

14. Create a National Strategy to Safeguard Canada's Pandemic-related Supply Chains

DESCRIPTION

Canada is primarily a trading nation, and it is not to our benefit to be economically insular. Nevertheless, the COVID-19 pandemic exposed Canada's vulnerabilities in its critical supply chains, particularly those related to crisis-response. The federal government should review its critical supply chains, and engage the provinces and territories to create a strategy to ensure that Canada is not left vulnerable to pandemic-related health care and economic shocks in the future.

BACKGROUND

The COVID-19 pandemic has been an unprecedented economic shock for which Canada was not prepared. The early days of the crisis saw the country struggle with procuring critical Personal Protective Equipment (PPE) supplies for not just average citizens, but frontline health care and essential service workers as well. The COVID-19 PPE procurement system in Canada has been described as the "wild west."⁵³ There were reported shortages in N95 masks, gloves, gowns, face shields and other equipment. These shortages contributed to the country's economic shutdown, the national unease during the early days of the pandemic, and have delayed Canada's safe reopening.

During normal times, Canada has relied on its trading partners to supply many materials necessary to power the national economy; but due to a variety of reasons, those relationships were not enough in the early days of the crisis and left Canada at a disadvantage. In early April 2020, Canada's N95 mask orders from American manufacturer 3M were disrupted due to the US President's invocation of the US Defense Production Act; a shipment of masks ordered by the Government of Ontario were held at the US border in April 2020, but later released; and in early May 2020, news reports indicated that N95 masks imported from China did not meet Canadian health standards and could not be used against COVID-19. These situations eroded national trust in Canada's trading partners, and should be seen as an indication that Canada, despite being a trading nation, should not rely on other countries to supply critical materials needed to combat a national health pandemic.

To the federal government's credit, it has already started to address this issue. On May 3, 2020, it announced the creation of a COVID-19 supply council to advise the government in its COVID-19 response⁵⁴ and on June 9, 2020, it launched a COVID-19 supply hub to connect businesses seeking PPE materials with suppliers.⁵⁵

⁵³ <https://www.ctvnews.ca/health/coronavirus/suppliers-facing-wild-west-of-ppe-procurement-1.4922236>

⁵⁴ <https://www.canada.ca/en/public-services-procurement/news/2020/05/government-of-canada-creates-covid-19-supply-council-in-support-of-canadas-response-and-recovery.html>

⁵⁵ <https://www.canada.ca/en/public-services-procurement/services/buying-selling-personal-protective-equipment-covid-19-overview.html>

But these actions came many weeks after the start of the pandemic, and the challenges of acting in an expeditious manner has in turn delayed Canadian businesses' ability to reopen safely. It is not unfeasible that if a vaccine is developed outside Canadian borders, there will be a significant delay in procuring enough supply for domestic use, due to many of the same reasons that Canada was unable to rely on its partners to supply PPE materials in the early days of the crisis. Such a situation would further erode the prospects of a robust economic recovery in Canada.

The provinces are also doing their part. In the early days of the pandemic, the Government of Alberta sent a large supply of needed medical materials to Ontario and Quebec;⁵⁶ the Ontario government has launched an Ontario Together portal to connect suppliers of medical equipment to businesses, and the Government of Manitoba has created a B2B Manitoba website that serves a similar purpose.

Business, too, are doing their part. Many businesses across the country showed organizational flexibility and modified their operations in response to COVID-19 to produce needed PPE equipment. But these were emergency responses to an unprecedented situation, and are unlikely to continue in the long-term after recovery, unless there is clear incentive to do so. These businesses need support from the federal government to continue such operations, as they have proven vital to Canada's COVID-19 response, and will remain vital to prepare for any future health pandemics.

It is important that the federal government develop a national strategy to support such businesses, and address the supply chain vulnerabilities exposed by COVID-19.

RECOMMENDATIONS

That the Government of Canada:

1. Engage the provinces, territories and the business community to create a national emergency strategy to build resilient and adaptable supply chains to ensure sufficient supplies, equipment and training during times of crisis.
2. Leverage Public Services and Procurement Canada's COVID-19 Supply Council to provide a forum for engaging the private sector on pandemic preparedness supply chain resiliency.

⁵⁶ <https://www.cbc.ca/news/canada/edmonton/alberta-to-send-personal-protective-equipment-to-ontario-quebec-b-c-1.5529989>

15. Building National Prosperity through a New Industrial and Advanced Manufacturing Strategy

DESCRIPTION

The emergence of the Covid-19 pandemic has brought to light the erosion of the industrial and advanced manufacturing capability of Canada. Over the past decades, the growing reliance on imports of goods and the decline of domestically produced goods has exposed the vulnerability of our economic underbelly. The absence of a long-term national strategy to advance our manufacturing capabilities and competitiveness has amplified Canada's decline in the ability to produce high skilled, high earning jobs and the economic benefits that come from a strong and growing manufacturing sector.

BACKGROUND

The decline in manufacturing has been a key contributor to the stagnation of wages in Canada and Canada's increasing reliance on the extraction and export of unprocessed natural resources. Canada needs to emphasize merits of generating wage gains through greater value-added roles and productivity improvements without loss to our competitiveness to reverse wage stagnation and deterioration.

In 1980, almost 20% of all jobs (8.5% of the population) in Canada were in the manufacturing sector – that dropped to 9% by 2019. Source: Stats Can, Turner Investments

Manufacturing was hard hit by the deep and prolonged recession that followed the global financial crisis of 2008-09. Manufacturing GDP declined by almost 11 percent over the period from 2000 to 2014, while the rest of the economy grew by 41 percent. Since 2000, manufacturing employment has declined by over 500,000 workers. Growth in total employment over the period was about 3 million.

The decline in manufacturing exports has led to an overall decrease in exports by Canada. Over the period 2000-2014, overall exports declined by 6.4 percent, while manufacturing exports declined by 26 percent.

One of the by-products of the COVID-19 pandemic is that all of a sudden people are paying attention to where things are actually manufactured. On Monday morning April 13, the lead headline on the CBC website was "Canada building its own PPE supply chain...in China." As the Toronto Star noted in its April 7 editorial – "Canada Needs a New Industrial Policy," when Canada is left scrambling for medical equipment, relying on goods that are manufactured halfway around the world "doesn't seem like such a good idea anymore."

While countries in the world, including Canada, shut down large parts of their economies to contain the COVID-19 virus, and while economic activity stopped, most manufacturers continued to operate. In some cases many manufacturers ramped up or shifted production in response to the crisis to make more food, personal protective equipment, and other health care products.

But because firms have also had to contend with implementing physical distancing measures and weaker than normal demand, the industry's overall production has still declined sharply. SSMCOC DATA POINTS: Manufacturing Sales – April 2020 (Source: Statistics Canada)

The lack of an industrial and advanced manufacturing strategy for Canada has further exacerbated policy formulation and decisions that support a strong and renewed recovery in this section. It is long past time that Canada should address this problem. By focusing on an industrial growth strategy, governments can help to ensure that the economic recovery that follows the pandemic will be more durable, will create better jobs and, if we do it right, will help us meet our climate change targets.

As the Canadian Government looks to stimulate economic recovery, that stimulus should come with conditions – immediate job creation, economic productivity and medium- and long-term investment. Canadian needs a long-term industrial strategy.

