

SKILLS FOR THE POST-PANDEMIC WORLD ⋮ MAY 2021

New Working Arrangements

TANIA SABA, SOSINA BEZU, MURTAZA HAIDER

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Skills for the Post-Pandemic World is made possible with support from

Microsoft

This report is available online: **English** | **French**

ISBN: 978-1-77452-050-5

ABOUT THE PROJECT

Skills for the Post-pandemic World tackles key questions facing policymakers, employers, training providers and workers. It is urgent that society turns to face the fundamental changes in the labour market precipitated by the COVID-19 pandemic, and many players must rise to meet the new conditions of a post-pandemic world.

Society will slowly reopen and business will resume, but there will be no "return" to normal: the pandemic has dragged the future of work into the present. Digitization, work from home, plus other steepened trajectories and intensified shifts well documented in the future-of-work discourse are here now, and likely to stay.

Building on the collaborative success of the **Skills Next** series, the Public Policy Forum (PPF) and the Diversity Institute (DI), funded by the Future Skills Centre (FSC), and with new support from Microsoft, join once more to face these rapid societal shifts head-on, with research looking at the future of skills, training and retraining in ways that will chart a path forward as the pandemic continues to unfold.

The goal of this series is to build a robust policy ecosystem that supports the mobility needed for workers and employers to navigate the new reality. To do this, we examine eight key topics:

1. **Job polarization in Canada: Skills for the post-pandemic world**
2. **Digital infrastructure for the post-pandemic world**
3. **New working arrangements**
4. **Building inclusive workplaces**
5. **Immigration and the success of Canada's post-pandemic economy**
6. **Innovation in post-secondary education**
7. **The mother of invention: Skills for innovation in the post-pandemic world**
8. **Supporting entrepreneurship and SMEs**

For more information about the project, please contact: **Andrée Loucks**, Policy Lead (PPF) and **Michael Crawford Urban**, acting Director, Research, Special Projects (FSC).

Skills for the Post-pandemic World is funded by the Government of Canada's Future Skills Program.

Canada

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MURTAZA HAIDER

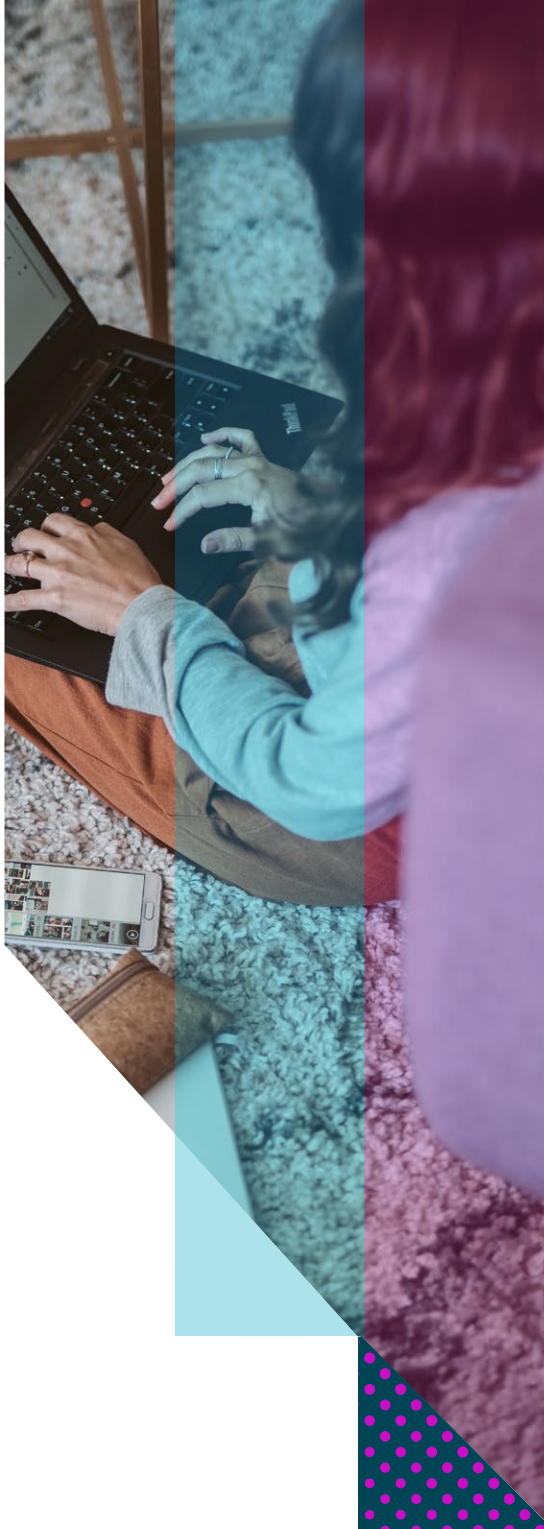
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FOREWORD

SKILLS FOR THE POST-PANDEMIC WORLD



COVID-19 made a devastating debut on the world scene and launched a new era of how we live and work in our global society. The pandemic ushered in dramatic changes and deepened inequalities: health and economic crises, border closures, lockdowns, mass job losses and the curtailment of educational activities. Nevertheless, it also accelerated innovation and particularly the adoption of new technologies, compressed adoption cycles from years to weeks and transformed entire sectors – government, health care, education, retail, financial services and more.

As we see the prospect of a post-pandemic chapter ahead – thanks in part to the incredible pace of vaccine development and production – we are also challenged to imagine a different way of working, learning and living.

At the Future Skills Centre, we focus intently on ensuring that Canadians have the opportunities and resources to thrive in the future of work. It is critical to ensure that everyone, especially under-represented groups who have been disproportionately impacted by the pandemic, can access opportunities to succeed and share in Canada's prosperity. We are also committed to ensuring employers have access to the talent they need to innovate and grow. As we plan for a future after the pandemic – one in which digital skills and connections have become even more essential – we can't stress enough the urgency of developing skills strategies, policies, and programs that enable us to rebuild better and more inclusively.

This paper, part of the **Skills for the Post-pandemic World** series of research reports, explores the increase in working from home (teleworking) that has occurred since the start of the pandemic. It examines the ways in which workers and managers are adapting and adjusting to telework. Although COVID-19 necessitated a sudden shift to remote work that is viewed as a positive change for many workers, it has also revealed inequalities of access and capacity for telework in Canada. Those who work in knowledge industries, people who possess a higher level of education, and residents of urban centres, are more likely to have shifted more easily to remote work. People working in service industries, those with lower levels of education, and people living in rural areas, may have experienced more obstacles to working from home. Addressing these inequities will require a comprehensive strategy and a range of policy approaches. Please join us in considering what these findings mean for skills training and opportunities in Canada.

We thank our partners at the Diversity Institute and the Public Policy Forum for convening this research and these discussions. This is a crucial conversation as we turn our collective energy towards rebuilding our economies and educational systems to be better and more inclusive so that we can all share in a more prosperous future. We also thank the Government of Canada for its support of a national future skills strategy that builds on evidence generation



PEDRO BARATA

Executive Director, Future Skills Centre





EXECUTIVE SUMMARY

Facing one of the most challenging health crises in a century, a large number of employers and businesses in Canada shifted to teleworking in early spring 2020. While only 13 percent of workers teleworked prior to the beginning of the pandemic, by the end of March 2020, four in 10 Canadian workers were teleworking. Similarly, the share of businesses that had at least half of their workforce teleworking grew from 12 percent at the beginning of February to 51 percent by August 2020.

This report explores teleworking as a new work arrangement in Canada. We discuss the prevalence of teleworking, how workers and managers are adjusting to the rapid shift, and the inequalities in access and capacities to telework. These discussions are used to identify and highlight the skills development needed to transition to effective remote work arrangements in Canada.

Many more Canadians are teleworking during the pandemic than was previously the case, with more than one-quarter reporting that they have done so throughout 2020. The highest rate was reported in spring 2020, when four out of 10 workers teleworked. The prevalence of teleworking has been highest in Ontario and Quebec and lowest in Nunavut. Although there was some difference between these regions pre-COVID-19, this difference grew dramatically during the pandemic, with Quebec experiencing the greatest increase in prevalence of teleworking.

In spite of the rapid transition to teleworking and the unprecedented nature of the pandemic, the majority of workers are satisfied with their teleworking experience. In fact, results from surveys of teleworkers show that satisfaction increased the longer workers teleworked. Conditions that led to better adjustment in teleworking include:

- good conditions for teleworking at home;
- satisfactory access to professional tools;
- being comfortable in one's information and communications technology (ICT) skills; and
- receiving support from employers.

However, social isolation due to teleworking was found to be negatively associated with indicators measuring adjustment to teleworking.

A significant share of workers, as well as employers, indicate that they are interested in continuing to telework post-pandemic. Over half of workers express interest in teleworking if given the choice. Similarly, 30 percent of businesses anticipate they will allow at least half of their workforce to telework after the pandemic.

