

“Meeting the needs of all Canadians: Older adults, affordability and mobile, wireless services”

Preliminary Intervention (CRTC-2019-57)  
“Review of mobile wireless services”

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## **1 . Executive summary:**

Our intervention focuses on how affordability impacts older adults. Affordability is one key theme that recurs in the Notice of Consultation (NOC). The Commission clearly signals the need to “improve competition, reduce barriers to entry, and address any concerns about affordability and service adoption in the mobile wireless service market.” (paragraph 16). In this report, we discuss how the current costs of mobile wireless services - or affordability- affects the ability of Canada’s growing senior population to participate fully in Canadian society. We explain how and why understanding this growing cohort of people, sometimes referred to as a seniors’ market, is necessary for a thorough analysis of the telecommunication needs of all Canadians by the CRTC.

The focus of our submission is straightforward: the current pricing system is unaffordable to many Canadians who are 60 and over. This is not only a missed marketing opportunity that hampers the growth of other industries that are reliant on mobile wireless service. More importantly this violates the 2016-496 regulatory framework that recognizes that mobile wireless services are a part of our universal service objectives and that, in order to fulfill this requirement, people must be put before profits. While revenues are consistently increasing for the major players in the telecommunications industry, this has not led to lower prices or more affordable mobile wireless services for all Canadians.

Citizenship is increasingly dependent on access to affordable mobile wireless services. As our research indicates, within the current context older adults in lower socio-economic categories, in particular older women, are at risk of disconnection. We suggest that to fulfill these universal service objectives that the diverse and varied needs of our country’s older adults, including those living on low-incomes, be considered. This needs to be done before decisions are made that could potentially cut off access to information that is “essential to citizenship in Canada”.

We advocate that continued public outreach in this consultation begin with a focus on people, which means adopting an approach that understands how affordability impacts the household budgets of older consumers, and even more importantly that the consultation take a citizen-centric approach. This shifts the focus of the consultation from a preoccupation with the needs of industry and instead considers how to enable full citizenship in a digital economy that is reliant on the provision of affordable wireless, mobile services.

## **2. Introduction**

### **a) Affordability and Citizenship**

We submit this preliminary intervention to the Canadian Radio-television and Telecommunications Commission's (CRTC) "Review of Mobile Wireless Service" (NOC CRTC-2019-57). The focus of our intervention is on how affordability impacts older adults. Affordability is one key theme that recurs in the Notice of Consultation (NOC). The Commission clearly signals the need to "improve competition, reduce barriers to entry, and address any concerns about affordability and service adoption in the mobile wireless service market." (paragraph 16). In this report, we discuss how the current costs of mobile wireless services - or affordability- affects the ability of Canada's growing senior population to participate fully in Canadian society<sup>1</sup>. We explain how and why this growing cohort of people, sometimes referred to as a seniors' market, highlights the necessity for a thorough analysis of the telecommunication needs of all Canadians by the CRTC.

By invoking affordability of mobile wireless services as a concern the NOC 2019-57, and hence the CRTC, recognizes that:

- a) this industry is essential to **all aspects of life** including citizenship (paragraphs 1; 12);
- b) this increase in need for access to mobile wireless communications, which the CRTC speaks of as a growing market for services, is generating increased revenues for this industry (paragraph 2);
- c) this growth in revenues **has not** led to more affordable services for Canadians (paragraph 14);
- d) **low-income Canadians may be most affected by the lack of affordable services** (paragraph 14);
- e) the decision to let market forces guide the industry has meant that wireless carriers did not have to apply for rate changes in the 1990s. This has not necessarily led to a more competitive market, or most importantly to lower prices;
- f) this lack of affordability means that "innovative, mobile wireless services" are not readily available to all Canadians;
- g) the high cost of mobile wireless services affects those Canadians who are already economically vulnerable and disadvantaged. We note that disadvantaged populations may include seniors, in particular those with lower income, older women, seniors with disabilities, those who come from minority communities and Indigenous people;
- h) this runs counter to the Telecommunications regulatory policy 2016-496, in which the Commission declares that "Mobile wireless services forms part of its universal service objectives.";
- i) this also runs counter to section 7 Telecommunications Act, repeatedly cited in the NOC. We include this section of the Act as an appendix.

The focus of our submission is straightforward: the current pricing system is unaffordable to many Canadians who are 60 and over. This is not only a missed marketing opportunity that hampers the growth of other industries that are reliant on mobile wireless service. More importantly this violates the 2016-496 regulatory framework that recognizes that mobile wireless services are a part of our universal service objectives and that, in order to fulfill this requirement, people must be put before profits. While we use the term seniors' market throughout this report, we also suggest that we are not only talking about a market as a forum for economic exchange, we also refer to a market as an

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<sup>1</sup> By senior population we generally mean people 65 years and older, however our 7 year longitudinal study allows for participants who are 60+ because it is a 7 year survey.

enable of access: mobile wireless services are now crucial for citizens to stay connected to each other and to essential services.

This is particularly crucial given population ageing in Canada. The CRTC notice indicates, “Canadians rely on mobile wireless services in many aspects of their lives.” Seniors echo these sentiments. As one older adult told us in a focus group conducted in 2018: “it’s about time the CRTC started looking at a phone and maybe even a cellphone as a necessity of life. Because otherwise, how are we going to manage?”. Seniors have noted the new “administrative fees” being levied by Bell, Rogers and other companies on those who call customer service for help and may find they are being charged for using the phone. As one 82 year-old interviewee candidly remarked:<sup>2</sup>

I think this fee is very unjust: the fee will affect mainly seniors... it does not only impact many, who may be technically challenged but also those who are financially disadvantaged. The move to add extra fees may also result in extended isolation. I would also like to note that the lack of availability of a cell phone could result in cases where the individual does not have any other means of communication (i.e. in public places) has the possibility to be exposed to dangerous situations, where a cell phone is needed to prevent a possible life-threatening situation. (i.e. a fall, an attack, etc.)

Seniors are faced with a myriad of new stresses in later life: growing health concerns, changes in home ownership, living on fixed incomes, dealing with losses of life partners and friends, rising costs for assistive services. Each of these issues demands time and urgent attention. For these reasons, advocating for affordability in the pricing of mobile wireless services for seniors is an issue of concern to *all* Canadians. The older adults we speak to want a telecommunications industry that responds to the needs of the ageing Canadian population, not one that just seeks to profit from it.

### **b) Ageing, Communication, Technologies (ACT)**

Ageing, Communication, Technologies (ACT— [www.actproject.ca](http://www.actproject.ca)) is an international, interdisciplinary research project funded by the Social Sciences and Humanities Research Council (SSHRC) and hosted at Concordia University in Montreal, QC. ACT brings together over 50 researchers from 12 countries as well as students, activists, artists and seniors. Together, we are committed to documenting and analyzing the transformation of how Canadians are ageing in the context of the proliferation of new forms of mediated communications in networked societies. ACT investigates ageing from a number of perspectives. Importantly, ACT examines how ‘digital ageism’—individual and systemic age-related biases—create forms of inclusion and exclusion within digitally-dependent societies.

## **3. Methodology**

### **a) Data**

This preliminary report draws on secondary statistical data, survey results from a cross-national longitudinal study on older user experience (described in Appendix 3), and formal and informal interviews with hundreds of Canadian seniors on the transition to mobile wireless technologies, which we have been monitoring since 2006. Since 2011 we have been leading digital literacy projects with groups of older adults, including working with traditionally marginalized groups like

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<sup>2</sup> Sophia Harris, “Makes Me Angry”: Big Telcos Service Fees Concern Wireless Customers and the CRTC, CBC News · Posted: May 11, 2019 4:00 AM ET

<https://www.cbc.ca/news/business/10-fee-customer-service-calls-crtc-fido-koodo-bell-1.5130950>

women, ethnic, cultural and linguistic minorities, recent immigrants, low-income older adults, and older adults with disabilities. This work on ageing and telecommunications means that ACT often receives emails from seniors about issues that are of concern to them, such as the recent administrative fees for assistance by phone. This preliminary report is a first step into a longer intervention that ACT will make as part of the “further comments” phase of the CRTC consultative process (noted in paragraph 63). For the next phase, we will continue to analyze the dataset emerging from the first and second wave of the longitudinal study with Canadian seniors. We plan to hold additional focus groups and at least one dozen interviews with adults 60+, seeking more diversity in terms of participants.

### **b) Significance of this Data**

“In Telecom Regulatory Policy 2016-496, in recognition of the importance of mobile wireless services to Canadians, and in recognition of the reality that many Canadians rely on these services as their primary telecommunications service, the Commission declared that **mobile wireless service forms part of its universal service objective, and declared that mobile wireless voice and broadband Internet access services were “basic telecommunications services” under the Act**. This meant, among other things, that such services could be eligible for funding in areas that are currently underserved.” (paragraph 12)

One of the problems with current data collection on ageing with digital technologies, and in a mobile wireless world, is that government data collection does not sufficiently examine or understand this market segment, ie: older adults, in detail. To proceed with a sound policy that guarantees access to all Canadians, particularly those who are most vulnerable, we need data to create an accurate portrait. The CRTC publishes Statistics Canada data relating to household expenditures on communications services in its annual Communications Monitoring Report, but these data are published two years after they are collected. These data are highly aggregated, such that it is not possible to get an understanding of expenditures by age and income, or to differentiate among older seniors and younger seniors. Public opinion research commissioned by the CRTC about the Wireless Code of Conduct provides some insights into how Canadians use their mobile services, but this research reports on Canadians aged 55+ in a single category (Kantar TNS Canada, 2018).

As research indicates however, seniors are not a homogeneous group and any analysis of the senior market needs to understand this diversity. For instance, Eurostat provides much more granular and current data on the use of mobile services, allowing for a clearer portrait of mobile use across society. Ofcom conducts and publishes extensive research on access and inclusion to understand the needs of vulnerable populations (e.g. Ofcom, 2019).