As part of that new industrial and advanced manufacturing strategy the Canadian Government needs to use the power of infrastructure spending and procurement to support Canadian industry and maximize job creation in Canada. It does not help that trade agreements, notably the CETA with the EU, restrict Canada's ability to insist on domestic procurement that creates jobs in Canada and you can be sure that in the U.S., aggressive "Buy America" programs will surely be the order of the day for the large U.S. procurement market, and under the recently concluded CUSMA, Canada has no preferential access to U.S. procurement.

Because we have neglected our manufacturing base for decades, Canada is more reliant than ever on resource extraction – and fossil fuel extraction makes up over two-thirds of our current resource sector. It is also the case that we have a lot of manufacturing jobs tied to the fossil fuel sector. But as we face low fossil fuel prices, it is clear that manufacturing is going to be critical if we are going to meet our climate change objectives. Mining and manufacturing supply chains are critical for the production of the goods we need for a low-carbon economy, whether that is transit, wind turbines or electric vehicles. But none of these goods will be made in Canada unless we have a strategy to make it happen.

More generally, for decades Canadian governments have relied on increasing global trade and free markets to create jobs in Canada. This has not only left us without the ability to manufacture critical medical supplies during this pandemic, and it has left us with a weakened domestic manufacturing base that has not received enough support from governments. We need to put a long-term industrial job creation strategy back on the domestic agenda.

Despite the declines, manufacturing continues to make a critical contribution to the Canadian economy, particularly to the Canadian trade balance, where it still has a disproportionate role relative to that of other industries. In 2014, they accounted for 61 percent of exports. In addition, in 2014, it represented 10.6 percent of total economic output and directly employed 9.6 percent of the Canadian labour force. Due to its rich linkages with other activities, such as R&D, logistics, engineering, sales and marketing, the manufacturing sector has a substantial multiplier effect on

the national economy. Thus, if Canada is to prosper in the future, the decline of manufacturing will have to be reversed and vitality returned to this critical sector.

The current shift in political and public sentiment toward increasing domestic production, strengthening domestic supply chains, and making and buying local is welcome news for manufacturers and fits well with Canada's trade and industrial (and manufacturing) realities. But this shift should not mean that Canada attempts to isolate itself, shut down global supply chains, and reverse decades of trade-driven prosperity for Canada. Instead, Canada should attempt to capitalize on these shifting sentiments by refocusing attention on the need to boost export growth by supporting the production of value-added goods and by strengthening regional supply chains.

Manufacturing is a cornerstone of our modern Canadian economy. Accounting for approximately \$174 billion of our GDP, manufacturing represents more than 10% of Canada's total GDP. What is more, manufacturers export more than \$354 billion each year, representing 68% of all of Canada's merchandise exports.

All of this adds up to 1.7 million quality full-time, well-paying jobs—all across the country. As the sector has modernized, manufacturers have become innovative and high-tech, relying on a highly skilled and knowledgeable workforce that includes designers, researchers, programmers, engineers, technicians and tradespeople.

Canada's manufacturing industry has huge potential for Canada's economic future. The world is changing, and new technologies are not just opening new markets for Canadian goods, they are changing the ways these goods are produced. For manufacturing in Canada to remain a vibrant, innovative and competitive contributor to our economy, business and Government will need to work together. A vibrant manufacturing community encourages industrial clusters that develop skills, knowledge and technology. Success breeds success: when Canada's manufacturers grow and compete, they act as magnets for new investment and for new young people wanting to be part of this great industry, making the products of tomorrow.

RECOMMENDATIONS

That the Government of Canada:

1. In collaboration with stakeholders develop and implement a long term modern industrial and advanced manufacturing strategy, founded on the principles of continuous improvement, that focuses on increasing investment through reducing production costs, supports innovation and technology adoption with the goal of increasing value-added exports. Emphasize competitive strengths, particularly natural resources, energy, food and technology.
2. As part of the long-term strategy, ensure that in partnership with the provinces, stakeholders and academic institutions, both public and private, develop advance and industrial manufacturing curriculum to address the skills shortages.
3. Introduce a trade strategy that targets reshoring of manufacturing capacity to Canada and strengthens North American competitiveness. Include also efforts to modernize, strengthen, enhance capacity and financially support the trade remedy system and the verification of import data.
4. Build the “Canadian Made” brand by modernizing the legislated and voluntary expansion of government and public-private partnership procurement tools to evaluate and consider preferential selection of local suppliers after fairly evaluating:
 - a. Global environmental impact and cost assessment versus the imported alternative; (i.e.: greenhouse gas (GHG) emissions during production and transportation),
 - b. Presence of comparable health and safety regulations during production and manufacturing;
 - c. Whether the exporting country allows for reciprocal access to their market for the same product.
5. Implement a rapid arbitration process for companies who were/are denied access to emergency relief programs.
6. Introduce programs to offset the costs associated with crisis response and training on protocols such as tax credits and training subsidies, such as those through existing job grant programs.
7. Prioritize investment in trade and industrial infrastructure, including transportation networks, industrial parks, and broadband internet.
8. Drive Canada’s business investment and competitiveness by lowering the cost of doing business through tax and regulatory reform.

16. Tools to Assist SMEs Prepare For, Survive and Recover From Emergencies

DESCRIPTION

Emergencies, like pandemics, natural disasters and cyber-attacks, pose unique challenges for small- and medium-sized businesses (SMEs). Most will not recover at the same pace as larger businesses and many will not survive without tools to help them do so.

With SMEs contributing more than half of Canada's Gross Domestic Product (GDP)⁵⁷ it is critical to equip them to prepare for, survive and recover from emergencies as quickly and in the best shape possible. And, as more Canadian SMEs pursue international markets, many find that other jurisdictions are asking for their emergency contingency plans.

BACKGROUND

The COVID-19 crisis hit Canadian SMEs hard. In the April 2020 Canadian Survey on Business Conditions, 50% more SMEs said they didn't have enough cash to keep their doors open longer than 60 days without any revenue compared to the national average. Similarly, nearly double the percentage of SMEs (35%) said they had experienced a 20% decrease in revenue compared to all businesses (17.9%). This survey also indicated that higher percentage of SMEs also had to cut back hours (5.4% more) and lay off staff (4.4% more) compared to all businesses.

However, SMEs punched above their weight in testing working from home, with 55.5% saying they had done so compared to 45.5% of all businesses. SMEs also adopted new ways of doing business at a higher rate than other businesses including using e-commerce (.8% more), altering their product and service offerings (2.4% more) and investing in employee training (1.8% more). They were also more confident in their ability to resume normal business operations within one month of social distancing requirements being lifted (1.1% more than all businesses).

Surprisingly, 40.9% of SMEs said they could remain open amid social distancing more than 6 months compared to 32.1% of all businesses.⁵⁸

These results demonstrate the agility of Canadian SMEs in responding to new business conditions and optimism in their ability to adapt and succeed.

Despite their optimism and resiliency, Canada's SMEs will need substantial tools and resources to help them maintain operations and adapt to a different post-COVID-19 economy.

⁵⁷ Key Small Business Statistics: Innovation, Science and Economic Development Canada, November 2019

⁵⁸ Canadian Survey on Business Conditions, Statistics Canada/Canadian Chamber of Commerce, May 2020

They will also require help to prepare to weather the next emergency whatever form it takes. We learned during the COVID-19 crisis that financial liquidity – next to the health and safety of employees and customers – was SMEs' biggest concern. The need for quick access to funds was particularly dire for businesses that were ordered to shut down by governments to stem the spread of the virus.