There is, however, inequality in access and ability to telework in Canada. Workers in knowledge-intensive industries are more likely to engage in remote work than those in service industries. And those with a higher level of education are more likely to telework than those with secondary-level education or lower. Rural residents are less likely than urban residents to telework. Overall, the overlapping barriers to teleworking resulted in poorer workers having less ability to telework.

Given that the ability to telework is strongly tied to workers' job security during the pandemic, it has both employment and income inequality implications. Teleworking seems to favour women and immigrants. Proportionally more women than men and more immigrants than those born in Canada shifted to teleworking during the lockdown. On the other hand, Indigenous Peoples and persons with disabilities are lagging in transitioning to remote work. Canadians also face different levels of access to broadband Internet, which will influence teleworking capacity in coming years. While 86 percent of households have access to the recommended level of Internet speed, this rate falls to 40 percent in rural areas and 30 percent among First Nation communities.

Although the extent is not yet known, it is evident that significantly more Canadians will be teleworking post-pandemic relative to past years. Beyond the physical and technical infrastructure needed for teleworking, a broad spectrum of skills is also required to ensure workers can telecommute adequately.

We need to invest in skills development to bridge essential skills gaps and enable workers to telework effectively. Digital skills are the most urgent and basic ones required to work remotely. However, more attention also needs to be given to supporting workers in their acquisition and strengthening of soft skills, time management skills, healthy work habits and emotional management to promote overall workplace well-being. For managers, management skills such

as leading teams through a crisis, effective communication with a remote team, coaching and mentoring may be given more priority in this era of teleworking.

Skills development is a shared responsibility. Workers have to identify gaps in their skill sets and invest in skilling and upskilling. Organizations need to invest significantly in training their workers, both employees and managers, to safeguard their well-being and maintain productivity. Government should rapidly build on existing initiatives to make a suite of wrap-around programs available to Canadians to respond to existing and emerging skills gaps. Government can also design policies that incentivise employers and workers to invest in those skills and technology that can help them leapfrog to greater tech-enabled productivity. Service providers can play a significant role in this by providing and facilitating access to skills development programs.



INTRODUCTION

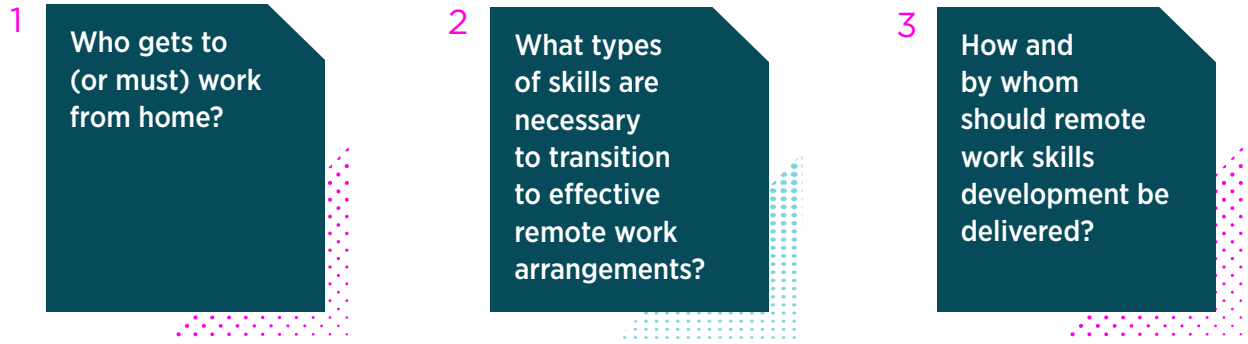
COVID-19 has been a disruptor of unprecedented proportions. While the pandemic has had the biggest impact on health and well-being, it has also disrupted societal norms of assembly and mobility. The daily travel to and from work (commuting) has been one of the largest disruptions resulting from the pandemic. Millions of workers are now working completely or partially from home. They have substituted travel to work with telecommuting, performing essentially the same set of duties with nearly the same proficiency as before.

This report presents a critical review of the drastic changes in the work culture resulting from the pandemic. It highlights segments of the labour force that are likely to embrace teleworking and segments that, by virtue of the nature of their responsibilities, will still have to commute for work. The uneven landscape of convenience, opportunity and security implies that marginalized communities might be further disadvantaged by the changes in work norms. The switch to teleworking has also exposed the digital haves and have-nots, where urban workers have benefitted from ready access to high-speed Internet, whereas workers living in remote areas continue to struggle with a lack of reliable and robust broadband access, thus limiting their ability to participate in a fast-changing work landscape. Hence, there is a need to understand how telework is transforming work and how to ensure the new work culture generates equitable opportunities for all.

When the first lockdown was implemented in the spring of 2020, there was no time to train and transition workers. The majority of employees and managers who shifted to remote work had to adjust rapidly to their new work arrangement from home. Beyond the physical and technical infrastructure needed for teleworking — such as high-speed Internet, computer equipment,

suitable workspace and workstations — a broad spectrum of skills is also important to ensure workers can telecommute adequately. Employers and managers alike need to acquire new skills to collaborate, think creatively and build trust with co-workers online. This report highlights the skills development needed to transition to effective remote work arrangements in Canada.

The report opens with a brief overview of recent trends in teleworking and discusses how workers and managers are adjusting to this rapid shift to a new work arrangement. It then explores three key issues:



The report also touches on the inequality implication of remote work, including the effect of digital divides and how they influence the ability to work, learn, teach and re-skill for remote work arrangements.

Finally, it offers general recommendations for policy and other interventions that might help address these inequities for a world where teleworking is likely to remain the norm long after pandemic restrictions are lifted. These include incentivizing investments on infrastructure and skills to address inequality in teleworking in Canada, reviewing legislation that regulates work performed in the employee's own home, and exploring policies to protect the "right to disconnect" for workers struggling to maintain work-life balance.



THE SHIFT TO TELEWORKING IN CANADA

THE EXTENT OF TELEWORKING IN CANADA

Despite the high level of Internet usage among Canadians, teleworking[i] had not been widely adopted in Canada pre-pandemic. While nearly 40 percent of jobs in Canada were found to be conducive to remote working pre-pandemic, only 4 percent of Canadian employees aged 15 to 69 worked most of their hours from home in 2016.[1]

Experience shows that telework is an effective way for organizations to facilitate operational continuity during major disruptions, particularly natural or health emergencies.[2] Facing one of the most challenging health crises in a century, many employers and businesses in Canada shifted to teleworking very quickly in early spring 2020. In fact, by the end of March 2020, 39 percent of Canadian workers were teleworking.[3] Although the prevalence of teleworking declined after the initial lockdown was lifted, falling to 26 percent in September 2020, the rate rose again in the autumn following an increase in COVID-19 cases. As of February 2021, 32 percent of Canadian employees aged 15 to 69 were teleworking.[4]

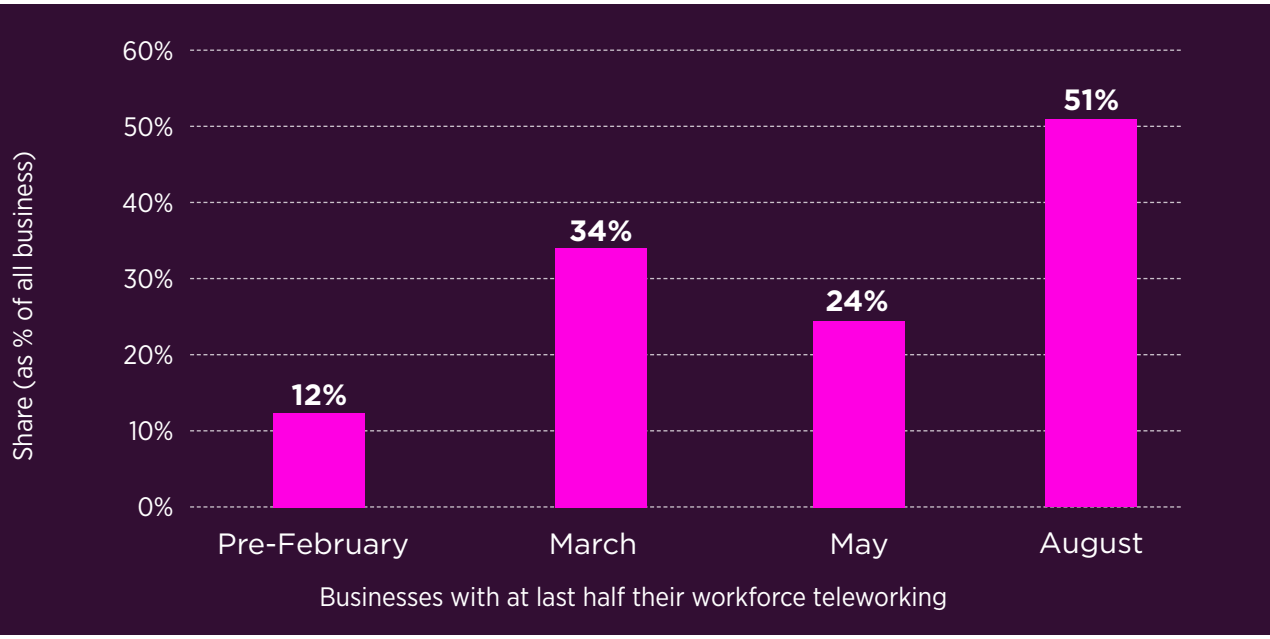
Our analyses of data from the **Canadian Survey on Business Conditions**, conducted by Statistics Canada in March, May and August 2020, show that businesses adapted quickly to the challenges of the pandemic by shifting towards more teleworking.[5] Prior to the pandemic, 78 percent of businesses had less than 10 percent of their workforce working remotely. By August 2020, only 27 percent had a similarly small share of their workforce teleworking.[6]

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i Teleworking and remote work are used synonymously in this report.