## **4. Understanding Seniors in Canada**

### **a) Changing demographics**

According to Statistics Canada, the Canadian population is ageing largely because of declines in fertility rates, increases in life expectancy, and the ageing of the baby boomer generation (1946-1965) who make up 25.6% of the population in the country. Approximately 17.2% of the country's population were aged 65 and older on July 1, 2018, compared with 14.4% on July 1, 2011. One in five to double by 2036 according to Statistics Canada – in fact, the fastest-growing segment of the Canadian population is made up of people over 85. In this respect, seniors are a growing population and potential market for telecommunications services.

<sup>3</sup>What is clear is that the CRTC must ensure that this population, many of whom have not had mobile services in the past, will be able to afford access to the services that they need. In terms of access to services, the economic challenges being faced by increasing numbers of Canadians, in particular older Canadians, are vital to consider. Within this scenario, ageing matters.

### **b) Population Ageing is Regional**

Population aging in Canada varies across the country. The age structure of the population differs from one province to another. The youngest populations live in the Prairie provinces and in Nunavut. The oldest live in Atlantic Canada.<sup>4</sup>

### **c) Income Inequality and Ageing**

Just as there are differences in the number of older adults from province to province, differences in this population depending on race, gender and disability, seniors are not a homogeneous cohort as far as Internet use is concerned. New data shows that poverty among seniors is on the rise once again after nearly two decades of decline.<sup>5</sup> As Canadians age, more people are struggling to adequately support themselves when their working lives end. Statistics Canada data shows that seniors living in poverty had been reduced to 3.9 per cent in 1995. By 2005, this rate had risen to 10.2 percent, and by 2010, it had reached 12.4 per cent (LICO scale; using before-tax income). It is now estimated to be at 15%. According to the Broadbent Institute, seniors are becoming low income at a much faster rate than the rest of the population. While the low-income rate has declined among Canadians under 65, it has spiked for seniors, reversing a 20-year trend. According to Statistics Canada, between 2014 and 2015, 75,000 more seniors became low income. Nearly 2 million seniors receive the Guaranteed Income Supplement, and live on about \$17,000 per year. However, the most basic standard of living in Canada is calculated at \$18,000 per year for a single person.

According to a 2019 Statistics Canada report, the increase in the low-income rate for seniors, particularly women, indicates that *their* income is not rising as much as the income of non-seniors. These incremental, steady increases are troubling and they have implications for the question of the need for affordable services for all Canadians. As the number of low-income seniors increases, so too does the number of Canadians who are vulnerable to poverty and unable to meet their basic living needs.<sup>6</sup>

### **d) Income Inequality: Gender, Race and Disability**

As research demonstrates, the usage and acquisition of digital experience that leads to digital literacy within the senior population are closely tied to other factors of social exclusion including gender, race and disability. (Lafontaine & Sawchuk, 2015). This is strongly tied to income inequality, which must be considered in deliberations and discussions of the affordability of mobile wireless services. In terms of the market for telecommunications services, women are one of the most

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<sup>3</sup> Statistics Canada, Annual Demographic Estimates: Canada, Provinces and Territories (Total Population only) 2018 Release date: September 27, 2018

<sup>4</sup> Statistics Canada, Annual Demographic Estimates: Canada, Provinces and Territories (Total Population only) 2018 Release date: September 27, 2018; Terra Ciolfe (2017) What the census tells us about Canada's aging population May 3, 2017, <https://www.macleans.ca/news/canada/what-the-census-tells-us-about-canadas-aging-population> <https://www150.statcan.gc.ca/n1/en/pub/91-215-x/91-215-x2018001-eng.pdf?st=2WAM-vWd>

<sup>5</sup> Conference Board of Canada, How Canada Performs: Elderly Poverty", <https://www.conferenceboard.ca/hcp/Details/society/elderly-poverty>

<sup>6</sup> Statistics Canada, "Canada's population estimates: Age and Sex, July 1, 2018," *The Daily*, Friday, January 25, 2019

vulnerable groups. Between 2006 and 2010, 160,000 more seniors were said to be living in a situation of low income. Of that amount, almost 60 per cent were women. Poverty rates among older adults tend to be highest among women, particularly widows over the age of 75. According to the Broadbent Institute, 28% of single women seniors are living in poverty in Canada versus 24% for single males. This is due, in large part, to the linking of pension allowances to employment history.<sup>7</sup>

In the Canadian context, any discussion of a seniors' market must take income inequality into account. Within this expansive definition of a senior's market, gender, age, disability and race matter. In all respects, women are amongst the most disadvantaged groups in the country across the board. Nearly 15% of people with disabilities live in poverty, 59% of which are women. 21% of single mothers in Canada raise their children while living in poverty (7% of single fathers raise their children in poverty). Women parenting on their own enter shelters at twice the rate of two-parent families. 1 in 5 racialized families live in poverty in Canada, as opposed to 1 in 20 non-racialized families. Overall, racialized women earn 32% less at work. Indigenous Peoples (including First Nations, Métis, and Inuit peoples) are overrepresented among the homeless population in virtually all urban centres in Canada.<sup>8</sup>

When considering access to telecommunications services, Indigenous people, racialized women, single women, people with disabilities and older women are most in need of affordable telecommunication services. Again, while we have used the term senior's market in this report, what is important to recall is that people are not just a market: they are Canadian citizens who require access to mobile, wireless communications as per telecommunications regulatory policy 2016-496, in which the Commission declares that "Mobile wireless services forms part of its universal service objectives."

#### e) Older adults: Less Money on Packages but a Larger Percentage of Annual Income

Canadian seniors, like most of their international counterparts, spend less money, on average, for telecommunication packages, than younger age cohorts. A recent CRTC report explains the Canadian context:

Households whose reference person [who typically handles financial matters in the home] is aged 40 to 54 spent the most on communications services (\$257.75 per month), while those with reference persons aged 65 years or over spent the least (\$182.33 per month) (CRTC, 2018a).

Older adults may spend the least, but if we take into account the income levels of this population, then one clearly sees the effect of unaffordability. According to CRTC data low-income Canadians, including low-income seniors, spend roughly 9% of their income on telecommunication services (CRTC, 2018a). More than anyone else, they need access to services that are affordable.

#### f) 65+ : Differences within the Older Population

Our research indicates that older adults, those over the age of 65, have never been so proficient in their use of digital technologies as they are at this moment in our national history. However, while the digital divide between generations is narrowing, younger Canadians are still more connected to the Internet (Statistics Canada, 2017) and digitally experienced than their older counterparts. As

<sup>7</sup> HOOPP: Healthcare of Ontario Pension Plan, "Seniors and Poverty: Canada's New Crisis?" August 2017; Andrew Jackson, "federal Poverty Strategy Discounts needs of Seniors," ; The Broadbent blog, Sept, 21, 2018, [https://www.broadbentinstitute.ca/andrew\\_ajackson/federal\\_poverty\\_strategy\\_discounts\\_needs\\_of\\_seniors](https://www.broadbentinstitute.ca/andrew_ajackson/federal_poverty_strategy_discounts_needs_of_seniors)

<sup>8</sup> Canada Without Poverty, "Just the Facts," <http://www.cwp-csp.ca/poverty/just-the-facts/>

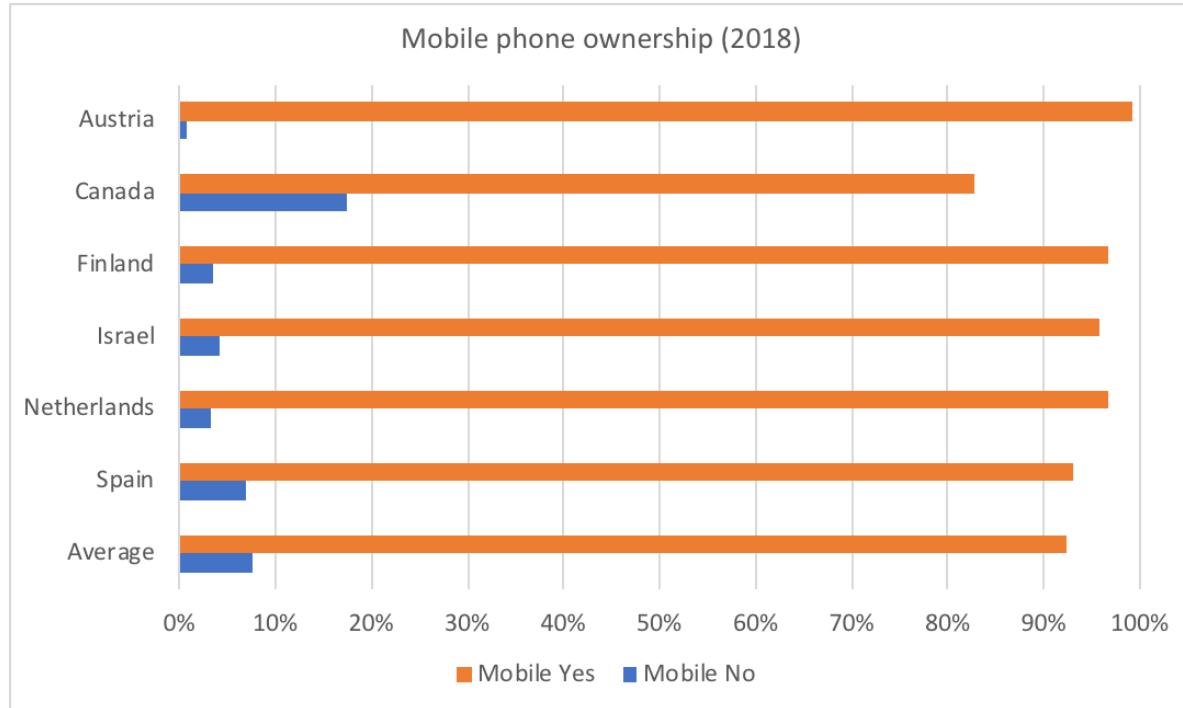
well, there are differences between older adults within the 65+ cohort that must be recognized. Unfortunately much data collection on older adults homogenizes this category creating a statistical “grey zone” for those who are over 65.