The federal government quickly introduced several support programs⁵⁹ aimed at helping businesses of all sizes maintain financial liquidity, keeping employees or hiring them back. Despite the government's good intentions and swiftness, many SMEs found themselves unable to qualify for any assistance. This was due to government programs having rigid definitions (e.g., regarding salary, employees, revenue) that don't reflect the way many smaller businesses have structured themselves. While rigour is critical when public funds are used to back support programs, they can miss their mark if they do not reflect the realities of the businesses they are intended to help. For example, the first incarnation of the Canada Emergency Business Account failed to recognize that many entrepreneurs pay themselves with dividends (rather than through payroll) and employ only contractors.

If the COVID-19 crisis taught us nothing else, it taught us how critical a robust telecommunications infrastructure is to our economy. The economic toll of the crisis would have been much more severe had many businesses not been able to move to working remotely.

SMEs will need tools to ensure they can prepare for the next emergency be it another health crisis, natural disaster or cyber security attack. Learning from the COVID-19 crisis - what worked well and what didn't - is key. Our economic well-being depends upon it.

RECOMMENDATIONS

That the Government of Canada:

1. Simplify the eligibility criteria for support programs and consult with the business community on how to do so to avoid confusion and the loss of precious time and resources in an emergency;
2. Encourage SMEs to maintain some savings for emergencies by introducing a Tax-Free Business Emergency Savings Account. All firms eligible for the Small Business Tax Rate would qualify and the annual limit would be the same as for individuals (\$6K in 2020).

⁵⁹ <https://www.canada.ca/en/department-finance/economic-response-plan.html#businesses>

17. Create a Global Research Fund to Finance Innovative Technologies and Research For The Benefit Of Human Life and the Global Economy

DESCRIPTION

The Canadian life sciences sector is an important contributor to both the health and economic prosperity in Canada. Several challenges and opportunities have arisen with this sector with the emergence of the global COVID-19 pandemic.

BACKGROUND

Currently there are no drug therapies available for either the prevention or treatment of COVID-19. Health Canada and other international health organizations are working with researchers and manufacturers to help expedite the development and availability of vaccines, antibodies, and drugs to prevent and treat COVID-19 and other future viral threats. Once a vaccine has been successfully developed, they must be effective, affordable and accessible to everyone, quickly, to prevent ongoing transmission and to facilitate the return of the domestic and global economy.

Additionally, a lesson learned from this global pandemic is the degree to which the Canadian medical technology supply chain is highly dependent on the global supply chain. Steps taken by various countries during the crisis to restrict exports were highly disruptive and in most cases did not achieve the desired impact. We know the largest economic entities (E.g. China, US, EU) will be thinking and reassessing some form of domestic pandemic preparedness strategy that encourages/mandates greater local production. Canada has the opportunity now to ensure our own health systems remain resilient and have access to the necessary supplies and equipment should a second wave of the pandemic emerge.

COVID-19 has created extraordinary circumstances and responses worldwide resulting in the complete shutdown of the global economy and increased debt to unthinkable levels, creating high unemployment and poverty not seen since the Great Depression. Experts agree that given increasing global population, travel and interconnectedness of economies there is an increasing risk of ongoing pandemics. Numerous countries have already been previously impacted by other diseases such as SARS, MERS, Ebola, Spanish Flu, H1N1 and others, each affecting the global economy in immeasurable ways. Impacts from these past pathogens were mitigated by timely responses and containment measures; however, as with Covid-19, until vaccines, antibodies and drugs are developed, the global economy and human life is severely impacted.

The study of pathogens, and associated vaccine research, costs hundreds of millions of dollars with a very high failure rate (>94%). With immediate and ongoing financial support, labs and manufacturers can increase their efforts with greater scientific resources applied to each problem and the investigation of multiple potential solutions. Unfortunately, vaccines for emerging diseases are not generally an attractive investment for large pharmaceutical

companies, given that by the time a vaccine is developed and licensed, an outbreak may have been contained.

For research on global pathogenic research to be timely, effective, and responsive, it needs to be sustained and properly funded, free from pure profit encumbrances. To this end, Canada should lead an international effort to create a global research fund to finance innovative technologies and research into the diagnosis and treatment of emerging pathogens and quick, equitable and universal deployment of effective treatments to benefit human life and the global economy. Allocation of the fund would be delegated to an international commission, whose job it would be to determine and show the health and economic benefits of different products in an open and transparent manner.

At the height of the pandemic, global demand for certain medical supplies and equipment was unprecedented and outpaced available inventory. The medtech industry was quick to respond to the needs of the system by pivoting and expanding their manufacturing operations where they could. Canada also saw an emergence of many non-traditional manufacturers retool their operations, enabling short-term domestic production of necessary medical supplies and equipment. While this was necessary to meet the immediate needs of Canadian health systems across the country; a sustainable, long-term strategy is required to ensure the resilience of our domestic pandemic preparedness.

The COVID-19 pandemic, according to most estimates, is cutting GDP by at least 25 percent, which translates into economic losses of \$1.6 billion per day in Canada. Scaled up to include other OECD countries, on a GDP-weighted basis, such a fund would be approximately \$150 billion, enough to motivate an enormous investment in medical innovation. Such a fund would mitigate risk in the development of disease-related technologies and attract investment to accelerate current and future development to benefit global and domestic economies and human life.

Canada should leverage its existing advantage in vaccine and medical technology development and manufacturing and begin expanding domestic capacity to ensure access for Canadians and the potential to contribute to the global supply through exports. Next steps include:

- Establishing the process for evaluating successful trials.
- Determine the Criteria for selecting vaccines for Canadian market approval.
- Immediate expansion of domestic vaccine and medical technology manufacturing capacity.

RECOMMENDATIONS

That the Government of Canada:

1. lead an international initiative to create a global research fund to finance innovative technologies and research for the diagnosis and treatment of emerging pathogens and quick, equitable, and universal deployment of effective treatments to benefit human life and global economy.
 - a. Establish the process for evaluating successful trials;
 - b. determine the Criteria for selecting vaccines for Canadian market approval; and,
 - c. an immediate expansion of domestic vaccine and medical technology manufacturing capacity.

18. Adopting a Harmonized Approach to a Health Information Framework

DESCRIPTION

In recent months, the use of technology in the health sector has made it possible to provide remote care and follow-up to many Canadians during the pandemic. However, despite the democratization of virtual care and services and remote access to medical technologies and equipment, providers continue to face many challenges and barriers. In fact, in many Canadian provinces, service providers and technology developers must comply with provisions, norms and standards that vary greatly across the country.

BACKGROUND

The lack of a harmonized approach to the regulation of health-related information hinders interprovincial trade in medical and information technologies, not to mention the complexity and cumbersomeness experienced by companies in meeting the requirements under various legislations.

The health crisis caused by the COVID-19 pandemic is impacting health systems across all provinces as they must adapt to growing demand and organize to ensure the health and safety of patients and staff. The crisis has highlighted the relevance and effectiveness of telecare and telemonitoring, so that today, more than half of patient consultations with their health care professionals take place remotely⁶⁰, and the use of medical technologies and equipment allow multiple follow-ups to be carried out remotely as well.