Figure 1 shows the overall trend towards increased teleworking in Canada. The share of businesses that had at least half of their workforce teleworking grew to 51 percent in August from 11 percent pre-pandemic. In May 2020, the lifting of restrictions imposed during the economic lockdown resulted in proportionally fewer people teleworking. By August, however, the rate of teleworking had risen once again, surpassing even earlier levels seen in March 2020. Given this pattern it would not be surprising if the subsequent waves of lockdowns and curfews that have continued into 2021 result in a sustained increase in teleworking.

FIGURE 1: TELEWORKING IN 2020 – BEFORE AND DURING THE COVID-19 PANDEMIC



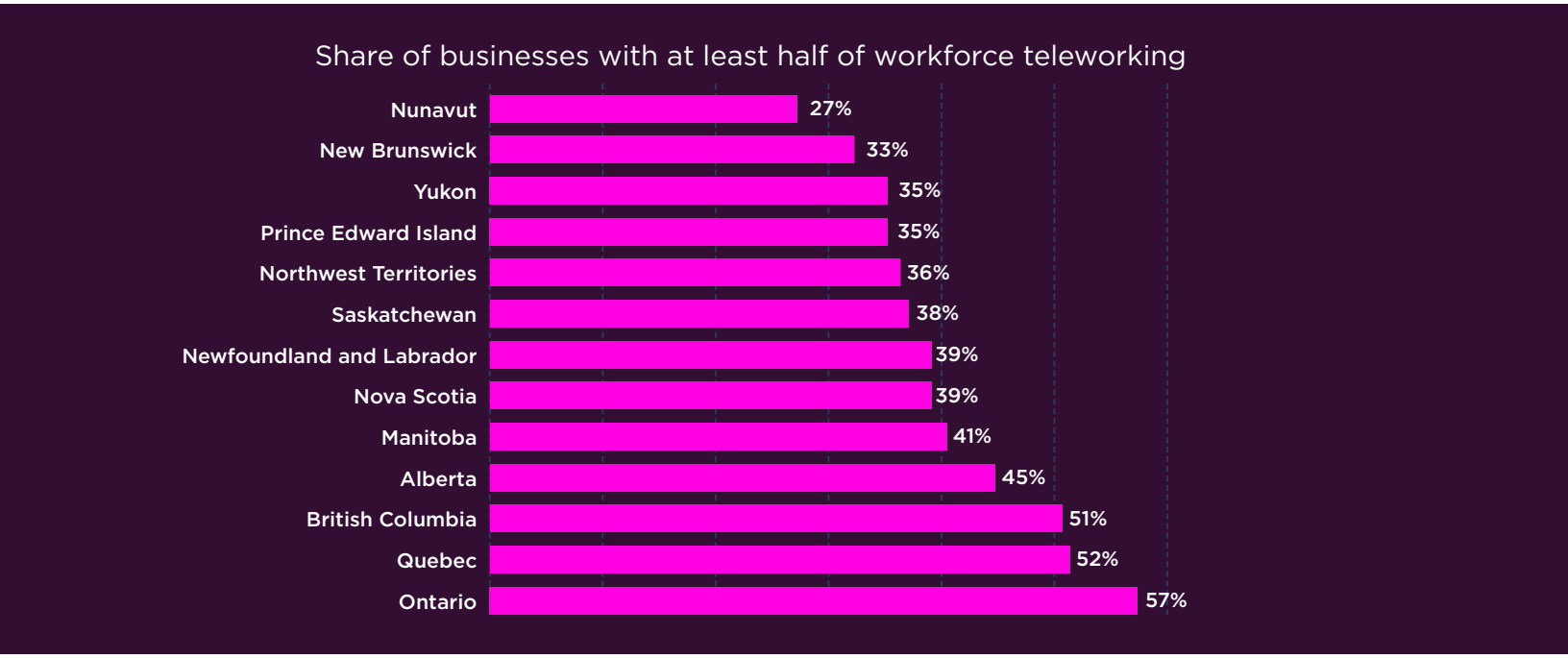
Source: Authors' computation based on data from: Statistics Canada. (2020k). (Table: **33-10-0274-01)**; Statistics Canada. (2020b). (Table: **33-10-0247-01**) and Statistics Canada. (2020a). (Table: **33-10-0228-01**).

VARIATION IN TELEWORKING BY PROVINCE

The prevalence of teleworking is highest in Ontario, Quebec and British Columbia. In August 2020, the share of businesses that had at least half their labour force working remotely in these provinces stood at 57, 52, and 51 percent, respectively. The rate of teleworking was lowest in Nunavut, where only 27 percent of businesses had at least half their labour force working remotely. While provinces varied in the pre-pandemic prevalence of telework, this difference expanded during the pandemic. For example, pre-pandemic, Quebec and New Brunswick had a comparable rate of teleworking, with 76 percent and 78 percent of businesses not engaged in teleworking (less than one percent of

their workforce teleworked). By August 2020, as Figure 2 shows, this rate declined to 11 percent in Quebec, while in New Brunswick 38 percent were still not engaged in teleworking. There are many reasons for these dramatic differences, including the COVID-19 public health restriction measures adopted by the provinces, industrial concentrations and differential rates of infection. A deeper exploration is needed to identify factors that influenced the rapid or slow adoption of remote work across jurisdictions. For example, to what extent are a lack of digital skills, poor infrastructure, and other non-infectious factors acting as impediments to teleworking? Another report in this series, **Digital Infrastructure for the Post-pandemic World** explores the infrastructure angle in more detail.

FIGURE 2: REMOTE WORK, BY PROVINCE/TERRITORY (AUGUST 2020)



Source: Authors' computation based on data from: Statistics Canada. (2020b). (Table: **33-10-0274-01**).

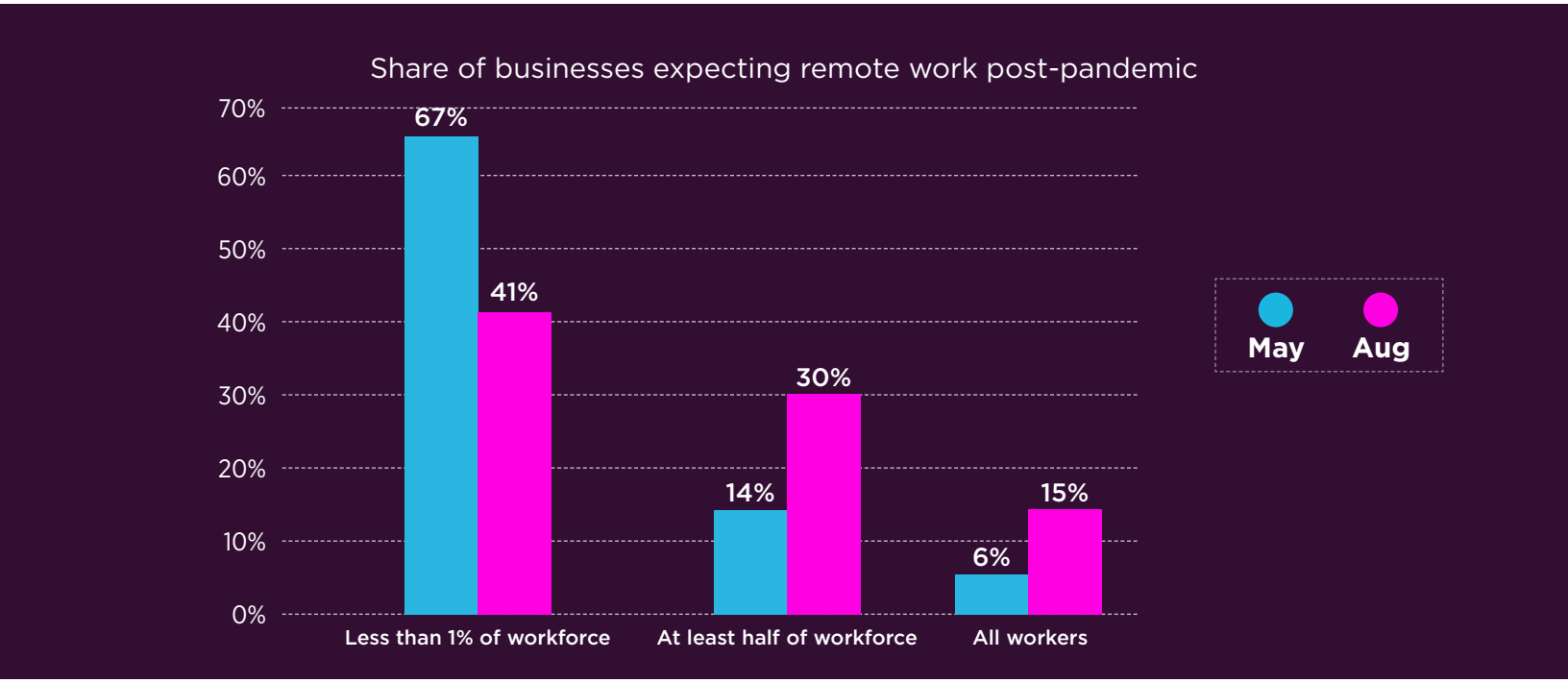
TELEWORKING POST-PANDEMIC

There is high-demand among workers to continue teleworking post-pandemic. A recent study from Statistics Canada shows that of those workers who started teleworking due to COVID-19, 80 percent indicated that they would like to work at least half of their hours from home once the pandemic is over.[7] Only 9 percent would like to work all of their hours at home, with the remaining 91 percent citing a preference to combine working from home with working outside the home. This preference to telework holds across gender and socioeconomic status.