The oldest Canadians, most notably those over the age of 75, are much less connected and digitally experienced than the youngest seniors, many of whom have used digital technologies for extended periods of time in their workplace before retiring (Allen, 2013, p. 2). According to Statistics Canada, only 43% of Canadian seniors over the age of 75 use the Internet on a daily or weekly basis (Statistics Canada, 2017). Research on senior “users” of digital technologies indicate that there are varying levels of proficiency. Data by the Quebec research group CEFARIO reveals that even if most people over the age of 65 are broadly considered users of the Internet, less than a quarter of them report having a high level of proficiency in using digital technologies (CEFARIO, 2018, p.1).

### g) Canadian Seniors and Affordability Thresholds

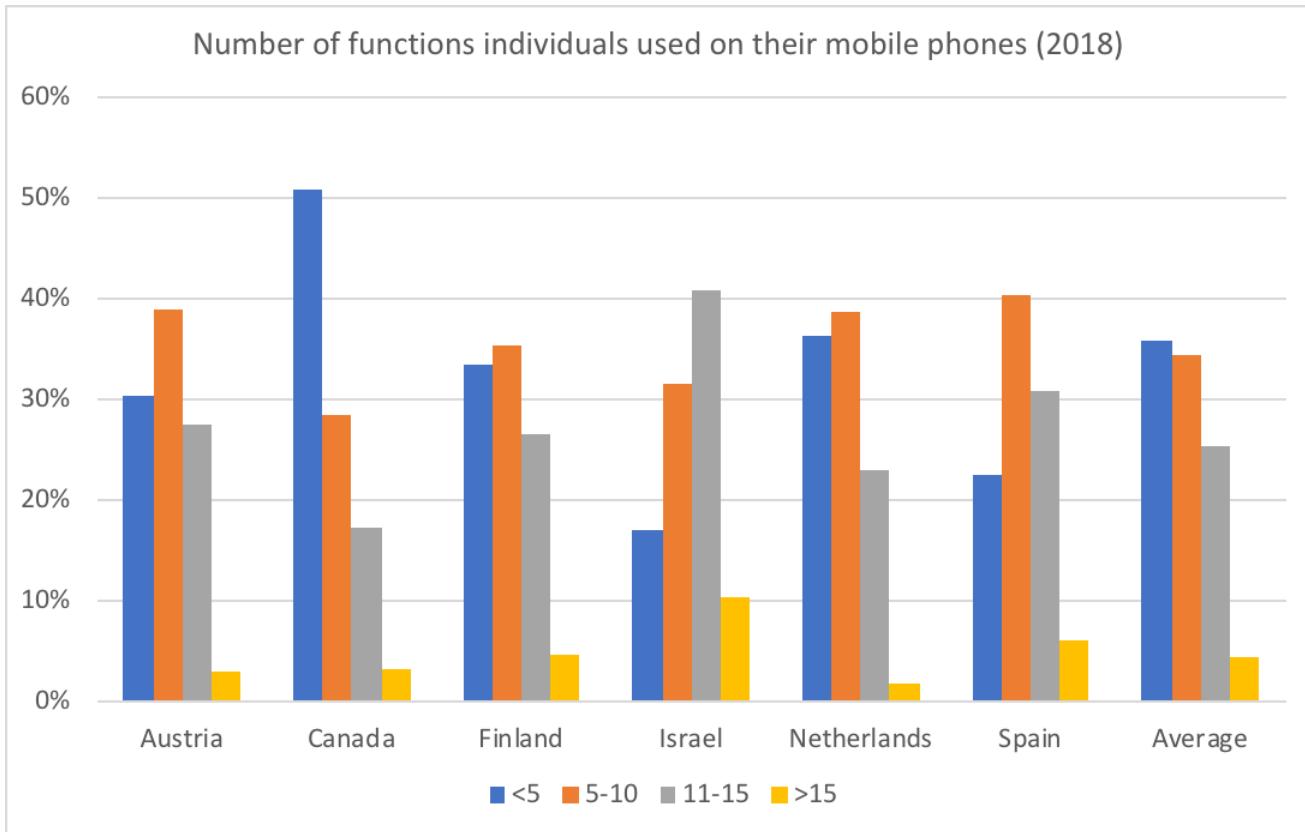
The high costs of mobile wireless services in Canada means that Canadian seniors, compared to their international counterparts, rely heavily on traditional services like landlines and television and less so on data-heavy cell phone and Internet plans (Loos, Nimrod & Fernández-Ardèvol, 2017). One of the questions that needs to be interrogated is how this connects to affordability. Our research comparing how seniors in Canada, Finland, Spain, Austria, Israel use communications technologies indicates that Canadian seniors are least likely to have a mobile phone, and those who do have phones use fewer functions on their phones than seniors in these other countries. More than 17% of the Canadian seniors surveyed did not have a phone, compared to the average across the survey of less than 8% (see Figure 1). Fewer than half of the Canadians used more than 5 functions on their mobile phones (compared to the average of 64%), suggesting mobile phones are not as heavily used in Canada as in other countries (see Figure 2).

Figure 1: Seniors’ mobile phone ownership by country



Source: ACT research, survey of seniors, N=7324

Figure 2: Seniors' mobile phone usage by country



Source: ACT research, survey of seniors, N=7260

Based on affordability thresholds from the literature and recent data on the evolution of communications spending in Canada, it has been estimated that, for those with incomes below \$24,000 per year, paying for basic fixed and mobile access services can be considered unaffordable. While this affordability threshold should be informative as a basis for future research and policymaking, such measures can conceal substantive inequalities, as we have argued in the preceding sections. It is incumbent on the government to pay attention here, as we cannot and should not underestimate the magnitude of affordability gaps facing some of the most vulnerable groups, such as children from low-income households, persons with severe disabilities, low-income seniors and those facing structural unemployment.” (Rajubian, R. Ellis, D and Middleton, C, 2016, p. 3).

## **5. Ageing and the transition from 4G to 5G**

With respect to the transition to 5G mobile networks, the Notice of Consultation notes the need to assess “whether there are barriers to the introduction of new technologies by carriers, and the extent to which regulatory intervention by the Commission may be required to support investment and competition in the evolving marketplace” (paragraph 19). It also notes that “this technology upgrade will mean that wireless networks will become exponentially faster, more pervasive, and more versatile” (paragraph 18). What the NOC does not ask about is whether there are barriers for consumers to access these new technologies.

While we do not yet know how 5G network services will be priced, we anticipate that carriers will wish to charge a premium for 5G service. We do know that consumers will be required to purchase new devices to use 5G services, and it is likely that new devices will be more expensive than the

devices they are replacing. As older adults often get used technologies from other family members, and prefer to keep their devices for longer periods of time, they will either be forced to move to more expensive devices and services or be excluded from access to 5G services due to incompatible devices.

In order to facilitate the transition to 5G mobile networks we believe that the Commission must ask questions about how to ensure that 5G services are affordable for Canadians. The universal service objective calls for “the latest generally deployed mobile wireless technology [to] be available not only in Canadian homes and businesses, but on as many major transportation roads as possible in Canada” (CRTC 2016-496). A focus on the barriers to investment alone will not ensure that the universal service obligation is met with the provision of affordable services. Action is also needed to reduce barriers to adoption of 5G devices and services and to manage the transition from 4G to 5G services.

## **6.0 Market-Centred Approaches and Citizen-Centred Approaches**

The NOC does not define how it understands a market. In the NOC it is stated that: “The mobile wireless service industry has evolved since the Commission’s last review of these services, due to, among other things, technological and market changes, and it will continue to evolve as carriers begin to introduce 5G networks.” In other instances, it is suggested that a market is about “prepaid” services. From the point of view of ACT, it is vital to understand that a market is not an abstraction: a market is a market because it brings together sellers and buyers. A market is comprised of consumers, living breathing people in all of their diversity. Consumers are an essential component of any market. But consumers are not just economic actors making generic market transactions: they are citizens who need access to affordable mobile wireless services to partake in all aspects of society: from waiting for a call for a doctor; to receiving immediate and timely public service information and announcements for emergency services.

It is not only the wireless service industry that has evolved. The needs and reliance of consumers/citizens on mobile wireless services is constantly evolving. In this shifting landscape of uses, the focus of this consultation cannot just be on the provider side of the market. It is vital to look at the consumer side too. Increasingly consumers/citizens have more pressure to remain in “perpetual connection” with each other. They have more pressure to be connected wirelessly, while they are on the go. People have more and more need to stay connected through mobile wireless services. Rather than trying to meet the pressure to be perpetually connected by offering more data at affordable prices, Canada’s mobile operators have invested in building systems that help Canadians *limit* their consumption of mobile services (see the record of the 2016-2017 review of the Wireless Code of Conduct, CRTC TNC 2016-293, on this point).

Although reliable, speedy access to information is seen as vital to economic growth and innovation overall, the Canadian approach is to create limits to data access through punitive pricing structures rather than to encourage anytime, anywhere information access. This approach is “unique” compared to the rest of the world, but not in a good way. The unaffordability of data impacts economic development. Present policies and practices, which favour the telecommunications industry, may in fact impede the growth of innovation and entrepreneurship in other sectors of the economy. What is clear is that the evolution of wireless service industry has not favoured everyday, ordinary Canadians.

Right now the onus is put on the consumer to “manage their data”. Yet who wins? If consumers go over their monthly data limit, they face expensive surcharges. If they go under their monthly data limits, they are not allowed to carry over or bank what they have paid for, but not used. Putting the onus on consumers to be responsible for this data management has become normalized in Canada, but not in the rest of the world. As has been noted in Shepherd and Middleton’s final comments for the review of the 2013 Wireless Code of Conduct:

We contend that by focusing on encouraging customers to better manage limitations imposed by the plans they offer, rather than on developing plans that better meet Canadians’ needs, Canada’s WSPs [wireless service providers] are not contributing to the development of a world-class communications system. Indeed, as a point of comparison, we note that the week after the hearing, fierce competition among WSPs in the US market encouraged all the major providers to either introduce unlimited data plans or to implement improvements to existing unlimited data options.<sup>9</sup> The idea that a dynamic wireless market is characterized by innovations that constrain consumers’ access to services is simply unacceptable in an environment where “modern telecommunications services” have been declared to be “fundamental to Canada’s future economic prosperity, global competitiveness, social development, and democratic discourse.”<sup>10</sup> A world-class communication system should focus on enabling access, not developing better tools to limit usage.” (Shepherd & Middleton, 2017)

## **7.0 Recommendations**

### **a) Preliminary Recommendations**

We recommend that:

- 1) the CRTC recognize the import of older adults within Canada, and the impact of the current high costs of mobile, wireless services on the ability of older adults to access “mobile wireless services” which form “part of its universal service objectives”;
- 2) the diverse and varied needs of our country’s older adults, including those living on low-incomes, be considered before decisions are made that could potentially take away access to information that is considered to be “essential to citizenship in Canada”. It is crucial to consider the needs of older adults in lower socio-economic categories who are most at risk of disconnection;
- 3) it is not just the responsibility of citizens and consumers to engage in monthly data management. It is the responsibility of government to ensure that affordable access to telecommunications services is made available to all Canadians.