This transformation of care means that more and more data must be managed digitally. However, there is no harmonized approach across the country in this regard. In fact, providers are currently required to comply with several pieces of legislation as well as a myriad of criteria and exceptions regarding the management and control of health information. In addition, remote access for providers of medical technology and equipment to, for example, correct certain technical problems or provide support is limited and varies from province to province.

More specifically, the Personal Information Protection and Electronic Documents Act (PIPEDA) applies to all provinces with the exception of Quebec⁶¹, British Columbia⁶² and Alberta⁶³ which have their own legislation.

⁶⁰ <https://www.infoway-inforoute.ca/en/solutions/rapid-response-to-covid-19>

⁶¹ <http://www.legisquebec.gouv.qc.ca/en/showdoc/cs/P-39.1>

⁶² <https://www.canlii.org/en/bc/laws/stat/sbc-2003-c-63/latest/sbc-2003-c-63.html>

⁶³ <https://www.canlii.org/en/ab/laws/stat/sa-2003-c-p-6.5/latest/sa-2003-c-p-6.5.html>

In addition to these four Acts, the provinces and territories have enacted legislation specific to personal health information. These include the following:

- An Act respecting the sharing of certain health information (Quebec)
- The Health Information Act (Alberta)
- The Health Information Protection Act (Saskatchewan)
- The Personal Health Information Act (Manitoba)
- The Personal Health Information Protection Act (Ontario)
- The Personal Health Information Privacy and Access Act (New Brunswick)
- The Personal Health Information Act (Nova Scotia)
- The Personal Health Information Act (Newfoundland and Labrador)
- The Health Information Act (Prince Edward Island)
- The Health Information Privacy And Management Act (Yukon)
- The Health Information Act (Northwest Territories)

However, there are important differences between these laws, particularly in the areas of consent, storage, transactions and sharing, which add barriers to the deployment of virtual care and services across Canada.

By way of comparison, in 2016 the European Union adopted the General Data Protection Regulation (GDPR), with the purpose of harmonizing data protection laws for all companies operating in Europe.

RECOMMENDATIONS

That the Government of Canada:

1. Work cooperatively with the provinces and territories to establish a harmonized approach to health information frameworks and ensure the deployment of technologies in the health sector.
2. Work cooperatively with the provinces and territories to promote the interoperability of computer systems while ensuring data security. This would provide better access to health information and facilitate collaboration with providers.
3. Encourage the Federal Government to also engage with industry, as well as the P/Ts when defining harmonized frameworks for health information.

19. Driving Innovation in Canada

DESCRIPTION

The federal government is in the midst of rolling out its “Intellectual Property Strategy” to build a nation of innovators. There should be a focus on ensuring a two-pronged approach, through programs and tax-based mechanisms, to encourage business investment in intellectual property and innovation to improve productivity, economic growth, and incomes for Canadians.

BACKGROUND

The new “Intellectual Property Strategy” is an investment of \$85.3 million over five years to help Canadian businesses, creators, entrepreneurs and innovators understand, protect and access intellectual property (IP) through a comprehensive IP Strategy. This strategy is part of the federal government’s Innovation Strategy announced in the 2017 budget with details released in the 2018 budget.

This policy resolution was updated and reapproved at the Canadian Chamber of Commerce’s national convention in 2017 and it continues to offer positive solutions to help Canadian businesses develop their innovations. Emerging from and throughout the COVID-19 pandemic, innovation is continuing, most likely at a faster pace than before the pandemic, these solutions will put Canada on a solid path for recovery. In fact, in its Roadmap to Recovery document, the Canadian Chamber makes the following recommendation as step at nurturing recovery: Adopting an “innovation box” regime that would reduce the corporate tax rate for income derived from patented inventions and other intellectual property connected to new or improved products, services and related innovative processes developed in Canada.

The Intellectual Property Strategy has goals and recommendations in three areas: IP Awareness, Education and Advice, Strategic IP Tools for Growth, and IP Legislation. While there are solid recommendations within these buckets there is limited discussion about the cost of the investment.

In 2019-2020 \$30M was slated to establish a pilot program called the “Patent Collective”. The collective will work with Canadian entrepreneurs to pool patents, so that small and medium sized firms will have better access to critical IP they need to grow in early stages without fear of infringing on a patent. The budget refers to this program as providing these businesses with the “freedom to operate”.

This strategy is still in its infancy and Canada remains 16th in innovation overall in the Global IP Rankings. The Index consists of five key sets of indicators to map the national intellectual property environment for the surveyed countries.

The major indicator categories are:

1. patents, related rights, and limitations;
2. copyrights, related rights, and limitations;
3. trademarks, related rights, and limitations;
4. enforcement;
5. membership and ratification of international treaties.

It is worth noting there are some significant differences between what Canada is offering business in this space and the offerings of other countries that are ranked above Canada on this list. One of those differences is a “patent box” tax approach. A number of countries (the U.K., Belgium, Luxembourg, France, Spain, Hungary, Ireland, Switzerland and China) have adopted this approach which sharply reduces the normal corporate tax rate on income derived from the exploitation of patents. The Netherlands widened the policy to an “innovation box” to encompass a broader class of intellectual property.

The various “patent box” programs have even caught the eye of several provinces, but the approach has not been instituted at the federal level. British Columbia has had such tax policy in place since 2006, Quebec included patent box policy in its 2016 budget, and Saskatchewan announced patent box tax policy in its 2017 budget.

The reference to “box” comes from having to tick a box on the tax form that indicates this type of revenue is being claimed. The types of profits that qualify for the lower tax rate, and how acquired intellectual property is treated, differ significantly among countries and provinces. Additionally, the “patent box” rate varies considerably among nations and provinces. Finally, some countries put caps on the total tax relief companies can receive from patent boxes. In the case of Saskatchewan, the provincial government has installed time limits on the number of years of tax relief that can be attached to a patent.

Given the tax advantage provided in some countries for holding intellectual property, the question arises whether Canada should adopt similar incentives and, if so, how should they be designed?

These types of tax approaches do support business investment in research and help bridge the commercialization gap.

The “innovation box” approach would encourage companies to locate intellectual property activity and the new high value jobs associated with the development, manufacture and exploitation of innovation inside Canada. This would drive new and sufficient economic activity and government tax revenue to more than offset the immediate revenue costs of the proposal. The government could also apply the savings that will be realized from streamlining the SR&ED tax incentive program to offset all the immediate revenue cost of this proposal.

Finally, an “innovation box” approach would complement the existing SR&ED Investment Tax Credit program— firms would have an incentive to base their R&D activities in Canada AND to commercialize them in Canada.

The federal “Innovation Strategy” also has a goal to double the number of high-growth firms in Canada from 14,000 to 28,000 by 2025. This is a target because high-growth firms are the most likely to innovate, sell globally and invest in people creating more and better paying jobs. A by-product of this goal is to achieve growth in intellectual property applications and have these companies base their R&D and commercialize their innovation in Canada.

A federal “My First Patent Program” could help achieve this. Quebec funds such a program with the following parameters: Quebec SMEs with 250 or fewer employees that are able to demonstrate research and development efforts completed or in part can apply for a non-repayable contribution of up to 50% of eligible expenses, to a maximum of \$25,000 for patent application project, industrial design registration or integrated circuit topography.