Our analysis suggests that there is similar interest in teleworking arrangements among businesses. By August 2020, 30 percent of businesses anticipate that at least half of their workforce would be teleworking once the pandemic is over.

The share of businesses that anticipate continuing with remote work has increased as businesses have gained more experience with teleworking (Figure 3). In May 2020, only 14 percent of businesses reported they would have at least half their workforce teleworking post-pandemic. By August, this rate had increased to 30 percent. Similarly, in May, six percent of businesses said they would have all workers teleworking after the pandemic. By August, this rate had more than doubled to 15 percent, and the share of businesses that did not envision their employees teleworking after the pandemic shrank by 25 percentage points.

FIGURE 3: WORKFORCE EXPECTED TO WORK REMOTELY ONCE COVID-19 PANDEMIC IS OVER, REPORTED BY BUSINESSES



Source: Statistics Canada. (2020k). (Table: 33-10-0274-01); and Statistics Canada. (2020b). (Table 33-10-0247-01).

Whether the aforementioned are realistic estimates of the future prevalence of teleworking cannot be known for certain. However, the fact that attitudes toward teleworking improved the longer workers and employers engaged in remote work indicates that it is likely that there is no going back to pre-pandemic levels and the rate is likely to accelerate as firms invest more in technology and their employees.

> **Recent reports indicate the pace of technology adoption has accelerated during the pandemic. Technologies for which adoption took years previously are now being mainstreamed in a matter of months, if not weeks.[8]**

The shift in technology spending to facilitate remote work, which in some instances was substantial, will provide future justification for firms to promote telework and continue to use the new technology they acquired to do so. Also, many businesses are finding it cheaper to invest in technology than to rent or own real estate.[9]



ADJUSTING TO TELEWORKING DURING THE PANDEMIC

Unlike teleworking pre-pandemic, where employees and employers had ample time to decide whether and how the teleworking arrangement would function, pandemic-induced teleworking was imposed suddenly on employees, without preparation or anticipation. Confinement to the home removed any possibility of travel to the workplace. No flexibility in commuting was allowed during the first weeks of the lockdown. For many workers, this was made worse by the closure of schools and daycare centres and the increased burden of having to care for the elderly, who were more at risk in times of pandemic. Finally, the pandemic heightened stress levels owing to health and financial uncertainties.[10] Assessing the effects of pandemic-induced telework involves balancing the organization's need to maintain an appropriate level of staff to avoid disruptions in service or activity with the personal concerns of employees.[11, 12]

Data from a survey of 3,500 Quebec respondents,[13] surveyed from April 4 to July 30, 2020, provides preliminary insights into how workers and managers are adapting to the new realities of remote work. For more than half of teleworkers in Quebec (53%), the pandemic provided the first opportunity to telework. Moreover, at the time of the survey, 47 percent had been teleworking for less than a month. The following findings highlight how workers adjusted:

- Among respondents, 85 percent said they had experienced good working conditions in working from home.
- As well, 40 percent also said they were more productive teleworking and 36 percent said they were better able to do their work. For those who reported being more productive, productivity also increased over time, to 24 percent in July 2020 from 11 percent in mid-April.

- Similar to responses by businesses (discussed above), a significant share of workers were also interested in continuing to telework post-pandemic. Over half of respondents (51%) would like to continue teleworking, if given the choice. Approximately 26 percent strongly agreed that they would like to continue to telework, while 25 percent somewhat agreed with this statement.



After an average of almost six weeks of teleworking, 82% reported a remarkably high level of satisfaction.

Furthermore, the "completely" satisfied category increased to 47 percent by the end of July from 36 percent in mid-April. Satisfaction therefore appears to increase with the amount of time spent teleworking. Unfortunately, the data does not allow analysis of the reasons for this change.

- The results show that the adoption of telework has grown with practice and time. In mid-April, approximately 16 percent of respondents said they "strongly" wanted to continue to telework if given the choice, a number which grew to 35 percent in mid-May and 47 percent in July. Over time, and far from becoming bored, teleworkers have become more efficient and more adaptable.



2 in 3

respondents felt they had been able to balance work and family while teleworking. Achieving work-family balance improved as the telework experience progressed.

The percentage of respondents who strongly agreed that they had achieved work-family balance through telework increased from 25% in mid-april to 39% in July

It should be noted that the intention to continue teleworking tends to be stronger in larger organizations, which are better able to provide support – such as guidance on how to change to the new way of working with teleworking tools assistance and resources.

- Individual characteristics play an important role in the adjustment factors for telework. Younger workers seem to have adapted less well to telework, possibly because they may have less discretion over their responsibilities and need more supervision at the beginning of their career. This is also the case for those with higher qualifications, who seem to fear the negative impacts of distance.
- Among workers who telework, gender has little impact on the adjustment, though women are more likely to report a lack of work-family balance when teleworking.
- Managers, for their part, show a lesser adjustment to telework for each of the five components — satisfaction with teleworking, productivity, quality of work, work-life balance, and the desire to continue teleworking. It should be noted that managers have suffered the sudden and forced introduction of telework just like all employees, but they have also had to support their teams in this important change. Indeed, the very nature of the managerial function has been particularly disrupted by teleworking due to the distance and dispersion of teams.



However, a growing number of managers adjusted to teleworking over time

35%
Wishing to continue teleworking in mid-April

52%
in mid-June

70%
in July 2020

A recent study of 'new teleworkers'- those who usually worked outside of their home before the COVID-19 pandemic - suggests that teleworking does not negatively affect productivity. According to the study, 90 percent of new teleworkers reported being at least as productive at home as they were previously at their usual place of work.[14] Additionally, 32 percent reported accomplishing more work per hour versus 10 percent who reported less work. In terms of productivity, men and women were similarly affected by a shift to remote work. The findings suggest that teleworking resulted in longer hours of work, with 35 percent of new teleworkers reporting that they worked longer hours now than before. The rate is higher for managers (51%).



WHAT ARE THE CONDITIONS FOR SUCCESSFUL TELEWORKING?

The individual profile of successful teleworkers has been examined in various studies, which show that those who choose teleworking are autonomous and adaptable to information and communication technologies (ICTs).[15, 16, 17, 18, 19, 20, 21] Although the deployment of telework is strongly associated with the development of technologies that have become more accessible and adaptable since the beginning of the 21st century,[22] it can also be seen as a social innovation for employees.[23]

Other research has highlighted the ambiguity of the effects of telework on job performance and satisfaction. It may be associated with some negative work experiences, barriers to accessing work and social and occupational risks.[24] In particular, social isolation, limited interaction with co-workers and reduced visibility within the organization have been identified as major negative factors that affect teleworkers' performance and satisfaction.[25, 26, 27, 28, 29, 30] Some authors have even challenged the expected benefit of work-life balance that working from home promotes. They have highlighted the potential for family conflict, longer working hours and increased workloads.[31, 32, 33] The increased use of technology is likely to produce a sense of stress due to the intensive use of ICTs.[34] "Technostress" can result from, among other things, a sense of invasion of privacy by ICTs, the complexity of regularly adapting to new technologies, or a lack of support to tame them.[35, 36] The success of telework depends on:

1. Individual characteristics such as motivation, attendance or productivity of teleworkers;
2. The nature of the work to be performed, including the level of autonomy or the degree of interdependence of tasks with other colleagues; and
3. The support of the employer and supervisors through, among other things, accessibility to appropriate technologies or effective communication.[37]

Results from the Quebec survey mentioned above are in line with findings in previous studies on remote work.