### **b) Recommendations for Encouraging Participation in this Public Consultation**

We urge the CRTC to adopt a people first strategy and take the following measures to ensure that all Canadians have a say in this important matter. This is particularly important because of two observations stemming from our work in previous CRTC consultations. First, we have noted in the

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<sup>9</sup> Pressman, A. (2017). Competition Is Making Unlimited Mobile Data Plans Even Better.

<http://fortune.com/2017/02/17/competition-making-unlimited-mobile-data-plans-better/>

<sup>10</sup> Canadian Radio-television and Telecommunications Commission. (2016). Telecom Regulatory Policy CRTC 2016-496: Modern telecommunications services – The path forward for Canada’s digital economy.

<http://www.crtc.gc.ca/eng/archive/2016/2016-496.htm>

past (Sawchuk, Lafontaine and Besanger 2018) there is a lack of media coverage of issues related to the CRTC, especially when the issues pertain to major Canadian media conglomerates.

For example, in CRTC 2018-246, it is notable that the majority of coverage was from the CBC or independent media like the Toronto Star and Huffington Post, and not from media outlets owned by companies that also provide telecommunication services with vested interests in the issue. Second, we know that older adults living in situations of precarity are not likely to participate in this consultation process. According to a survey of the Quebec population conducted by CEFARIO, 45% of seniors aged 65 to 74 and 68% of seniors 75 and older have never completed an online process on a government platform from beginning to end (CEFARIO, 2016b, p.13). People belonging to this cohort are less likely to be regular users of social media and the internet, and even less likely to use them frequently (CEFARIO, 2016a, p.6). As governments increasingly move service delivery online, older adults risk exclusion. Even though services may still be offered in traditional forms (in-person, over the phone), older adults miss out on the convenience and immediacy of online service delivery when they do not have access or sufficient literacy to interact with service providers online. This becomes especially critical for soliciting input from older adults for this consultation.

For these reasons, the CRTC must make a concerted effort at outreach. This could include:

- Promoting this CRTC's consultation through advertising in traditional media (i.e., newspapers, television and radio).
- Adopting a simplified comment platform that is broadly accessible to Canadians.
- Creating a direct short link to the submission form, which can be shared more easily.
- Opening a toll-free phone line and accept verbal comments from the public.
- Including questions about age and income in any and all upcoming engagement methods.
- Supplementing any future online method of engagement (e.g., survey) with a call-in option on a toll-free phone line.
- Conducting both phone surveys and focus groups, that specifically seek age and a range of people with different levels of digital user experience.
- Reporting on its own methodologies for data collection in a more transparent way.
- Including data and research from public advocacy groups and university researchers within the upcoming report, and not just the findings of third-party market research firms who do not publish their methods and have histories of excluding older adults.
- Publishing the findings of this inquiry in a simplified digital format that is printable, easily citable, and accessible to a wide range of Canadians.

## **8.0 Conclusion**

Seniors, of all ages, are citizens. It is crucial that the conditions for our participation in this society, through communications, is recognized as a role that government must play. If seniors wish to maintain connections to their families and to their social including their health and care professionals, access to affordable and reliable telecommunications services is not an option. It is a necessity.

Recognizing this means ensuring that affordable services take into account all Canadians and all sub-segments of this 'market'. Those who are older and living on fixed incomes, older women, older people who are disabled, older people who are racialized, and Indigenous elders have much at stake in this inquiry. We believe in the importance of the CRTC in regulating the telecommunication

industry and maintaining a fair telecommunications landscape for all Canadians now and into the future, so that “digital first” does not come to mean “seniors last”.

## **9.0 Acknowledgements**

We thank the research assistants at Concordia University and Ryerson University who have worked on portions of this research, our colleagues and international research partners who have assisted us along the way, and the seniors and community partners who continue to give guidance, time and their expertise to these important matters.

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## **10. Appendices**

### **Appendix 1. Preliminary Responses to CRTC questions**

In this section we offer brief responses to several of the consultation questions. We expect to provide more detailed responses in our later intervention, taking into account responses from other interveners, data from our cross-national longitudinal survey of seniors’ use of communications technologies, and incorporating data from a review of mobile wireless service provider metrics across several international jurisdictions that we are currently undertaking.

*Q1. Provide your views on how the Commission should define markets for the purpose of assessing the state of competition in the retail market.*

We note that the ultimate goal of assessing the state of competition in the retail market (or markets) is to determine whether such competition is effective in delivering Canadians a choice of innovative, high quality, affordable mobile wireless services. As such, we encourage the Commission to identify and take into account markets that are defined by consumer needs, rather than segmentation based on geography or number of competitors. The purpose of defining markets should ultimately be to determine whether the needs of diverse types of consumers are being met by service providers.

As we have noted, among the consumer groups whose needs are not being met well at present include those who use their phones infrequently yet face high costs to keep their phones connected (Colbert, 2019) or those who are seeking access to lower cost plans (e.g. in the \$30 range, such plans are widely available in other countries) that include voice, SMS *and* data (not just data-only plans as mandated in Telecom Decision CRTC 2018-475).

Although our focus is on the needs of Canada’s seniors, more affordable services would be welcomed by all consumers. To better understand the needs of Canada’s mobile wireless services consumers, granular research investigating consumer adoption and usage patterns is needed, as discussed in 1c) below.

*b) What is the appropriate geographic market for the assessment of retail competition?*

We have argued that any analysis of the seniors’ market for mobile wireless services must take into account the differences in population demographics between provinces. Further, within the seniors’

market, women, people from racialized backgrounds, and Indigenous people tend to be disadvantaged, thus analysis should extend beyond consideration of which providers serve which geographic markets to take into account nuances within these geographic markets.

*c) Identify the key market indicators for the assessment of the state of retail competition in the mobile wireless service market(s). In other words, what specific evidence should the Commission gather and how can that information be used to assess competitiveness?*

In keeping with our comments about the importance of focusing on the needs of consumers, the Commission should conduct and/or commission research that provides detailed insights into consumer behaviours. Understanding how consumers actually use mobile services can help determine whether the mobile services available to them meet their needs. As an example, Ofcom's annual face to face "Technology Tracker" survey collects data on the take-up of devices, the take-up of telephony and broadband services, and activities conducted on mobile phones and the internet (Ofcom, 2018a,b). Ofcom's "Mobile Research App" provided insights into actual usage patterns including out of home usage, types of apps used, frequency of app usage and time spent on various apps, as well as the quality of network service and user satisfaction. These data can be used to identify the differences between heavy and light users of mobile services, and to understand what types of service offerings should be provided to best meet actual user behaviours. These data points would be very beneficial in developing a clearer understanding of Canadian consumers. Quantitative research should also be supplemented with qualitative data gathering to understand whether consumers face constraints that limit their mobile device use, constraints that are not revealed through usage data.

The Montreal Economic Institute (Massee, 2018) and NERA Consulting (in a report commissioned by TELUS, Dippon, 2018) have argued that Canadians pay high prices for mobile services because they are being provided with premium service. However, a market that is truly meeting the needs of its customers offers a choice of services, and would offer non-premium services as well. Research that identifies different consumer segments will provide insights on demands for differentiated services, e.g. low-cost plans that include a full range of services, and plans for infrequent users, both of which would better serve the needs of many older consumers.

*Q2. Comment on the competitiveness of the mobile wireless service market(s). Are the mobile wireless service needs of Canadians currently being met? How have competitive conditions changed over the past five years? If the Commission's mobile wireless service regulatory framework remains unchanged, what do you expect the level of competition to be in the future?*

We will present more data in our next submission, illustrating that in order for Canadians to participate fully as citizens access to wireless, mobile services at an affordable price is paramount.

*Q4. Discuss how Canada's retail mobile wireless service market(s) compare(s) internationally, and provide any studies and reports you have in this regard. Which countries offer the best comparisons with Canada and why? Discuss whether international comparisons are meaningful in the context of mobile wireless service regulation.*

We note that the CRTC is “dedicated to ensuring that Canadians have access to a world-class communication system that promotes innovation and enriches their lives.”<sup>11</sup> To determine whether Canadians actually do have a world-class communication services, international comparisons are not only meaningful, they are essential. We believe that it is the Commission’s responsibility to develop a framework for international comparison, and to conduct the systematic, rigorous and ongoing research needed to answer the question of how Canada’s retail mobile wireless service market(s) compare(s) internationally. This research should be published regularly, and in a timely manner. Ofcom’s International Communications Market Report provides an example of how data from multiple sources can be integrated and compared across jurisdictions (Ofcom, 2017). It is insufficient to direct Canadians to OECD data sources to understand Canada’s comparative position in telecommunications markets (as was the advice when international comparisons were removed from the Communications Monitoring Report in 2015).

We intend to file further comments with the Commission in October 2019. In those comments, we anticipate being able to provide detailed quantitative comparisons of seniors’ uses of mobile services in several other countries, based on analysis of longitudinal survey data collected by the ACT project (see Appendix 3 for discussion of this survey). We are also working on an analysis of mobile service provider metrics across a number of international jurisdictions.