RECOMMENDATIONS

That the Government of Canada:

1. Implement for an “innovation box” approach to encourage more business investment in innovation processes in Canada.
2. Consult with senior business leaders/technologists to define what intellectual property would qualify, e.g. patents, copyright, industrial design
3. Ensure that any such regime adopted in Canada delivers the clarity and simplicity that encourages participation in innovation from both SMEs and large companies.
4. Develop a federal program modelled after the “My First Patent Program” to encourage more investment by SMEs across the country.

NOTES

⁶⁴, ⁶⁵, ⁶⁶, ⁶⁷, ⁶⁸

⁶⁴ https://www.ic.gc.ca/eic/site/062.nsf/eng/h_00083.html Retrieved June 22, 2020

⁶⁵ <https://www.statista.com/statistics/257583/gipc-international-intellectual-property-index/> Retrieved on June 22, 2020

⁶⁶ <https://www.newswire.ca/news-releases/budget-2018-commits-853m-over-five-years-to-national-ip-strategy-intellectual-property-institute-of-canada-applauds-goal-to-raise-ip-awareness-675347693.html> Retrieved on June 22, 2020

⁶⁷ <https://www.canadianbusinessresiliencenetwork.ca/resources/recovery/> Retrieved on June 19, 2020

⁶⁸ <https://www.ic.gc.ca/eic/site/108.nsf/eng/home> retrieved June 22, 2020

20. Digital Broadband the Key to Economic Prosperity (2020)

DESCRIPTION

“Whether you are self-employed, a small business owner or a large enterprise, you should not have to worry about losing your business, and your employees should not have to worry about losing their jobs” (CBRN, 2020). Broadband internet has long posed a challenge from some Canadians to effectively participate and compete in the economy. Certainly, COVID-19 has heightened the rural and urban digital divide, highlighting challenges faced by more than 2 million Canadians without reliable internet. It is essential for policymakers, regulators and all interested stakeholders to work together to deliver equitable broadband so that Canadians are well positioned for economic recovery.

BACKGROUND

A Brief History of Telecommunications in Canada

Prior to 1993, the telecommunications sector was governed under the 1906 Railway Act (Middleton, 2017). The 1993 Telecommunications Act recognized that telecommunications have an essential role in the maintenance of Canada’s identity and sovereignty and laid federal legislation to govern the telecommunications sector. Decisions in the 1980s and 1990s opened the market to further competition. In 2006, as a result of an extensive review of telecommunications policy in Canada (Telecommunications Policy Review Panel, 2006), the federal government issued a policy directive to the CRTC further entrenching the role of the market in delivering telecommunication services. This policy required the CRTC to:

- Rely on market forces to the maximum extent feasible as a means of achieving the telecommunications policy objectives, and
- When relying on regulation, use measures that are efficient and proportionate to their purpose and that interfere with the operation of competitive market forces to the minimum extent necessary to meet the policy objectives (Governor in Council, 2006)

The 1993 Telecommunication Act imposed strict Canadian ownership requirements for operating a telecommunications carrier in Canada. 80% of voting shares and board of director seats were to be held by Canadians (Canada, 1994). These restrictions were touted for being the most restrictive in the OECD (Organization for Economic Cooperation and Development, 2011). In 2009, the Government of Canada announced that it intended to ‘regain its leadership position in the digital economy’ (Clement, 2009) and in 2010, the government held a consultation on the Digital Economy, receiving more than 250 submissions from organizations and individuals.

In recent years, the Government of Canada has introduced various programs and initiatives to improve broadband across Canada and meet targets set out by the CRTC.

- In 2016, the CRTC created a \$750 million fund, made up of contributions from larger telecommunications service providers, to support projects in areas where established targets were not being met. However, Telecom Regulatory Policy CRTC 2018-377, issued on 27 September 2018, lowered the target to now require that projects eligible for the fund provide access to download speeds of 25 Mbps and upload speeds of 5 Mbps instead of the original targets of 50 and 10 Mbps. The CRTC said this would allow “projects covering underserved areas [to] deliver a broadband Internet access service that the majority of Canadians use today.” In 2019, in Telecom Notice of Consultation CRTC 2019-191, it issued a call for applications for funding from this Fund.
- In 2016, the Government of Canada announced that it was investing up to \$500 million over five years to bring broadband Internet service to 300 rural and remote communities through the Connect to Innovate program.
- In Budget 2018, \$100 million over five years was announced under the Strategic Innovation Fund (SIF) to support projects focused on low-orbit satellites and next-generation rural broadband Internet service.
- In Budget 2019, the Government committed to ensuring that 95% of Canadians have access to the CRTC’s speed targets (50/10 Mbps) by 2026 and 100% by 2030, and it proposed various initiatives to achieve this, including \$1.7 billion over 13 years in funding under the new Universal Broadband Fund.

However, an implementation plan for reaching these targets is unlikely, especially when one considers that connectivity across Canada is unequal. It has been well documented that urban Canadians have access to a wide variety of Internet services, while those living in rural or remote areas have limited or no access to broadband (Theckedath and Thomas, 2019).

Under Canada’s current regulatory regime, regions with lower population density, such as rural and remote communities, end up underserved because less density means less customers, which may not fit with the business models of large incumbent providers.

Additionally, Canada’s telecommunications industry landscape is not competitive enough to incentivize the market to increase speed and access. This is evidenced by the fact that investments in rural broadband by successive governments and incumbent providers over nearly two decades have not solved the problem.

Broadband: An Essential Economic Driver

Rural and remote communities are important contributors to Canada's economy, representing key industries – from agriculture and natural resources to manufacturing and tourism. "Together, they drive nearly one-third of Canada's economy" (CERIC, 2020) building better lives for millions of Canadians and contributing to the prosperity of our country.

Despite this, "right now, two million Canadian households still cannot access a reliable internet connection which is vital to our economy and quality of life (CERIC, 2020). In fact, rural and remote communities have overwhelmingly "identified challenges accessing affordable, high speed internet as the number one issue impeding their economic growth" in a recent Government of Canada report (ISED, 2019).

When businesses consider where to establish themselves in a community, connectivity is among their list of priorities. Thus, low-quality and high-cost internet can deter companies from establishing themselves, thereby hampering the economic growth of rural and remote regions.

For those businesses who are already situated in rural or remote communities, access to broader markets is often limited. For example, when consulting Canadians ahead of presenting the federal government's connectivity strategy, Canadian officials heard from small businesses being forced to operate on a "cash-only" basis because their internet was not powerful enough to allow Interac or debit payment. They also heard about farm operations that tried to connect to global markets using fax machines (ISED, 2019).

This rationale demonstrates that expanding internet access for rural and remote communities is necessary for the growth of these regions but also for the Canadian economy to compete in today's global marketplace.

COVID-19

The COVID-19 pandemic has shown that digital connectivity is critical to resilience and business continuity in times of crisis. Despite this, new data released by the Canadian Internet Registration Authority (2020) shows significant differences in the internet speeds between urban and rural communities. In April, rural download speeds were nearly 12 times slower, as compared with urban Canadians. Since the COVID-19 pandemic, internet speeds have fallen for rural users, and increased for urban users because of their option to upgrade their service. This is problematic especially when one considers that most local businesses were forced to shift to online-only in response to COVID-19 and fast upload speeds are critical for video conferencing, cloud storage and other popular productivity applications.

