to the previous question, if you selected ‘Sometimes’ or ‘Never’, please explain some of the reasons why you think that is.**

13. **Are you satisfied with the information you find?**
    - Always
    - Sometimes
    - Never

    Why do you feel this way? (please explain)
14. Is the information you find easy to navigate?
   - Always
   - Sometimes
   - Never

   Why do you feel this way? (please explain)

15. Is the information you find easy to understand?
   - Always
   - Sometimes
   - Never

   Why do you feel this way? (please explain)

16. Is the information you find useful? Does it answer your question(s)?
   - Always
   - Sometimes
   - Never

   Why do you feel this way? (please explain)

17. How trustworthy do you feel the information is?
   - Very trustworthy
   - Somewhat trustworthy
   - Not at all trustworthy

   Why do you feel this way? (please explain)
18. Do you think there is room for improvement in the health information you find online?
   ○ Yes
   ○ No
   If yes, in what ways could health information be made better or what could be done?

19. Other than online, in what other ways do you find health information? (select all that apply)
   ○ I visit my doctor or other health professional
   ○ I go to the library
   ○ I go to the pharmacy
   ○ I do not find the health information I want
   ○ I do not look for health information
   ○ From family
   ○ From friends
   ○ Other: (please explain)

   PLEASE GO TO QUESTION 25

20. What are the reasons you do you not look for health information online? (select all that apply)
   ○ Language barriers
   ○ Need someone to help me
   ○ Physical challenges
   ○ It is not important to me
   ○ The information is confusing
   ○ I don’t trust the information
   ○ Other: (please explain)

21. How do you find health information? (select all that apply)
   ○ I visit my doctor or other health professional
   ○ I go to the library
22. What are the reasons you do not use the internet? (select all that apply)
   - Do not have access to a computer
   - Language barriers
   - Need someone to help me
   - Physical challenges
   - It is not important to me
   - The information is confusing
   - I don’t trust the information
   - Other: (please explain)

23. What might encourage you to use the internet on your own without any help from family or friends? (select all that apply)
   - Easier language
   - Online help that reads the text aloud
   - Ability to read information in the language of your choice
   - Access to a computer inside your residence
   - Ability to afford a computer and/or internet access
   - Transportation to a library or other location to use a computer
   - Having support to learn to use a computer
   - Ability to overcome physical challenges
   - Feeling able to rely on or trust the information I find
24. How do you find health information? (select all that apply)
   - I visit my doctor or other health professional
   - I go to the library
   - I go to the pharmacy
   - I do not find the health information I want
   - I do not look for health information
   - From family
   - From friends
   - Other: (please explain)

25. How do you generally feel about your participation in an online environment?
   - I don’t use the internet and I’m okay with not finding information online
   - I don’t use the internet and I feel like I’m missing out because I can’t find information there
   - I use the internet and I feel good about the information I find online
   - I use the internet and I feel as though I can’t find information online
   - Other:

26. Thinking of your answer to the previous question, please comment about why you feel this way.

27. How do you feel your level of participation in an online environment affects your overall health and wellbeing?
   - Positively
   - Negatively
   - I don’t feel it affects my health
Please explain in what ways you feel it affects your health

28. Do you have any other comments, questions, or concerns?

29. What is your gender?
   - Female
   - Male
   - Other

30. In addition to being a senior, how else do you identify? (select all that apply)
   - Immigrant
   - Indigenous PLEASE GO TO QUESTION 32
   - Rural PLEASE GO TO QUESTION 32
   - Urban PLEASE GO TO QUESTION 32
   - I don’t identify with any of these groups PLEASE GO TO QUESTION 32

31. How long have you lived in Canada?
   a) Less than a year
   b) 1 to 5 years
   c) 6 to 10 years
   d) 11 to 20 years
   e) More than 20 years

32. What is your best estimate of your total annual household income before taxes?
   - Under $20,000
   - $20,001-40,000
   - $40,001-60,000
   - $60,001-80,000
   - $80,001-100,000
   - $100,001 or over