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<sup>11</sup> <https://crtc.gc.ca/eng/home-accueil.htm>

## **Appendix 2: Section 7, Telecommunications Act**

Section 7 of the Telecommunications Act sets out Canada's telecommunications policy objectives. We include these objectives in our submission as a reminder of the desired outcomes of any policy initiatives to be undertaken as a result of this Review of Mobile Wireless Services. In particular, we note the need to ensure that Canadians have access to high quality, reliable and affordable mobile wireless services, as per paragraph 7 (b).

### **Objectives**

It is hereby affirmed that telecommunications performs an essential role in the maintenance of Canada's identity and sovereignty and that the Canadian telecommunications policy has as its objectives:

- (a) to facilitate the orderly development throughout Canada of a telecommunications system that serves to safeguard, enrich and strengthen the social and economic fabric of Canada and its regions;
- (b) to render reliable and affordable telecommunications services of high quality accessible to Canadians in both urban and rural areas in all regions of Canada;
- (c) to enhance the efficiency and competitiveness, at the national and international levels, of Canadian telecommunications;
- (d) to promote the ownership and control of Canadian carriers by Canadians;
- (e) to promote the use of Canadian transmission facilities for telecommunications within Canada and between Canada and points outside Canada;
- (f) to foster increased reliance on market forces for the provision of telecommunications services and to ensure that regulation, where required, is efficient and effective;
- (g) to stimulate research and development in Canada in the field of telecommunications and to encourage innovation in the provision of telecommunications services;
- (h) to respond to the economic and social requirements of users of telecommunications services; and
- (i) to contribute to the protection of the privacy of persons.

### **Appendix 3: Data on Canadian Seniors' Adoption of Landline and Mobile Phones**

The data presented in this section come from the ACT project's cross-national longitudinal study on older audiences in the digital media environment. These data were collected in late 2018 from more than 2000 Canadians over the age of 60 who replied to our online survey (see Table 1 below for respondent characteristics). Survey respondents also participated in the first iteration of the study, conducted in mid-2017. Details of the survey are found in Loos, Nimrod and Fernández-Ardèvol (2018). We are currently undertaking cross-national comparative analysis and intend to share our findings in our October 2019 submission.

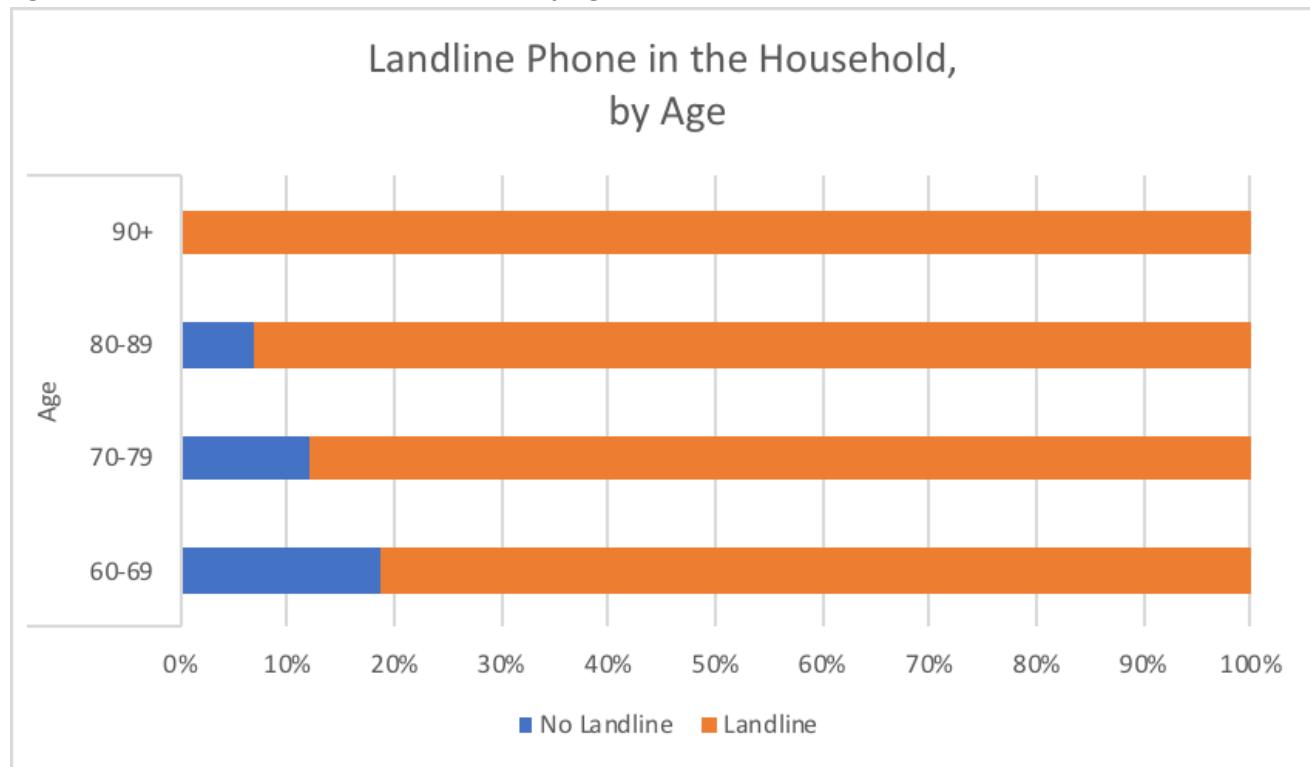
Our objective in sharing the data that follow in this appendix is to demonstrate the value of granular demographic analysis in showing the differences in communications technology usage within Canada's senior population. The data provide insights into the differences in landline and mobile phone adoption based on respondent age, education, income and location.

**Table 1: Respondent characteristics**

		% of respondents	Number of respondents
Sex	Male	46.6	969
	Female	53.4	1112
Age	60-69	44.5	926
	70-79	42.1	875
	80-89	12.6	263
	90+	0.8	17
Education	Primary or less	2.4	50
	Secondary	56.9	1183
	Tertiary	40.4	841
	Unreported	0.3	7
Income	Above the average	47.1	981
	Similar to the average	10.9	226
	Below the average	29.4	613
	Unreported	12.5	261
Location	Big urban conglomeration	54.3	1129

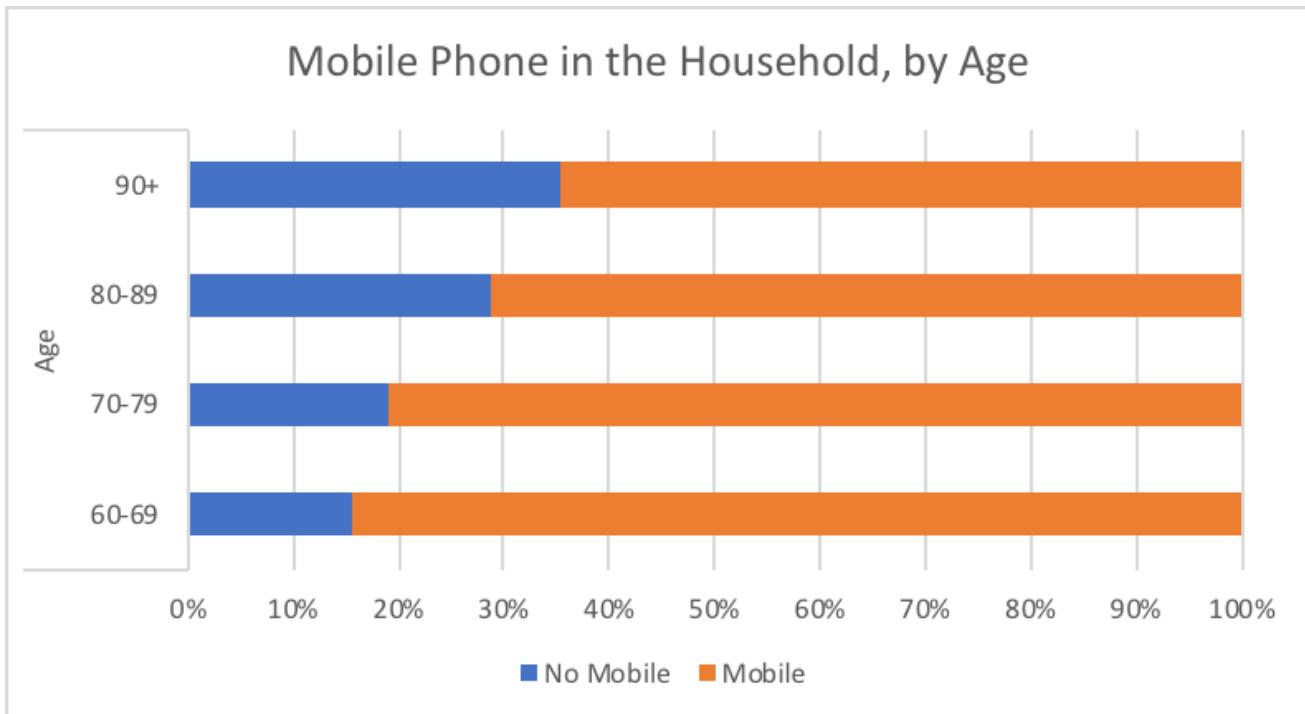
	Town or small city	31.8	662
	Non-urban	13.9	290
Total			2081