As we move toward recovery, it makes economic sense to have policies in place that accelerate broadband development for all Canadians.

RECOMMENDATIONS

That the Government of Canada:

1. Work with municipal, provincial and territorial governments and agencies to deliver broadband funding that will help maximize capital for broader internet access.
2. Launch the new Universal Broadband Fund quickly to expand affordable broadband access to struggling communities so that they are well positioned for economic recovery.
3. Include remote and rural experts and stakeholders in national discussions and when evaluating federal programs and policies.

21. Accelerating Growth of the Health and Biotechnology Sector in Canada

DESCRIPTION

Currently, the market for the medical technology sector in Canada (hospitals and health care providers) is unable to access and adopt many of these innovations due to outdated procurement practices that focus on lowest cost over efficacy. As a result, Canadians do not receive timely access to technologies and solutions that can enable better outcomes at a lower cost, and the domestic medical technology industry is unable to thrive in Canada.

The federal government, through its Invest in Canada initiative, has set a goal to double the size all health and biosciences companies from 900 to 1800 by 2025. We believe the best way to do that is by adopting the principles of value-based health care (VBHC) within Canadian health care systems.

BACKGROUND

For many years under successive governments – both federally and in many provinces – there has been an acknowledgement of the untapped potential of a robust medical technology industry in Canada. The medical technology sector is already a significant driver of economic activity, as it employs approximately 35,000 Canadians across more than 1500 corporate facilities. Canada has several clusters of significance focused on medical technology, including Innovation Boulevard (BC), Health City Edmonton (AB), MaRS Health, Health Innovation Hub and Medical Innovation (ON), and the Eastern Health Innovation Ecosystem (NL) to name a few. The potential for this sector to grow and influence economies across the country is tremendous.

While Canada spends significantly more than the OECD average on health care overall, it spends well below the average (~3 percent) on medical technology relative to an even wider set of peer countries. In examining the proportion of health care expenditures specifically devoted to medical technology, the Canadian Health Policy Institute places Canada 60th out of 72 countries and 23rd out of 25 of its OECD peers, with Germany, Japan, the UK, and Israel ahead of us, among others.⁶⁹

In July 2015, the federal government received a report, *Unleashing Innovation Excellent Healthcare for Canada*, that was delivered by a government-appointed panel of experts, the Advisory Panel on Health Innovation.

⁶⁹ https://gallery.mailchimp.com/ee57ed699fe269d23646e430e/files/7c63e00e-8602-4d3c-88d5-6734fdf94aa0/MEDEC_Optimus_Research_Paper_Final.pdf p. 13

Within that report, several recommendations were made that outlined how to unlock the full potential of the sector for the benefit of health systems and patients across Canada. These recommendations focused on the following enablers to VBHC:

- Patient engagement and empowerment
- Health systems integration with workforce modernization
- Technological transformation via digital health and precision medicine
- Better value from procurement, reimbursement, and regulation
- Industry as an economic driver and innovation catalyst

Subsequently, in September 2018, the government received a report from its Health & Biosciences Economic Strategy Table that echoed many of the same recommendations that would support the sector, but also seek to simultaneously ensure Canadians had access to a modern health care system.

To date, few of the recommendations of either panel have been fully embraced by the federal government.

Both reports highlight the underperformance of the Canadian health care sector when considering spending relative to peer countries. They both also contained references to a future state in which principles of value-based health care are enabled – which would transition health systems from their focus on lowest cost to delivering the best outcomes for Canadians. A system aligned around value would also unlock the potential in Canada’s already innovative health sector, leading to sector growth and improved quality of treatment and care across the country.

The emergence of the COVID-19 pandemic in Canada has also demonstrated that our country’s health systems and the medical technology sector is able to respond and adapt quickly to new ideas and technology to improve system efficiency, access and patient care. Canada must continue the momentum of deploying digital health and analytic tools that have been created out of necessity during this crisis (e.g. virtual physician care visits, remote monitoring of patients, etc.). Improving access to health care is central to not only a more efficient economy, it also contributes to inclusive economic growth.

Medical technology is now more connected than ever. The ability for devices to provide meaningful data and insights for patients and providers is unprecedented. Canada has a tremendous opportunity to lead in this sector by ensuring our health systems can capitalize on the innovations being developed locally and internationally. In the current operational nature of procurement processes, the vendor’s innovation is precluded from being considered during the decision process. By providing a framework that focuses on value as opposed to volume, Canada can be a global sector leader and enable the adoption of technologies that can address our most pressing health care needs. In turn, these technologies and solutions can be promoted and adopted around the world.

RECOMMENDATIONS

That the Government of Canada:

1. Take a leadership role by creating a vision for value-based health care in Canada that will aid the provincial and territorial governments in developing VBHC strategies within their own systems.
2. Commit funding to support provincial and territorial health systems as they transition to value-based systems. This funding should be directed in the following areas:
 - a. Supporting the adoption of value-based procurement
 - b. Trials in outcomes-based delivery models
 - c. Translational research to disperse and scale new innovations in care delivery and payment models
3. Play a convening role to foster demand-side innovation. Specifically, the government should:
 - a. Call for innovative solutions to help solve issues related to the social determinants of health (as it did during the COVID-19 pandemic), including those related to poverty and mental health and addictions.
 - b. Encourage consumers and institutions to adopt the innovations that can help respond to societal issues
 - c. Foster user-driven innovation that responds to market needs on both the production and consumption sides
 - d. Engage with industry, as well as the provincial and territorial governments, when defining harmonized frameworks for health information.

22. Assisting Small Business with Minimizing the Risk and Recovery from Cybercrime

DESCRIPTION

The cost and maintenance of cyber security measures is prohibitive to small and medium-sized enterprises (SMEs) across all sectors of the Canadian economy. There are solutions available, but the challenge is encouraging businesses to incorporate those solutions to protect their data.

BACKGROUND

In the context of the COVID-19 pandemic, the issue of cybersecurity is even more relevant as more businesses are integrating e-commerce and web-based applications as a means of survival and to enhance their in-store experience.

The internet is the road on which the majority of business is conducted in the 21st century and while business is responsible for its own portion of that road help is needed to make sure it is maintained.

The Canadian economy is comprised primarily of SMEs (98%) and representing about 51% of Canada's GDP and that is reason for concern. By incentivizing the adoption of cyber security solutions, the federal government can ensure that small and medium-sized business is not only protected, but if attacked can recover quickly and effectively.

In 2017, the Canadian Chamber of Commerce (CCC) release a report called "Cyber Security in Canada". Within that report it was found that "the primary concern for SMEs is resources—most have no or limited financial or human resources (technical expertise) to address the challenges presented by cybercrime; therefore, there is little inclination to invest in protection".

The CCC report lays out the three main reasons criminals target smaller business:

1. Due to a lack of resources, small businesses are less equipped to handle an attack.
2. The information hackers want—credit card credentials, intellectual property, and personally identifiable information—is often less guarded on a small business's system.
3. Small businesses' partnerships—the value chain—with larger businesses provide back-channel access to a hacker's true target

28% or about 1/3 of all breaches happened to small business. 52% of the time the person committing the breach was looking for credentials, in most cases (86% of the time) to achieve financial gain. The bad guys were attacking and taking data from User devices, Mail servers and People (social attacks). A general scan of various sites and resources reveals that the COVID-19 pandemic is providing scammers with more opportunity as businesses focus on basic costs.