- Successful adjustment to telework depends on several key factors, including the duration of telework, working conditions at home, and support received from the employer. Among various explanatory factors considered, the characteristics of telework itself are ones that contribute most to successful telework implementation. They explain 30 percent of the variance in telework adjustment. Thus, the number of weeks spent teleworking positively influences the overall adjustment criteria of teleworkers. As more people adjust to telework, they become more comfortable with it, and are increasingly willing to continue doing so. Good conditions for teleworking at home, satisfactory access to professional tools, and a calm environment contribute significantly to the adjustment to teleworking. Being innovative in regards to ICTs has a positive influence on the adaptation to teleworking. Analysis has shown that in smaller companies, teleworkers received less support from their organization. Innovation in telework therefore mainly responded to a need for adaptation that was met by the employees themselves when their organization did not offer the necessary support.
- Respondents have absorbed a greater workload in teleworking, resulting in a better adjustment to teleworking. Workers have been able to absorb a greater workload due to reduced time commuting and socializing. As a result, employees are satisfied to be able to devote more time to their work, be more productive and see the quality of their work improve. Conversely, when the nature of the work has been altered, employees adjusted less well to teleworking.
- Individual characteristics accounted for 11 percent of the variance in successful adjustment to teleworking. The results highlight the importance of comfort with technology as an influential characteristic of teleworking. Approximately 94 percent of respondents were comfortable with new technology (59% very comfortable; 35% somewhat comfortable). Those who were uncomfortable experienced greater difficulty adjusting to teleworking. Having the right skills to use ICTs is therefore a criterion that remains paramount. Women as well as older teleworkers reported being better adapted to telework.
- Organizational characteristics also play an important role and accounted for 10 percent of the adjustment to telework. It should be noted that 72 percent of respondents felt they had received support from their organization since the implementation of telework. Its influence is important on each of the five adjustment criteria, namely greater satisfaction, better productivity, improved quality of work, intention to continue teleworking and better work-family balance.

On the other hand, the results confirmed that the feeling of isolation is one of the major factors negatively influencing adaptation to telework.

- Isolation was analyzed in two forms: social isolation and organizational isolation. It was found that 76 percent of respondents reported feeling almost never or never isolated from organizational decisions, important meetings or neglected career coaching. On the other hand, 56 percent reported feeling isolated from co-workers quite often or very often. Social isolation has a significant and negative influence on all adjustment criteria, unlike organizational isolation, which is more likely to lead to greater productivity and quality of work. It seems that not being "disturbed" encourages people to focus better on their work.
- Greater autonomy at work is positively associated with greater satisfaction with telework and a better work-life balance. Conversely, the more respondents indicated they were dependent on their colleagues' work to carry out their tasks, the less they intend to continue teleworking. While the preliminary results announced in April and May showed managers had the lowest levels of adjustment and a lower predisposition to continue teleworking, the July 2020 results showed that managers reported the highest levels of adjustment to teleworking. A marked change in managers' attitudes towards telework was observed, resulting from positive experience with new norms and technology.
- Finally, given the pandemic context in which the survey was conducted, stress was found to be a significant factor in having a negative impact on the adjustment to telework. Among teleworkers, 19 percent reported experiencing psychological distress during the pandemic. The general level of stress experienced by individuals negatively influenced their experience of the telework situation.



THE INEQUALITY IMPLICATIONS OF TELEWORKING

DIFFERENCES IN TELEWORKING BY OCCUPATION AND EDUCATION LEVEL

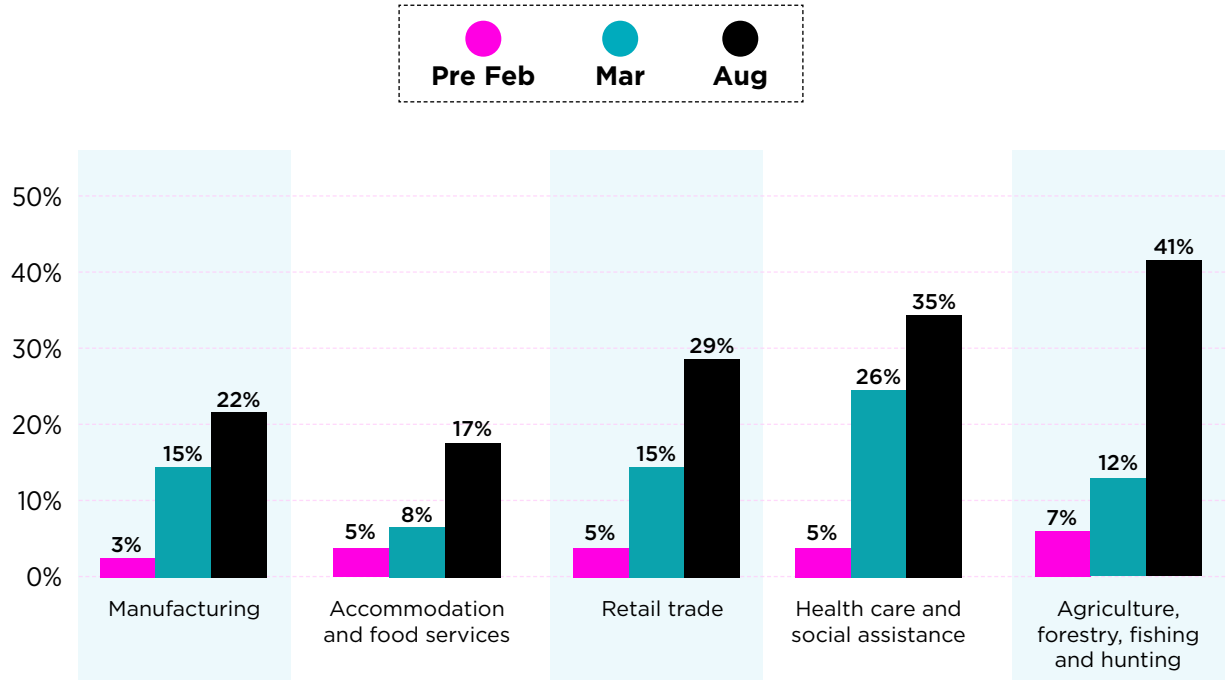
During the pandemic, workers employed in industries that require close contact with clients or colleagues experienced the most significant employment loss because these jobs could not be done remotely. The labour force survey from Statistics Canada showed that in April 2020, among those who were still employed, the share of workers who worked remotely were: 8.4 percent in accommodation and food services; 19 percent in construction; and 21 percent in wholesale and retail trade. By comparison, in the knowledge-intensive professional, scientific and technical services sector, 76 percent were teleworking.[38]

Data from the **Canadian Survey on Business Conditions** also reflect a similar pattern. By August 2020, 70 percent of businesses in the professional, scientific and technical services had at least half their workforce teleworking, while for the accommodation and food services industry, this rate was only 17 percent.[39] While data is not readily available, it is reasonable to assume there will be significant variation among workers within the same industry. As will be discussed below, those who have higher education are in general more likely to telework. Hence, we expect that high-skilled workers in low teleworking industries have a greater likelihood of teleworking than is observed for their sector as a whole.

It's to be expected that industries with some experience in teleworking would be able to achieve a larger shift into teleworking in a shorter period, as the relevant technologies may be relatively easily available. However, even among sectors that start with low rates of teleworking, some

adapted more quickly than others. For example, pre-pandemic, the rate of remote work in health care and social assistance was not significantly higher than manufacturing or the accommodation and food services sectors. However, by August 2020, organizations in the health care and social assistance sector had achieved a much higher rate of remote work than the latter two (Figure 4).

FIGURE 4: CHANGES IN TELEWORKING, LOW-STARTING SECTORS (2020)



Businesses with at least half of their workforce teleworking

Source: Statistics Canada. (2020). Statistics Canada. (2020k). (Table: **33-10-0274-01**); Statistics Canada. (2020b). (Table: **33-10-0247-01**); and Statistics Canada. (2020a). (Table: **33-10-0228-01**).

The unequal access to teleworking is further captured by the difference in teleworking adoption rates across worker education levels.

The adoption of teleworking was more pronounced for workers with a higher education than for those with less education.

For instance, those with post-secondary degrees were more likely to have their work location shifted from outside the home to at home. Of those surveyed, 43 percent of workers with a bachelor's degree and 47 percent with a university education reported their work location changed from outside the home to at home.

Table 1: Changes in teleworking during the spring 2020 pandemic lockdown

Education Level	WORK LOCATION (PERCENTAGE OF RESPONDENTS BY EDUCATION LEVEL)			
	Work location changed from outside the home to at home	Work location remains at home	Work location remains outside the home	Absent from work
Less than high school or equivalent	5.39	17.82	49.68	27.11
High school diploma or equivalent	17.43	10.25	42.63	29.7
Trade certificate or diploma	11.45	1.2	58.08	29.27
College/CEGEP/ other non-university	23.29	11.76	45.66	19.29
University certification below bachelor's	23.99	7.24	55.28	13.49
Bachelor's degree (e.g. B.A., B.Sc., L.L.B)	43.84	13.76	24.1	18.29

Source: Haider, Murtaza. (2020). **Telework during COVID-19 lockdown in Canada: The implications of working from home for traffic congestion, housing affordability and commercial real estate**. Urban Analytics Institute.