**Figure 3: Landline Phone in the Household, by Age**



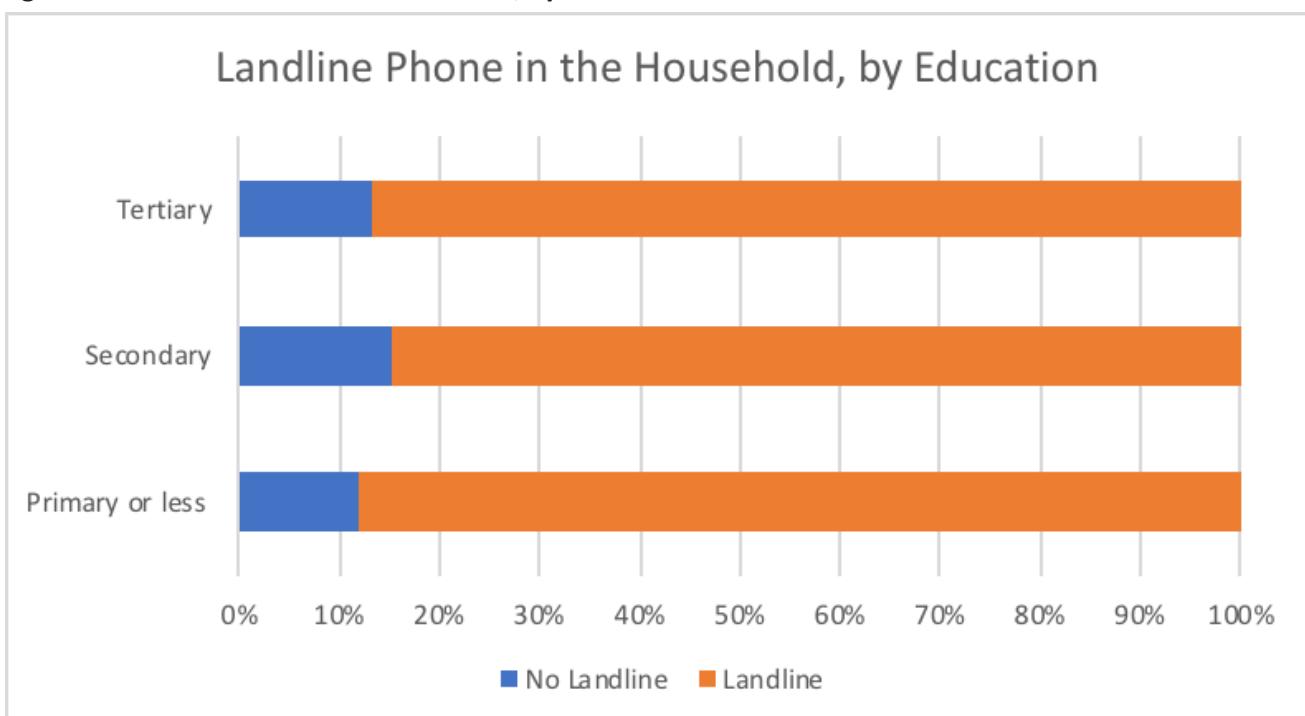
All the oldest seniors in the sample had landline phones. A higher percentage of 60-80-year-old respondents had foregone landline usage altogether than older respondents aged between 80-90+.

**Figure 4: Mobile Phone in the Household, by Age**



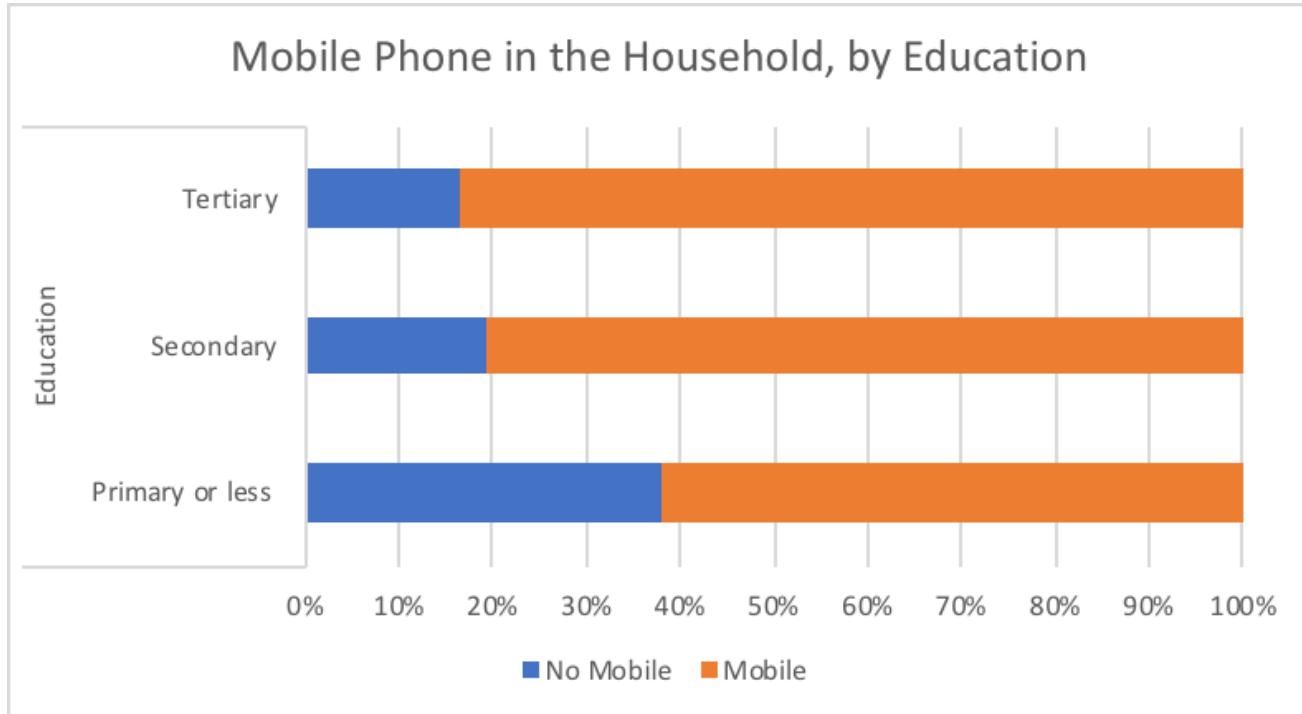
This figure shows that the older Canadian respondents were less likely to have a mobile phone in their household than younger respondents.

**Figure 5: Landline Phone in the Household, by Education**



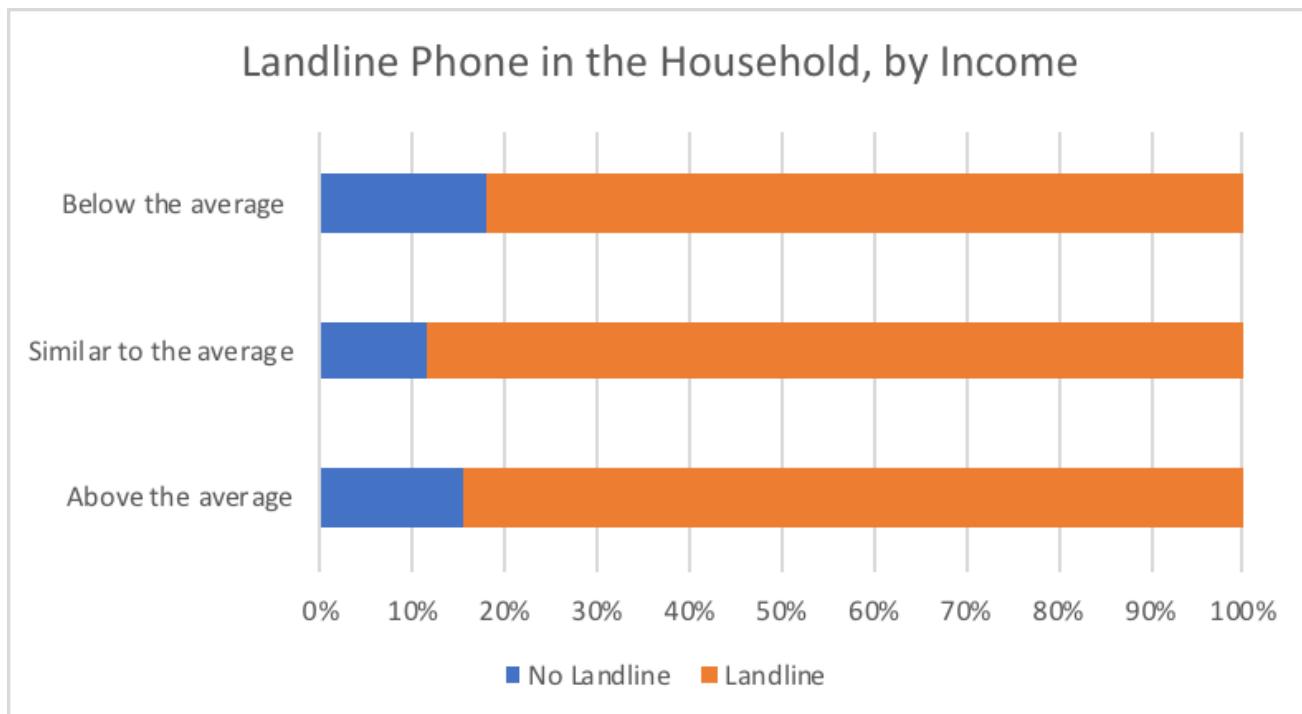
There is minimal variation among education levels and reported levels of landline phone usage at home.

**Figure 6: Mobile Phone in the Household, by Education**



It is observed that respondents with higher levels of education were more likely to have a mobile phone in their household.