In Canada, the average cost of a data breach decreased slightly from \$4.74 million in 2018 to \$4.44 million in 2019 which is the 4th highest cost globally when compared to other regions. Globally, the average cost of a data breach has increased to \$3.92 million.

Given the numbers and the three points above it is clear to see why helping SMEs protect themselves is important to the Canadian economy. In November 2018, the CRA implemented the Accelerated Investment Incentive proposals which under Chart 3 Purchase of Equipment a business could write down up to \$4400 in the first two years after the purchase. While this was welcomed, under the current economic situation it is not enough.

Furthermore, as businesses recover from the effects of the COVID-19 pandemic, the Canada Business Resilience Network (www.cbrn.ca) Roadmap to Recovery document suggests government introduce programs, funding and incentives for technology adoption in businesses of all sizes and across all sectors to improve Canadian productivity.

We are starting to see this happen as both the federal and the provincial governments have come to the table with opportunities such as the Digital Main Street Program. When building these programs, the government should ensure that cyber security measures are included and listed in the program parameters.

Cybersecurity is also an important part of continuity and emergency planning. The COVID-19 pandemic has highlighted the need for small businesses to be aware of their online vulnerabilities, understand them and make adjustments. The following recommendations put a framework in place to do just that.

RECOMMENDATIONS

That the Government of Canada:

1. Allow SMEs to write off 100% of their business investments in cybersecurity-related software, equipment and other costs (support services and outsourcing costs) in the year those investments are made.
2. Include cyber-security measure parameters when building out programs that encourage SMEs to improve their virtual presence.
3. Introducing cybersecurity certification programs for SMEs and offering financial incentives for completing them.

NOTES

⁷⁰, ⁷¹, ⁷², ⁷³

⁷⁰ <https://www.canada.ca/en/revenue-agency/services/tax/businesses/topics/sole-proprietorships-partnerships/report-business-income-expenses/claiming-capital-cost-allowance/accelerated-investment-incentive.html#Restriction>

⁷¹ <https://www.bdo.ca/en-ca/insights/tax/tax-articles/taking-advantage-proposed-accelerated-depreciation-rules/>

⁷² 2019 Cost of a Data Breach Report. IBM and Ponemon Institute.

<https://databreachcalculator.mybluemix.net/executive-summary> . Retrieved on June 18, 2020

⁷³ 2020 Data Breach Investigations Report. Verizon. <https://enterprise.verizon.com/resources/reports/dbir/>. Retrieved June 18, 2020

23. The Role of Governments towards a Robust Digital Infrastructure in the Post Pandemic World

DESCRIPTION

Digital and Data Infrastructure are an important pillar to create an engine of innovation and wealth creation. COVID19 has accelerated the transformation to Digitalization and highlighted the many benefits in a short period.

Unfortunately, COVID19 also represents a tremendous economic shock and burden. According to experts, recovery is what will be required over the next 18–24 months to get output back to its pre-crisis level.

BACKGROUND

To build a stronger position in the near term, we can build on the COVID lessons turning around the negative impacts from the pandemic to fast track the use of technology and communication networks. We have seen how fast people can adapt and how productive hundreds of millions of people ramped up the use of digital tools to remain connected, productive and healthy.

For the better part of a decade, Digital Transformation has been the core driver of organizational change. The transition from legacy IT to cloud computing; the expansion of retail and banking into the mobile space; the rise of machine learning, artificial intelligence, and smart automation; improving safety and reliability of public transit through predictive maintenance; and the growth of the Internet Of Things (IoT) were, among other massively transformative technologies, at the heart of a generational forward evolutionary leap. And it is therefore not surprising that these very technologies have enabled businesses, governments, healthcare systems, tech companies, students, and workers to adapt to the turmoil of disruption caused by the pandemic.

The ability for us to adapt so quickly under these unprecedented conditions only underscores the critical need for governments to continue to invest in digital technology, robust, high-speed communication networks, innovation, and a connected infrastructure.

As part of the plan for recovery, the Oakville Chamber believes that governments at all levels will need to enhance digital connections and e-services amongst business, employees, citizens and government to create an attractive climate for business investment and job creation for economic growth.

Digital infrastructure allows us to connect people and places, improve productivity, increase economic growth, create healthy and safer communities through valuable insights gained from data analytics and new technologies.

This will result in our ability to solve complex problems, improve the sustainability of our cities, build new businesses create new jobs and create a step-change for competitiveness for our region.

An increasingly digital economy will require major investments in sophisticated networks, cybersecurity and electronics. It will also force business to adopt new technologies and business models to interact with customers, clients and employees.

About 2.5 billion people are connected to the internet today, a third of the world's population; there are projected to be about 4 billion users by 2020, or more than half the global population. Continuous access to information, commerce and communication has become a daily fact of life for billions and will soon become a reality for billions more. As the internet makes its full weight felt in more high-impact areas such as healthcare, education and government services, access to digital services will only become more essential for everyone in the years to come.

The digital economy is growing at more than 10% a year, significantly faster than the economy as a whole. In emerging markets, the internet economy is growing at 12-25% per year, and it is having a far-reaching social and political, as well as economic, impact. Around the world, it is an increasingly important source of growth and, frequently, jobs.

Governments, businesses, and other stakeholders should commit to near, mid and long-term actions that promote growth of digital services and the digital economy.

All stakeholders can establish comprehensive, aspirational plans that lay out a path to broadband connectivity for all. Making expanded connectivity a reality requires a continuing commitment to investment and innovation by the private and public sectors. Governments in particular need to recognize the broader role that digital services can play in economic development and growth; the digital economy is much more than a potential source of tax revenues.

The COVID19 Pandemic has also accelerated businesses' digital transformation. It also showed us how quickly work itself can change. Adaptability, flexibility, and a commitment to lifelong learning will be vital, especially as companies and entire industries reposition themselves in a highly digital, data-driven world and search for the talent that will help them succeed.

For business and government, the way to remain competitive lies in upskilling to enable them building a future-ready workforce; for individuals, it is a way to keep their skills relevant and stay future-ready. Making deliberate, significant investments in learning will ensure organizations and employees alike have the knowledge, skills, and capabilities needed to work effectively in a digitized, automated world.

RECOMMENDATIONS

That the Government of Canada:

1. Introduce multijurisdictional programs and add “and continue” funding and incentives for digitization to improve Canada’s productivity and economic recovery.
2. Commit to actions that promote the long-term growth of the digital economy and modernize policies to encourage investment and innovation throughout the internet ecosystem.
3. Create an obligation for stimulus funds to be applied with digitalization included in the scope of deliverables where appropriate.
4. Create funding mechanisms for primary, secondary, and post-secondary institutions to establish digital literacy programs to ensure workforce is future ready, as well as investing in research and digital skills training to meet the future labour demands.

24. Prioritize Targeted Investment from the F/P/T Governments in Infrastructure in a Time of Pandemic: A Support for a Sustainable and Growing Economy

DESCRIPTION

The COVID-19 pandemic has illustrated the core need and importance of a robust Public Health infrastructure, which include laboratory infrastructure and services not only to protect the health of Canadians but also to respond quickly to any existing or emerging pathogens or needs. There is no economy without health and recognizing this is critical.