At the other end of the spectrum are workers with lower levels of education, and presumably lower skill levels. For those with less than high school or equivalent education, only 5.4 percent reported their work location changed from outside the home to at home. For those with a high school diploma or equivalent, 17.4 percent reported their work location has changed to home since the onset of the pandemic.

Table 1 also hints at job security for workers: those with less education were far more likely to be absent from work during the lockdown, presumably due to reduced work hours or being furloughed. Among workers with less than high school or equivalent education, 27 percent reported being absent from work in March and April 2020 compared to just 12.8 percent of those with education qualifications higher than a Bachelor's degree. Thus, the prevalence and adoption of teleworking are differentiated by the level of education. Similarly, the employment security of workers appears to be tied to their level of education. Workers with a lower level of education attainment are more likely to be required to work from outside of the home, be exposed to higher health risks, and have higher uncertainty about employment security.

The fact that the level of teleworking varies by education and occupation implies that Canadians entered the pandemic era with unequal potential to telework. This could exacerbate existing income inequality in Canada.

In fact, a study by Statistics Canada shows that pre-pandemic the likelihood of being able to work remotely was highly correlated with income level. The study shows that among dual-earner families in the top decile of the family earning distribution, 54 percent held jobs in which both earners could work from home, while the corresponding percentage for dual-earner families at the bottom decile is only eight percent.[40] Similarly, another study shows that poorer workers, workers at small firms, seasonal or contractual workers, part-time workers, younger workers and non-immigrant workers tend to be employed in jobs for which remote work is less possible.[41]

RURAL-URBAN DIFFERENCE IN TELEWORKING

Compared to urban centres, rural Canada is in an unfavourable position to rapidly transition to remote work either now or post-pandemic.

The limitation in infrastructure, particularly lack of access to reliable broadband Internet, means workers are hampered in their ability to work remotely. Although much has been promised, universal access to high-speed Internet will not be achieved in Canada before 2030.[42] Even then, rural service will still be significantly inferior to what is available in most urban areas. While 86 percent of households have access to the recommended level of Internet speed, this rate falls to 40 percent in rural areas and 30 percent on First Nation reserves.[43] The difference in access to Internet significantly influences people's ability to telework. According to data from the **Canadian Perspective Survey Series**, a new online survey series launched by Statistics Canada in March 2020, rural residents were more likely than urban residents to work outside their home or be absent from work during the lockdown. During the spring 2020 lockdown, the share of urban workers who shifted their work location from outside the home to at home (29%) was almost double that of workers in rural areas (16%).[44] A closer look at the implications of differences in rural versus urban areas is discussed in more detail in another paper in this series: **Digital Infrastructure for the Post-pandemic World**.

TELEWORKING FOR DIVERSE GROUPS

Access and participation for diverse groups

There is limited research on teleworking and diversity as it relates to workers from traditionally underrepresented groups. It is possible that existing labour market disadvantages for these groups may be exacerbated by the rapid transition to teleworking. Racialized minorities, immigrants (particularly women immigrants), and persons with disabilities often experience significant unemployment and underemployment even with high skill levels and significant educational attainment.[45, 46] For example, university graduates with severe disabilities have the same employment outcomes as persons without a disability who do not hold a high school diploma.[47]

A worse outcome is not, however, a forgone conclusion. In fact, this could be an opportunity to build a more inclusive labour market. For example, teleworking has the potential to improve employment opportunities for persons with disabilities. A recent study shows that, in general, workers with disabilities are proportionately more likely than workers without disabilities to work from home, although they experience the same wage gap as is the case for on-site work.[48] When it comes to gender difference, data from the **Canadian Perspective Survey Series** suggest that at least in terms of prevalence, teleworking favours immigrants and women.

> **Proportionally, more women than men, and more immigrants than those who were born in Canada, shifted to teleworking during the lockdown.[49]**

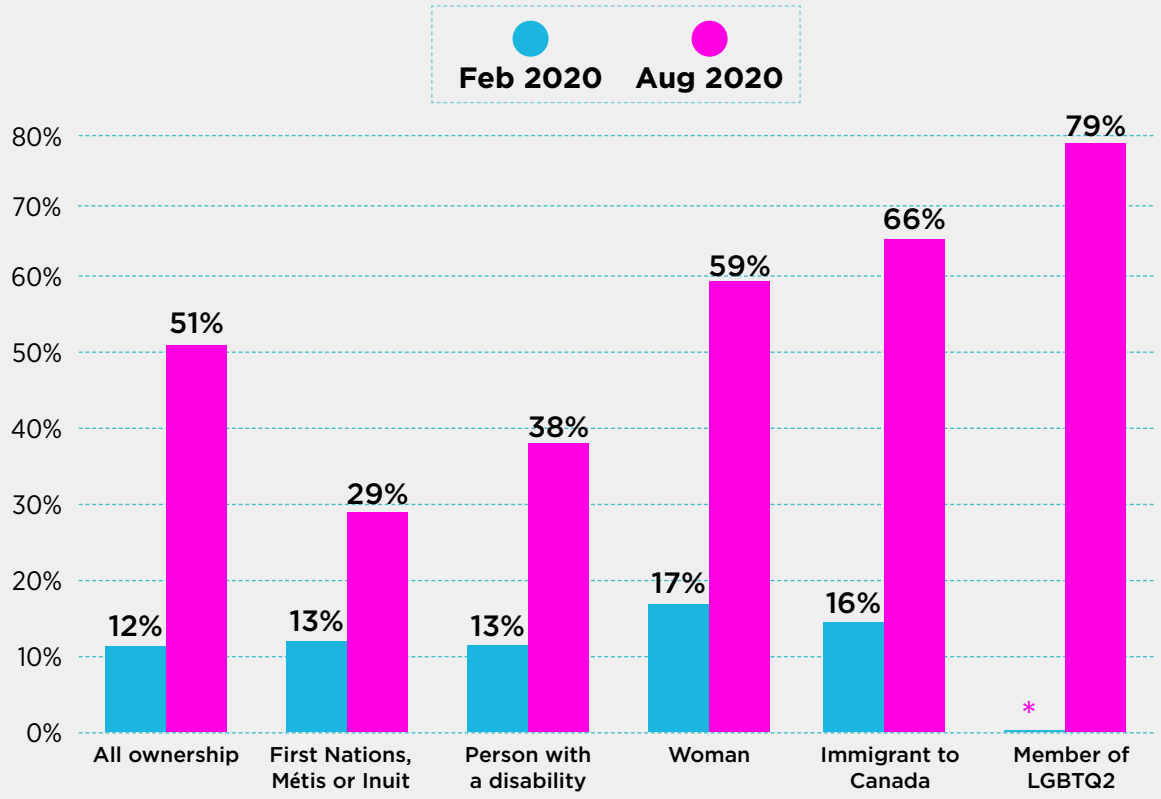
Interestingly, however, young women are less likely to have switched to teleworking than older women, a pattern that is the opposite of the one observed among men where older men were less likely to switch to teleworking.[50] However, more extensive research is required to identify the types of occupation that allowed the transition to telework as well as the barriers and constraints that blocked this transition in other instances. One of the other papers in this series, **Building Inclusive Workforces**, discusses in detail how COVID-19 is exacerbating skills utilization and skills development challenges faced by women, racialized people, Indigenous people and persons with disabilities.

For business owners, our analysis of data from the business survey shows that among diverse populations, businesses owned by immigrants, women and the LGBTQ2+ community have done better in terms of transitioning to teleworking during the pandemic.

On the other hand, businesses owned by Indigenous people and by persons with disabilities still lag behind in transitioning to remote work. In August 2020, 41 percent of Indigenous-owned businesses and 36 percent of businesses owned by persons with a disability did not participate in remote

work or had very limited participation (less than 10 percent of the workforce teleworking). This is a significant change from pre-pandemic — 78 percent and 73 percent, respectively — but still higher than the overall rate for Canada, where only 27 percent of businesses had limited remote work. By comparison, two-thirds of immigrant-owned businesses had at least 50 percent of their workforce teleworking, and those with limited remote work accounted for only 18 percent of immigrant-owned businesses. Figure 5 shows the share of businesses with at least half of their workforce teleworking pre-pandemic and during the pandemic. For all groups, the share is higher in August 2020 relative to February 2020.

FIGURE 5: WORKFORCE TELEWORKING, BY MAJORITY OWNERSHIP



Source: Authors' computation based on data from Statistics Canada. (2020k). (Table: 33-10-0274-01) and Statistics Canada. (2020a). (Table: 33-10-0228-01).