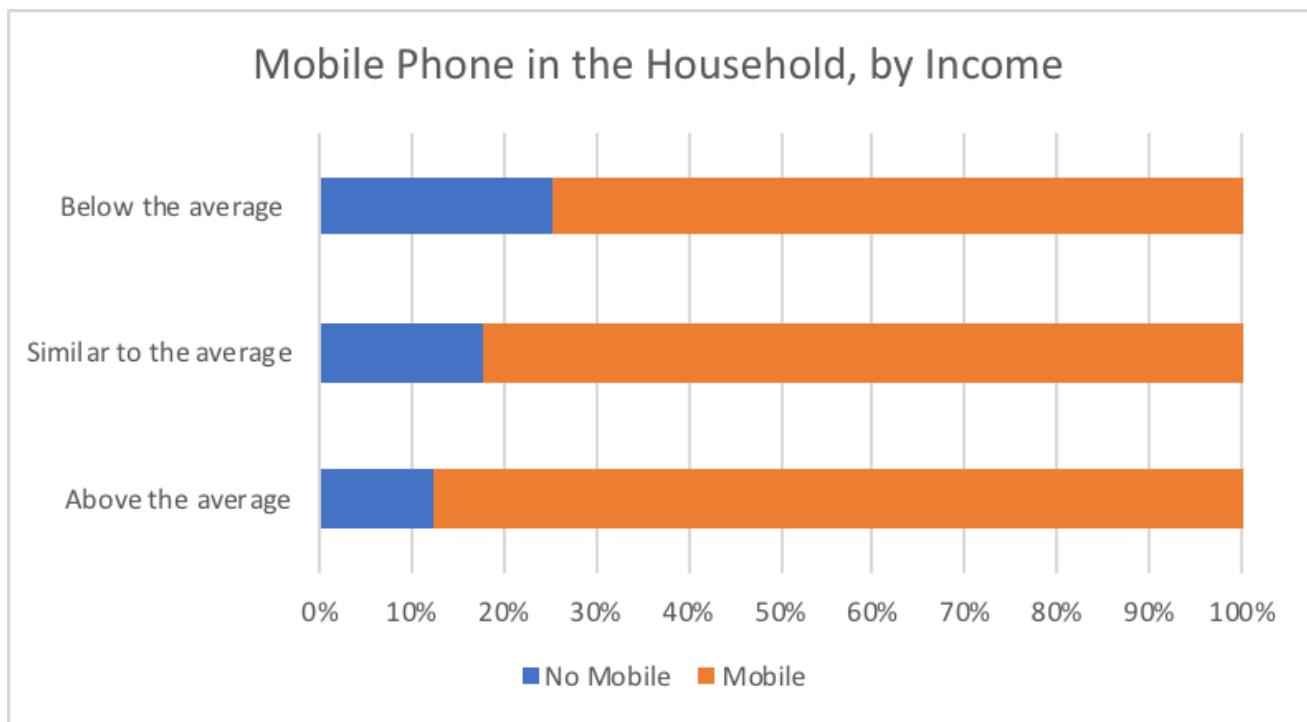
**Figure 7: Landline Phone in the Household, by Income**



The lowest income seniors were least likely to have a landline in their household. As compared to the general population however (e.g. as reported in the 2018 Communications Monitoring Report,

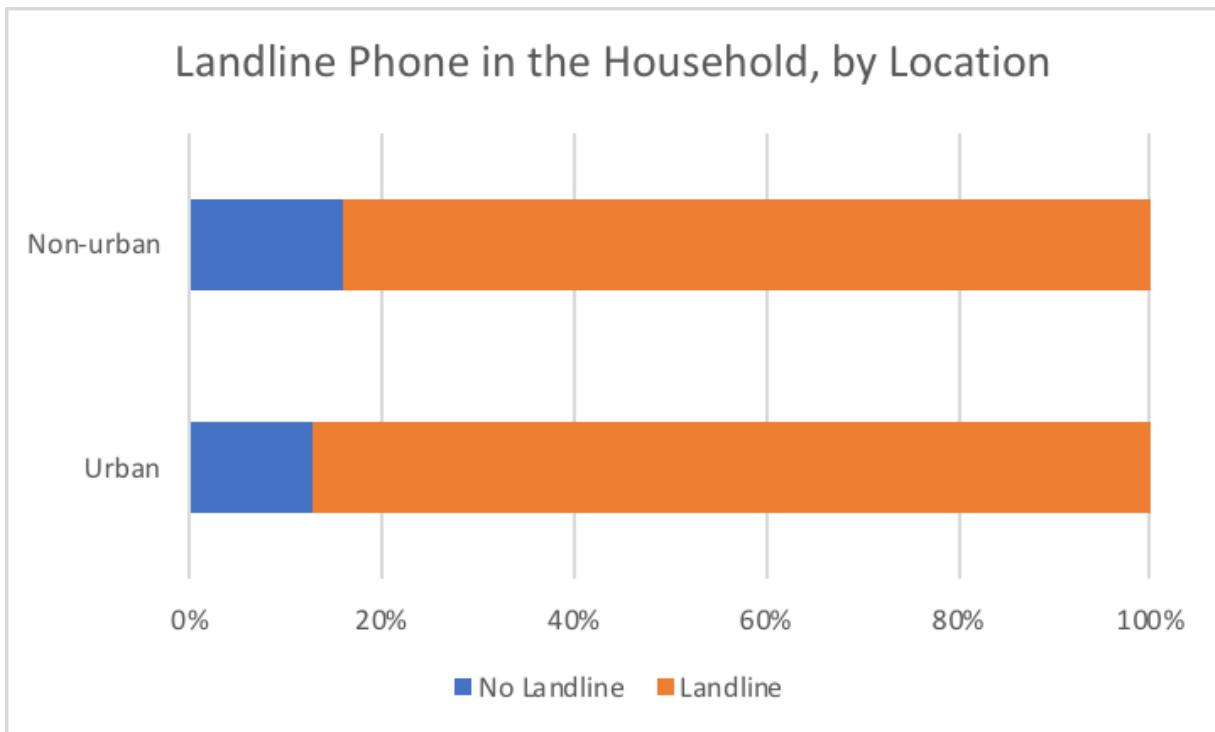
Figure 1.2), landline adoption rates remain very high among older Canadians (above 84% in the sample overall).

**Figure 8: Mobile Phone in the Household, by Income**



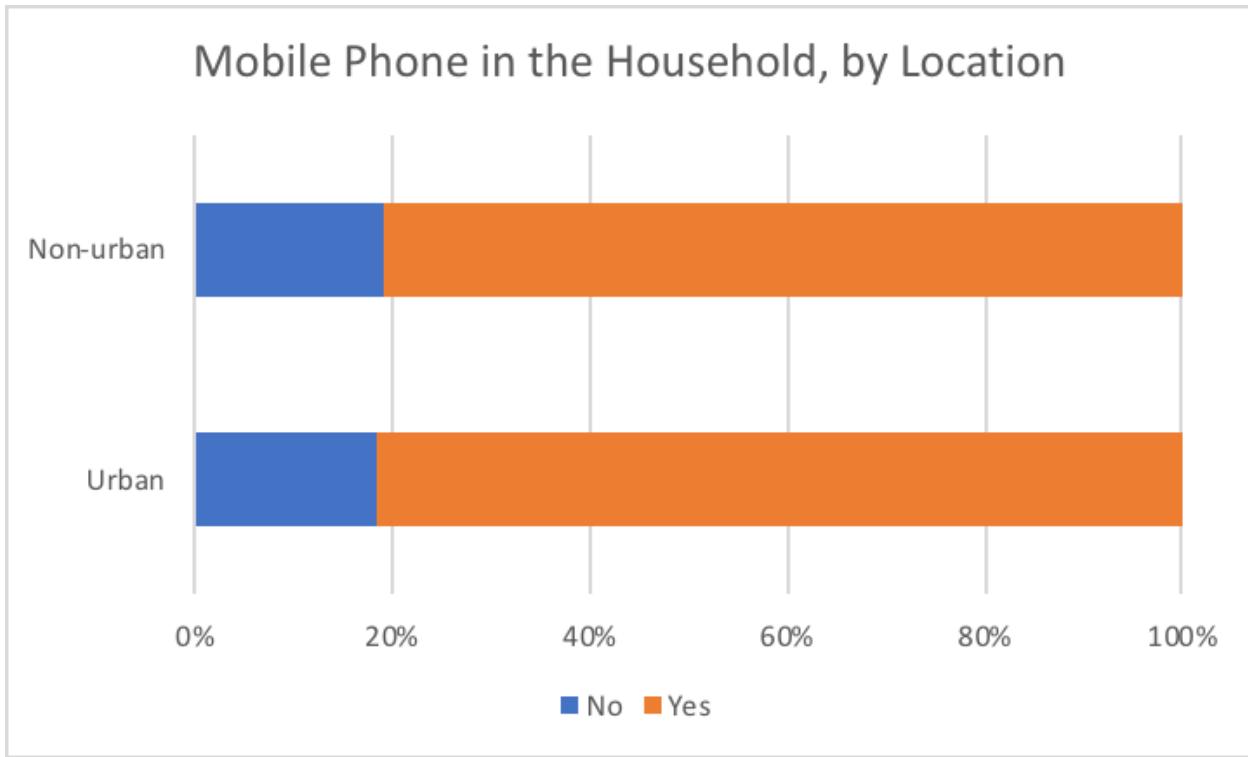
The lowest income seniors are the least likely to have mobile phones in their households. However, even in the lowest income group, almost three-quarters of these older Canadians do have a mobile phone, suggesting there is high demand for mobile services.

**Figure 9: Landline Phone in the Household, by Location**



A higher percentage of urban respondents reported having a landline phone at home as opposed to their rural counterparts. This is an interesting point of analysis and merits further research into whether rural respondents are being adequately served by their telecommunications providers.

**Figure 10: Mobile Phone in the Household, by Location**



Urban respondents were also more likely to report having a mobile phone in their household. This suggests that urban customers have higher levels of both landline and mobile usage.