This pandemic has also highlighted issues with Canada's National Emergency Stockpile System (NESS). It was last audited in 2010 and a problem with expired supplies was noted and persists to this day. Emergency supply stockpiles are expensive to maintain, and management of expired supplies generates substantial financial and material waste.

BACKGROUND

For a long time, laboratories have been considered the "silent champion" of healthcare, influencing over 80% of clinical decisions, while accounting for only about 2-4% of total healthcare spending. Relative to other disciplines, healthcare systems globally and in Canada have underinvested in laboratory infrastructure despite high "value for money". In this space, reasonable investments yield large returns for healthcare systems and for patients while helping shift the focus from cure to prevention. It is important to remind our government that healthcare infrastructure development and support does not necessarily have to be a public sector expense. P3 infrastructure projects in that sector can be structured and implemented as private sector "paid for" P3s, where new infrastructure can be designed, financed, built, operated and maintained by the private sector for the public's healthcare benefit, public policy objectives and subject to tight Government oversight.

The efforts should also go beyond direct COVID-19 related investments and towards enabling technologies or solutions that are allowing health systems and healthcare professionals to adapt to the necessity of finding new ways of working. To name a few, those areas range from increased "point-of-care" testing which allows for tests to be performed "closer to home", to digital pathology or cloud-based clinical decision support tools that allow clinicians to perform their work remotely and IT interoperability components so the data sets generated can be leveraged efficiently.

After the novel influenza A (H1N1) pandemic in 2009, an American analysis highlighted problems that arose with the PPE supply chain. Many organizations substantially increased orders to build their own stockpiles and, when orders were cancelled or partially filled, they placed orders with multiple vendors.

When the government tried to help coordinate a response, considerable challenges arose; supply and demand could not be predicted because no centralized ordering system existed to provide supply and demand data, and private vendors resisted sharing their data for fear of competition. These challenges led to recommendations to monitor PPE usage and centralize ordering information.

Like Canada, the US maintains its Strategic National Stockpile (SNS) to coordinate emergency responses. A review of the SNS also revealed high expenses owing to supplies expiring before they could be used. To reduce the impact of stock expiration, the US elected to extend expiration dates beyond manufacturer's posted dates. Although this approach may be effective in the short term, it has not solved the expiration problem.

An audit of the Australian National Medical Stockpile (ANMS) revealed that Australia's stockpile strategies are wasteful and expensive. In the 10 years preceding that audit, Australians invested \$750 million into the ANMS. Of that, nearly \$250 million of stock expired, generating disposal costs of \$75 million. Australia's stockpile maintenance strategy involves stock rotation, returning expired stock and shelf-life extensions.⁷⁴

It is past time for Canada to adopt a new, long-term stockpile strategy — one that utilizes supply and demand data, ensures supplies are used before they expire, and is financially responsible.

These deficiencies are affecting the success of the Canadian business community. There is clearly a national health issue to deal with so highlighting the consequences it has will act as a guide toward sound recommendations for the future.

Nearly three months since provincial governments ordered the closing of non-essential businesses in an attempt to slow the spread of COVID-19, many, particularly small businesses, are struggling with large drops in revenue. Decreased revenue has some companies gathering debt to stay afloat. Some business owners are calling for further or revised government relief. The Canadian Federation of Independent Business (CFIB) has been tracking the state of small businesses throughout the pandemic. The most recent survey, based on a sample of more than 4,000 businesses, found 40 per cent of respondents have seen revenues drop 70 per cent or more, while 70 per cent have seen revenues drop by at least 30 per cent. About 34 per cent of respondents stated that they were behind in major bill payments, such as rent, credit cards or critical suppliers. The number jumps to 47 per cent in the hospitality sector. And more than a quarter of all businesses responded that their biggest worry was having to close their business permanently.

The new realities of the COVID-19 pandemic are also creating major economic and financial distress for consumers across the country. Many jobs in the Canadian economy are already affected or at risk.

⁷⁴ Source: CMAJ 2020 July 13;192:E810-1. doi: 10.1503/cmaj.200946; early-released June 25, 2020

By making these investments, Canada would reap the benefits far beyond current pandemic response, as the value of Public Health through a robust laboratory infrastructure and a comprehensive NESS highlighted through the crisis should be leveraged at scale across health and disease states. Consequently, and aside from aiming for better health for Canadians, our economy would be less vulnerable to another pandemic and or to any health related crisis as we have seen in the past.

RECOMMENDATIONS

That the Government of Canada:

1. Prioritize and target incremental direct investments in federal in Public Health, laboratory infrastructure and Public Safety Canada to ensure increased readiness in anticipation of potential future COVID-19 waves and/or other pandemics and to mitigate risks as the economic restart is undertaken.
2. Conduct a review of the NESS and integrate with commercial supply to minimize oversupply, stock expiration and disposal costs, utilizing demand data and national inventory system through a crown corporation or not for profit model to ensure financial accountability and efficiency.

25. Supporting Measures to Foster the Growth of Canada's Health and Bioscience Sector

DESCRIPTION

At a time when the world is experiencing an unprecedented health crisis and economic change, Canada, which already has an excellent record of innovation in health and bioscience, has an opportunity to go even further. Canada currently ranks fourth among the world's health and bioscience centres. By taking bold steps, we can become an even more attractive destination for investment and talent, enabling us to grow health and bioscience companies to improve the sustainability of the health system and Canada's long-term prosperity.

BACKGROUND

In November 2017, sectoral economic strategy tables were launched to build on the full potential of its innovations and accelerate the pace of commercialization of health and bioscience products. More than eight meetings were held through March 2019.

Part of the vision for the economic strategy table for health and bio-sciences includes the goal of doubling the size of Canada's health and biosciences sector by 2025, while making Canada a top-three global hub by: leveraging and advancing innovative technologies; attracting and retaining capital, skills and talent; and ensuring a vibrant ecosystem that will unleash the sector's full potential and improve health outcomes.

In practical terms, to achieve this, Canada will need to double its exports in the sector to \$26 billion. It will also have to double the number of firms in the health sector, which currently stands at 900, to 1,800. Finally, it will have to create or attract 40 new high-growth firms in the health and bioscience sector, which will also allow it to double the number of these types of firms within its territory.

However, to advance Canada's global competitiveness and achieve our growth targets, it is essential that we address the processes that stifle creativity and impede the adoption of promising innovations in the sector. Indeed, the economic strategy tables have identified a number of barriers that must be overcome if we are to do so: over-regulation, risk aversion in the procurement culture, skills shortages, limited access to capital, and current digital health systems that hinder data collection.

To achieve our ambitious objectives for the sector, the federal government will have to put some strong measures in place.

RECOMMENDATIONS

That the Government of Canada:

1. Adopt the five measures proposed by Canada's Economic Strategy Tables for Health and Biosciences:
 - a. Accelerate innovation adoption by employing value-based procurement across Canada's health systems;
 - b. Design agile regulations by adopting international best practices, eliminating duplication across jurisdictions and decreasing review times;
 - c. Harness digital technology by creating a national digital health strategy featuring an interoperable digital health platform;
 - d. Develop and attract world-class talent by equipping Canadians for highly skilled jobs, eliminating hiring barriers and streamlining government skills programs; and
 - e. Create Anchor Firms by mobilizing late stage capital, scaling up high-potential firms, and broadening research and development tax incentives.