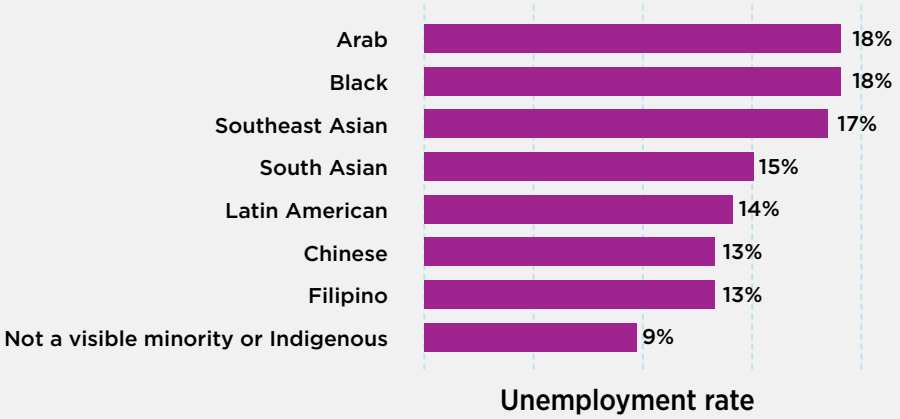
***Note:** Data not available for February 2020 for the LGBTQ2+ group

Intersectionality: Overlapping challenges for diverse groups

As indicated, the share of women who telework is at least as high as the share of men. This is very encouraging since remote work allows women to maintain stronger labour market attachment and can improve work-life balance. Especially for new mothers, this may enable them to cut commuting time and adopt flexible work hours. However, remote work is not without its dangers: for some women it may have the opposite effect and increase their overall work burden. This is related to societal gender norms that influence gendered roles and responsibilities. Research on the gendered impact of flexible work arrangements indicates that the ability to work from home increases women's domestic responsibilities, while men are more likely to prioritize and expand their work spheres.[51, 52] More research is needed to understand the gendered impact of teleworking on work-life balance.

Another cross-cutting challenge is discrimination. Implicit bias and discrimination remain major challenges in the labour market for racialized groups. Without a conscious effort to change employer practices, it is likely that remote work will exacerbate this problem. Indeed, racialized and immigrant workers are more likely than their colleagues who identify as white to worry that working from home will negatively impact their careers.[53] And past research does suggest that racialized people and immigrants face biases that limit their employment opportunities[54] including native-born members of racialized communities.[55] This discrimination may partly explain the gap in the labour market for minorities during the COVID-19 pandemic.

FIGURE 6: UNEMPLOYMENT AUGUST 2020, MINORITY GROUPS



Source: Statistics Canada. (2020j). Labour Force Survey, August 2020. The Daily

In August 2020, the rate of unemployment for Black people and Arabs was twice that of non-minority Canadians. Similarly, many Indigenous people face multiple challenges that make effective teleworking difficult.

> **As discussed earlier, coverage of high-speed broadband Internet is low on First Nations reserves and in rural and remote communities. On top of that, many Indigenous people may also lack the advanced digital skill level and education needed for effective teleworking.**

For example, among First Nations people in their early 20s who live on reservations, only 48 percent have completed high school.[56]



SKILLS DEVELOPMENT FOR TELEWORKING

WHAT SKILLS ARE NEEDED TO TRANSITION TO AND SUCCEED IN REMOTE WORK?

While there is some discussion around ensuring worker access to necessary equipment, physical space and supporting technical infrastructure for remote work, more attention needs to be given to the skills needed to transition to and perform effectively in remote work arrangements.

Digital skills

More than 90 percent of Canadians aged 15 or older reported using the Internet in 2018.[57] However, many Canadians do not have the experience and skills needed to effectively telework without further training (see Table 2). For example, two-thirds of Canadian Internet users do not have experience sharing files using online data storage, and little more than half of Internet users downloaded files to their computer or other devices. These are routine activities in teleworking and workers require these and other basic digital skills to effectively work and collaborate remotely.

Table 2: Digital skills of Canadian internet users 15 years of age or older (2018)

Activity related to digital skills	%	Activity related to digital skills	%
Used your smartphone as a GPS device for directions	69	Used word processing software	69
Copied or moved files or folder digitally	66	Connected a new device to a wireless network	63
Connected a new device via Bluetooth	58	Used the internet to transfer photos or videos from one device to another	56
Downloaded files from the internet to your computer or other devices	56	Used spreadsheet software basic functions	53
Uploaded files or photos to an online data storage space	49	Created presentations or documents with text and pictures, tables or charts	44
Used software to edit photos, video or audio files	40	Shared files using an online data storage space	35
Used spreadsheet software advanced functions to organized and analyze data	22	Written code in a programming language	10

Source: Statistics Canada. (2020e). (Table 22-10-0112-01).

Survey data from Statistics Canada[58] also reveals that reported levels of digital skills increase with educational attainment but decrease with age. These trends are not surprising given the overall trend of younger and newly educated people to be more engaged with technology. In the context of the pandemic and the rapid transition to teleworking, this suggests that particular attention needs to be given to older workers who may not have basic digital skills required for remote work because these advanced level digital skills were not taught during their years of formal education. For example, while 70 percent of Canadians in the 25 to 44 age group had experience downloading a file from the Internet to their computer in 2018, the share drops to 47 percent for those aged 45 to 65 and to 29 percent for those older than 65.[59]

While the digital divide in Canada has been a concern for the future of work in general, the pandemic and the quick shift to teleworking make it even more urgent.

Workers' digital skills have a direct effect on who gets employed and how successful they would be in a job. Online skills development and teleworking is extremely challenging with inadequate Internet facilities.[60] The Canadian Radio-television and Telecommunications Commission (CRTC) recommends broadband speeds of at least 50 Mbps for downloads and 10 Mbps for uploads, as well as access to unlimited data.[61] Even in large suburbs such as Mississauga, broadband service ranges in quality from a low download speed of 15 Mbps to a high of 1,000 Mbps.

Writing

Writing, identified as one of the **nine essential skills** by Employment and Social Development Canada, has become even more critical in the era of teleworking since discussions among team members, as well as with clients, rely more than ever on written communications. While we don't have estimates on the overall writing skills of Canadians, a related measure of literacy reveals significant gaps. A recent report indicates that while the average literacy skills of Canadian adults (aged 16 to 65) are not lower than the OECD average, there are proportionally more people at the lower end of the scale in literacy and numeracy in Canada.[62] More concerning, studies show that close to half of working-aged adults score below literacy level 3, which is internationally accepted as the level needed by most workers in jobs within a knowledge-based economy.[63]

Time management skill for life-work balance

Teleworking provides a level of independence by allowing workers to manage their activities without supervisors and colleagues looking over their shoulders. For some, this arrangement increased productivity by allowing them to work with fewer unnecessary meetings and reduced distractions and interruptions.[64] There is some empirical evidence documenting the positive productivity gain of teleworking for firms in Germany, Portugal and China.[65] However, large-scale adoption of teleworking may also lead to reduced productivity as some workers may have a tendency to procrastinate or get distracted with events and issues at home. Beyond the potential negative effect on productivity, the inability of these kinds of workers to manage time efficiently may result in stress. On the other hand, some workers may find it difficult to disconnect from work and develop a work habit that is unhealthy and unsustainable. Studies show that in many cases teleworking leads to longer working hours and working more during evenings and weekends due to the blurring of work and home life.[66, 67] Time management skills and the ability to balance work and life is essential for teleworkers where the space for work and personal life are merged.

Social and emotional skills

One of the negative effects of remote work is the social isolation workers experience resulting from working alone in physically isolated places. In fact, social isolation was negatively associated with

indicators measuring adjustment to teleworking.[68] Not everyone will be affected in the same way. In the short run, extroverts may struggle more than others, although over the longer term all workers might have to adjust to a workplace with fewer face-to-face social interactions. Managers can assist with a better transition by facilitating remote social interaction, such as by creating informal team meeting times for non-work conversation and interaction.

Emotional intelligence has become more important for managers dealing with workers remotely rather than in person. Empathy is essential, especially during the pandemic when workers face multiple challenges, including health concerns, economic stress and increased care work.[69] Managers need to communicate their understanding of and empathy for their workers' circumstances and allow flexibility when needed. Managers have increasingly relied on presenteeism as a proxy for worker productivity. Hence, when workers operate remotely, one of the primary metrics that managers previously relied on is no longer available. Instead of physical presence, managers now have to gauge productivity by evaluating outcomes and deliverables. Hence, the need to build trust with employees is ever more important. Beyond ensuring the productivity and welfare of employees, supporting workers is important to retaining talent in this period of high talent mobility. Moreover, research also shows a link between employee satisfaction and firm performance.[70]

Stress management skills are important for the overall well-being of workers. One of the major concerns of employers regarding remote work was that employees may "slack off." However, the opposite seems to be happening as many workers report that they tend to absorb a greater workload while teleworking.