### **13. Bibliography**

- Ageing, Communication, Technologies (ACT Project). (2018). *Older adults and the changing landscape of television and radio distribution in Canada*. (CRTC Notice 2017-359). Retrieved from  
[http://actproject.ca/wp-content/uploads/2017/11/CRTC-intervention-2017-359\\_Report-2.pdf](http://actproject.ca/wp-content/uploads/2017/11/CRTC-intervention-2017-359_Report-2.pdf)
- Allen, M. K. (2013). *Insights on Canadian society: Consumption on culture by older Canadians on the internet*. (Catalogue no. 75-006-X). Retrieved from  
[https://www150.statcan.gc.ca/n1/en/pub/75-006-x/2013001/article/11768-eng.pdf?st=-cp\\_6rcV](https://www150.statcan.gc.ca/n1/en/pub/75-006-x/2013001/article/11768-eng.pdf?st=-cp_6rcV)
- Canadian Radio-television and Telecommunications Commission. (2016). Telecom Regulatory Policy CRTC 2016-496: Modern Telecommunications Services – The Path Forward for Canada’s Digital Economy. <http://www.crtc.gc.ca/eng/archive/2016/2016-496.htm>
- Canadian Radio-television and Telecommunications Commission. (2018a). *Communications Monitoring Report 2018*. Retrieved from  
<https://crtc.gc.ca/eng/publications/reports/policymonitoring/2018/cmr1.htm>
- Canadian Radio-television and Telecommunications Commission. (2018b). *Inquiry on use of misleading or aggressive sales practices by large telecommunications service providers*. Retrieved from <https://crtc.gc.ca/eng/phone/telsp.htm>
- Canadian Radio-television and Telecommunications Commission. (2016). *Communications Monitoring Report 2016*. Retrieved from  
<https://crtc.gc.ca/eng/publications/reports/policymonitoring/2016/cmrs.htm>
- CEFARIO. (2018). *Fiche génération 65 ans et plus*. Retrieved from  
[https://cefrio.qc.ca/uploads/CEFARIO\\_NETendances\\_2017\\_profil\\_numerique\\_des\\_65\\_ans\\_et\\_plus.pdf](https://cefrio.qc.ca/uploads/CEFARIO_NETendances_2017_profil_numerique_des_65_ans_et_plus.pdf)
- CEFARIO. (2016a). *Médias sociaux et économie de partage en ligne au Québec*. Édition 2016, 7(9). Retrieved from  
[https://cefrio.qc.ca/media/uploader/NETendances2016-Medias\\_sociaux\\_economie\\_de\\_partage27072017.pdf](https://cefrio.qc.ca/media/uploader/NETendances2016-Medias_sociaux_economie_de_partage27072017.pdf)
- CEFARIO. (2016b). *Gouvernement en ligne*. Édition 2016, 7(3). Retrieved from:  
<https://cefrio.qc.ca/media/uploader/Fascicule2016-Gouvernementenligne-23012017.pdf>
- Terra Ciolfe (2017) What the census tells us about Canada's aging population May 3, 2017,  
<https://www.macleans.ca/news/canada/what-the-census-tells-us-about-canadas-aging-population>

Colbert, Y. (2019). 'I've been cheated,' says senior with \$1,400 Bell prepaid cellphone credit. CBC News, Apr 30, 2019. Retrieved from:  
<https://www.cbc.ca/news/canada/nova-scotia/prepaid-cell-phones-crtc-bell-1.5115266>

Conference Board of Canada, How Canada Performs: Elderly Poverty",  
<https://www.conferenceboard.ca/hcp/Details/society/elderly-poverty>

Dippon, C. M. (2018). *An Accurate Price Comparison of Communications Services in Canada and Select Foreign Jurisdictions*. NERA Economic Consulting. Retrieved from:  
<http://www.nera.com/publications/archive/2018/nera-economist-identifies-shortcomings-in-the-wall-nordicity-stu.html>

Fernández-Ardèvol, M., Sawchuk, K., Grenier, L. (2017) Maintaining connections: Octo-and nonagenerians on digital 'use and non-use'. *Nordicom Review*, 38(1).

Fishman, A. A. (2004) Understanding Generational Differences' *National Underwriter* 108 (2), pp. 4

Harris, Sophia, "Makes Me Angry": Big Telcos Service Fees Concern Wireless Customers and the CRTC, CBC News · Posted: May 11, 2019 4:00 AM ET  
<https://www.cbc.ca/news/business/10-fee-customer-service-calls-crtc-fido-koodo-bell-1.5130950>

HOOPP: Healthcare of Ontario Pension Plan, "Seniors and Poverty: Canada's New Crisis?" August 2017,  
<https://hoopp.com/docs/default-source/newsroom-library/research/hoopp-research-article---senior-poverty---canada-next-crises.pdf>

Innovation, Science and Economic Development Canada. (2018, June 14). Government orders the CRTC to investigate high-pressure telecom sales practices. *Cision*. Retrieved from  
<https://www.newswire.ca/news-releases/government-orders-the-crtc-to-investigate-high-pressure-telecom-sales-practices-685582231.html>

Iyer, R., Reisenwitz, T. H., & Eastman. J. K. (2008). The Impact of Cognitive Age On Senior's Lifestyles. *Marketing Management Journal*. (pp. 106-118)

Jackson, A. "Federal Poverty Strategy Discounts needs of Seniors," ; *The Broadbent Blog*, Sept, 21, 2018,  
[https://www.broadbentinstitute.ca/andrew\\_ajackson/federal\\_poverty\\_strategy\\_discounts\\_needs\\_of\\_seniors](https://www.broadbentinstitute.ca/andrew_ajackson/federal_poverty_strategy_discounts_needs_of_seniors)

Johnson, E. (2018, August 23). Former Bell and Rogers employees reveal sales secrets submitted to public inquiry. *CBC*. Retrieved from:  
<https://www.cbc.ca/news/business/telecom-employees-submit-complaints-to-crtc-inquiry-1.4794953>

Kantar TNS Canada. (2018). Wireless Code Public Opinion Research 2018. Ottawa.  
<http://epe.lac-bac.gc.ca/100/200/301/pwgsc-tpsgc/por-ef/crtc/2018/068-17-e/report.pdf>

Lafontaine, C. & Sawchuk, K. (2018, August 23). Télécoms: les aînés désavantagés par les pratiques de vente trompeuses et agressives. *Huffington Post Québec*. Retrieved from [https://quebec.huffingtonpost.ca/constance-lafontaine/crtc-telecoms-aines-desavantages-pratiques-vente-trompeuses-agressives\\_a\\_23508115/?ncid=tweetlnkcahpmg00000011](https://quebec.huffingtonpost.ca/constance-lafontaine/crtc-telecoms-aines-desavantages-pratiques-vente-trompeuses-agressives_a_23508115/?ncid=tweetlnkcahpmg00000011)

Lafontaine, C., & Sawchuk, K. (2015). Accessing interACTION: Ageing with technologies and the place of access. In International *Human Aspects of IT for the Aged Population* (Vol. 9193, pp. 210–220). Cham, Switzerland: Springer.

Lawford, J. (2005) *Telecommunications ombudsman for Canada*. Public Interest Advocacy Centre (ISBN No. 1-895060-70-2). Retrieved from: [http://www.piac.ca/wp-content/uploads/2014/11/telecom\\_ombudsman\\_for\\_canada.pdf](http://www.piac.ca/wp-content/uploads/2014/11/telecom_ombudsman_for_canada.pdf)

Loos, E., Nimrod, G., & Fernández-Ardèvol, M. (Coords.). (2018). Older audiences in the digital media environment: A cross-national longitudinal study. Wave 1 Report 1.0. Montreal, Canada: ACT project. Retrieved from: <http://spectrum.library.concordia.ca/983866/>

Meredith, G. E., Schewe, C. D., & Karlovich, J. (2002). *Defining markets, defining moments: Americas 7 generational cohorts, their shared experiences, and why businesses should care*. New York: Hungry Minds

Mitchell, S. (1995). *The official guide to the generations: Who they are, how they live, what they think*. Ithaca, NY: New Strategist Publications.

Masse, M. (2018). The State of Competition in Canada's Telecommunications Industry – 2018. Montreal Economic Institute: Montreal. Retrieved from: [https://www.iedm.org/sites/default/files/web/pub\\_files/cahier0118\\_en.pdf](https://www.iedm.org/sites/default/files/web/pub_files/cahier0118_en.pdf)

Ofcom. (2017). International Communications Market Report 2017. Retrieved from: [https://www.ofcom.org.uk/\\_data/assets/pdf\\_file/0032/108896/icmr-2017.pdf](https://www.ofcom.org.uk/_data/assets/pdf_file/0032/108896/icmr-2017.pdf)

Ofcom. (2018a). Communications Market Report – Annex 1: Methodology and Glossary. Retrieved from: [https://www.ofcom.org.uk/\\_data/assets/pdf\\_file/0023/116753/CMR-2018-methodology.pdf](https://www.ofcom.org.uk/_data/assets/pdf_file/0023/116753/CMR-2018-methodology.pdf)

Ofcom. (2018b). Consumer Mobile Experience 2018 – Measuring the consumer experience of using Android mobile services. Retrieved from: <https://www.ofcom.org.uk/research-and-data/telecoms-research/mobile-smartphones/consumer-mobile-experience>

Ofcom. (2019). Access and Inclusion in 2018 – Consumers' Experiences in Communications Markets. London. <https://www.ofcom.org.uk/research-and-data/multi-sector-research/accessibility-research/access-and-inclusion>

Sawchuk, K., Lafontaine, C., Besanger, K. (2018, August 24). Seniors fall prey to telecom savvy tactics. *The Star*. Retrieved from:  
<https://www.thestar.com/opinion/contributors/2018/08/24/seniors-fall-pray-to-telecom-sales-tactics.html>

Shepherd, T., & Middleton, C. (2017). Final Submission – Regarding the Consultation on Review of the Wireless Code: Telecom Notice of Consultation CRTC 2016-293, 18 July 2016; CRTC 2016-293-1, 23 September 2016; CRTC 2016-293-2, CRTC 2016-293-3, 5 January 2017; CRTC 2016-293-4, 24 January 2017; CRTC 2016-293-5, 17 February 2017. Retrieved from:  
<https://services.crtc.gc.ca/pub>ListeInterventionList/Documents.aspx?ID=238201&en=2016-293&dt=f&lang=e&S=C&PA=t&PT=nc&PST=a>

Shepherd, T., Taylor, G., Middleton, C. (2014) A tale of two regulators: Telecom policy participation in Canada. *Journal of Information Policy*, 4, 1-22.

Statistics Canada. (2017). *The internet and digital technology*. Retrieved from  
<https://www150.statcan.gc.ca/n1/pub/11-627-m/11-627-m2017032-eng.htm>

Statistics Canada, (2018), Annual Demographic Estimates: Canada, Provinces and Territories (Total Population only)2018. Release date: September 27, 2018 Retrieved from  
<https://www150.statcan.gc.ca/n1/en/pub/91-215-x/91-215-x2018001-eng.pdf?st=2WAM-vWd>

Statistics Canada, “Canada's population estimates: Age and Sex, July 1, 2018,”  
*The Daily*, Friday, January 25, 2019,  
<https://www150.statcan.gc.ca/n1/daily-quotidien/190125/dq190125a-eng.htm>

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