While this may result in a temporary increase in productivity, in the long run it could have negative consequences on the mental and physical health of workers and their productivity. Moreover, it is not yet evident whether workers are spending more time to complete the same task, which would indicate lower productivity, or if they are spending more time to complete more tasks. Workers also need to practice better stress management skills as they are forced to deal with simultaneous demands from work and family, especially during the pandemic, as many people have had to take on more care responsibilities. A report from Statistics Canada shows 74 percent of surveyed parents feel very or extremely concerned about balancing child-care, schooling and work.[71] A pre-pandemic study on teleworking and well-being shows that, compared to operating from a workplace, bringing work home on weekdays is associated with less happiness for workers, particularly parents.[72]



SHARED RESPONSIBILITY IN SKILLS DEVELOPMENT FOR TELEWORKING

Educational institutions might have to adjust their curricula, training methods and even their work integrated learning (WIL) programs for both current and future students. However, educational institutions are not the only ones with a role to play. Employers, employees, service providers and governments have responsibility in enabling workers to succeed in new work arrangements.

Given the sudden and rapid transition to teleworking, not all current workers have all the skills required for a successful transition. Managers will need to be trained to manage workers remotely. The management tools used in supervising work and workers on site are not likely to work for employees working remotely. Management skills such as leading teams through crises, facilitating effective communication with a remote team, as well as coaching and mentoring may be given more priority in this era of teleworking. The technical tools used will also change, requiring training or retraining for managers. Telework requires giving up control over workers as performance assessment shifts from a focus on inputs (i.e., time worked) to outputs.[73] Many workers also need skills development to effectively telework. Digital skills are the most urgent and basic ones required to do work remotely. However, organizations also need to pay more attention to overall well-being of workers by facilitating training in soft skills, time management skills, healthy work habits and emotional management.

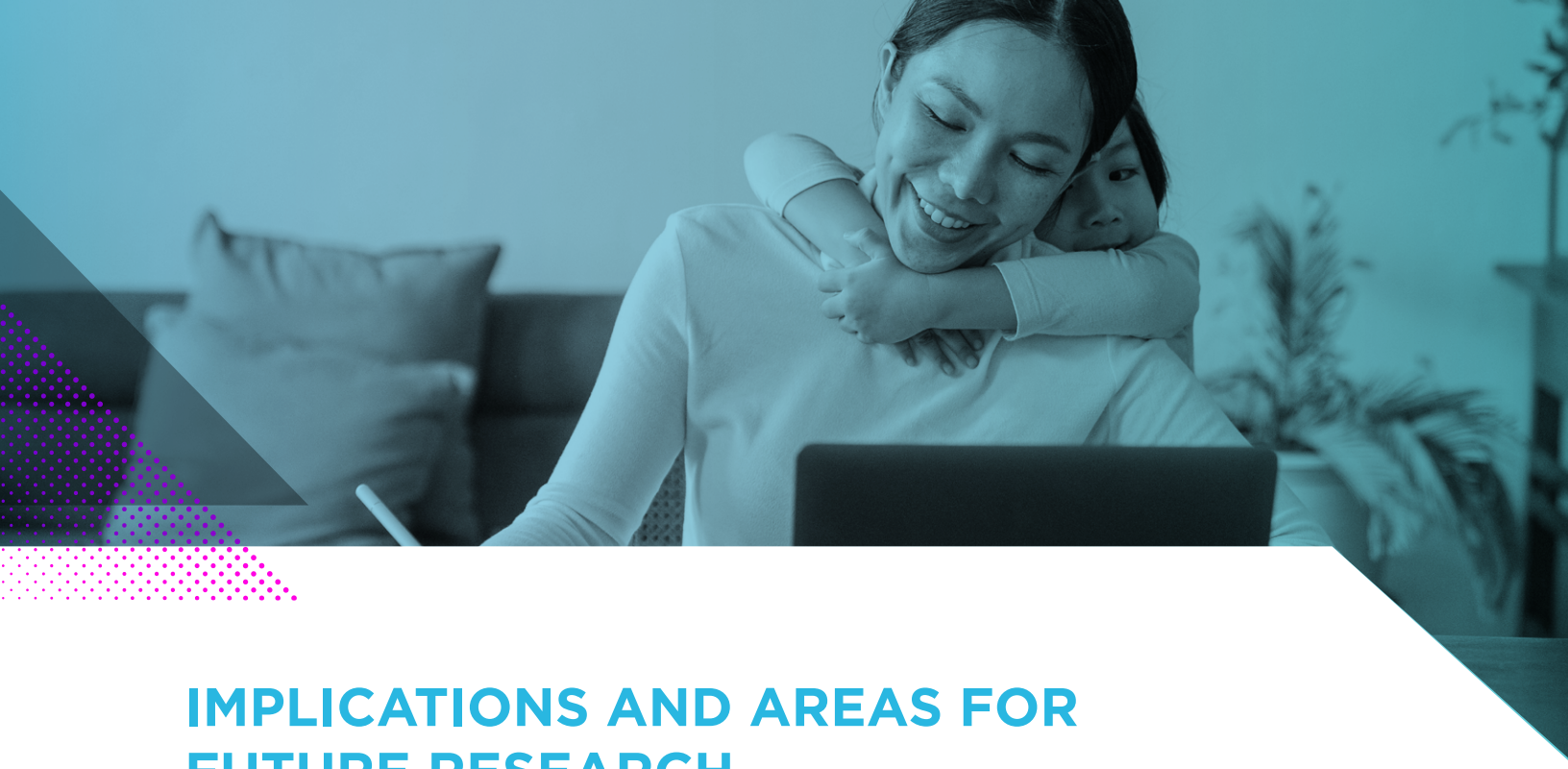
There is broad understanding that the responsibility of worker skills development is shared among workers, employers, government and other stakeholders. Organizations need to invest significantly in training their workers, both employees and managers, to safeguard employee well-being and maintain productivity.

In a survey of executives at 1,500 large companies, two-thirds said addressing the skills gap caused by automation and digitization was among the top 10 priorities at their company.[74]

Many companies have started investing a significant amount of money to reskill and upskill employees. For instance, Scotiabank has committed to investing $250 million over 10 years to create a highly skilled workforce, while AT&T has invested $1 billion to retrain nearly half its workforce.[75]

Governments should rapidly build on existing initiatives to make a suite of wrap-around policies and programs available to Canadians to respond to existing and emerging skills gaps.

Government can also design policies that incentivise employers to invest in the skills development of workers. Governments may provide tax incentives and write-offs to workers should they invest in improving their Internet connectivity, computer hardware and software. Already, the federal government has tried to simplify the claiming of deductions for home office expenses for employees. However, there is much more that governments could do to help workers and employers leapfrog to greater tech-enabled productivity. Service providers, such as employment and settlement organizations, can play a significant role by providing and facilitating access to skills development programs.



IMPLICATIONS AND AREAS FOR FUTURE RESEARCH

Past research on teleworking identified several positive impacts of remote work, as well as a few areas of concern. Workers identified a reduction in commuting time, greater working time autonomy, better overall work-life balance, and higher productivity.[76] Pre-pandemic, those who were working remotely had in some way self-selected themselves to a teleworking arrangement and it was a privilege that few workers enjoyed due to their skills, organization or positions. For example, the International Labour Organization's cross-country study shows teleworking is more common among professionals and managers.[77] It is thus possible that these benefits may not be maintained when teleworking is scaled up across the board for people with differing occupations, skills and overall preparedness.

However, preliminary results from a recent **survey of workers** in Canada, France and Australia indicate that despite the pandemic-induced increased uptake, teleworking maintained its attractiveness among workers. At the same time, as our analysis above demonstrates, there is inequality in teleworking across diverse groups in Canada. As more businesses transition to teleworking, some groups could be left behind.

As for teleworkers, the level of adaptation differs depending on their current technical skill, access to a suitable workplace and social conditions. More rigorous research is needed to understand the impacts of teleworking on Canadian workers and to identify the skills that have the most effect in preparing them to work effectively in future work environments.

In terms of policy implications, a key area of focus should be how to make teleworking inclusive. We need investment both in infrastructure and skills to address inequality in teleworking in Canada. For example, initiatives that seek to bridge the digital skills gap for older Canadians and Indigenous workers would improve their ability to secure and maintain jobs that can be performed from home. Similarly, rural residents cannot benefit from teleworking as well as urban residents until they have access to a broadband connection.

Canada may also need to review the legislation that regulates work performed in the employee's own home, as there are new issues that arise from this large shift to teleworking. An example is the issue of costs associated with working from home. Workers may need to buy their own office supplies, obtain high-speed Internet and secure a residence that has additional or suitable space for work. While organizations may have their own norms and regulations, a broader regulation is needed to protect workers. Another policy issue is the "right to disconnect." Internationally, the pandemic increased the demand for "right to disconnect" initiatives to help workers avoid work-related communication outside of work hours.[78] Even before the pandemic, workers were concerned about the encroachment of work on their personal time. A 2018 survey by Employment and Social Development Canada found 93 percent of respondents felt employees should have the right to refuse to respond to work-related emails, phone calls or messages outside of working hours, and 79 percent stated employers should have policies to limit the use of work-related technology outside of working hours.[79]

For many employers, the pandemic has served to introduce telework as a way of organizing work that can be beneficial on several levels. However, organizations that adopt it should do so with a social and managerial conscience that avoids the risk of exacerbating inequalities or aggravating management problems that often pre-exist and that telework does not solve.

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